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The Locus of Preparation and Privilege: College Choice and Social Reproduction

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LOYOLA UNIVERSITY CHICAGO

THE LOCUS OF PREPARATION AND PRIVILEGE: COLLEGE CHOICE AND SOCIAL REPRODUCTION

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN HIGHER EDUCATION

BY

DANIEL J. ALLEN

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My journey in the doctoral degree program at Loyola University Chicago has been a manifestation of the oft-quoted notion that we stand on the shoulders of giants who came before us. My ability to pursue and successfully complete this degree is owed to every person in my life who has offered a new vantage point from which I have been able to view the world and my tiny role within it. But just as I have been lifted upon their shoulders, I also know at times I have been tenderly cradled in their arms, receiving support and encouragement when I needed it most.

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To my parents who taught me that everything worth having requires time and love

To Theresa, Maggie, Meghan, and Danny—reminders that my parents were right
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ABSTRACT

Despite the ostensible proposition of American higher education to create a level playing field and advance an individual’s life opportunities, the history of access to higher education in the United States has demonstrated a lack of equality in enrollment patterns. This enrollment inequality appears most pronounced when considering family income and socioeconomic status. These differences are particularly notable when considering enrollment patterns of students who are academically qualified to succeed at a highly selective college or university, but who come from low income families. Such variations in enrollment at highly selective colleges and universities aligned with family income and not academic merit raise important social justice and institutional policy questions.

The purpose of this study is to examine how various forms of capital influence the decision making of academically qualified, low income students throughout the college choice process, and to determine if our nation’s highly selective colleges and universities disregard differences in capital or fuel further differences according to wealth. Specifically, I will consider human, economic, social, and cultural factors that predict the schools to which students apply, are accepted, and ultimately matriculate. I intend to analyze if factors other than a student’s own merit or academic ability are influencing decisions throughout the college choice process.
This study will use descriptive and logistic regression analyses to answer its research questions that attempt to examine the influence of various forms of capital in the college choice process. The present study is based upon the hypothesis that academically qualified, low-income students who apply, are admitted, and eventually enroll at highly selective colleges and universities have different levels of human, cultural, social, and economic capital than those academically qualified, low-income students who do not follow similar college choice behavior, and that enhanced amounts of these forms of capital increase the likelihood that these students will apply, be admitted and enroll at highly selective postsecondary schools.

My thesis is that the influence of a student’s habitus will be manifested in the college choice decisions of a sample of academically qualified, low-income students in such a way that the academic ability and future potential of this population is moderated by factors often beyond their control and not related to merit. Accordingly, I postulate that highly selective colleges and universities might be missing an opportunity to advance the prospects of these students while advantaging students already privileged with robust capital portfolios.
CHAPTER ONE

INTRODUCTION

The United States likes to think of itself as the very embodiment of meritocracy: a country where people are judged on their individual abilities rather than their family connections. A growing body of evidence suggests that the meritocratic ideal is in trouble in America. Everywhere you look in modern America--in the Hollywood Hills or the canyons of Wall Street, in the Nashville recording studios or the clapboard houses of Cambridge, Massachusetts--you see elites mastering the art of perpetuating themselves. America is increasingly looking like imperial Britain, with dynastic ties proliferating, social circles interlocking, mechanisms of social exclusion strengthening and a gap widening between the people who make the decisions and shape the culture and the vast majority of ordinary working stiffs. Americans are clearly mistaken if they believe they live in the world's most mobile society

-The Economist, pp.22-24, 2005

Despite the ostensible proposition of American higher education to create a level playing field and advance an individual’s life opportunities, the history of access to higher education in the United States has demonstrated a lack of equality in enrollment patterns. This enrollment inequality appears most pronounced when considering family income and socioeconomic status. For example, using data from the 2002 Educational Longitudinal Study (the dataset used for the present study) and examining the college decision choices of a nationally representative class of 2002 sophomores, Bozick and Lauff (2007) outlined how students from families with incomes greater than $100,000 enrolled in postsecondary education at twice the rate of those students from families earning less than $20,000. Moreover, Bozick and Lauff (2007) found that more students from low income families attended two-year institutions than students from high income families, and fewer low income students attended highly selective institutions than did
students from high income families. High income students are not only advantaged in terms of access to higher education by having greater amounts of financial resources, but also because the financial resources they possess lead to increased levels of non-financial resources. Economically advantaged students tend to inherit vastly different types and amounts of non-financial resources than middle and low income students that help these students of privilege prepare for and navigate higher education expectations more effectively (Massey, Charles, Lundy, & Fischer, 2003). For example, variables commonly associated with a person’s social status but not directly aligned with income, such as level of parental education, gender, and race, along with high school attended, peer network, and school neighborhood have all been proven to predict postsecondary enrollment behavior (Bozick & Lauff, 2007; Elwood & Kane, 2000; Engberg & Wolniak, 2010; Massey, et al., 2003; Perez & McDonough, 2008; Perna, 2006; Perna & Titus, 2005). Taken together, financial and non-financial factors can significantly shape a student’s disposition towards and preparation for postsecondary education.

**Academic Preparation and Predisposition to Postsecondary Education**

A student’s disposition towards higher education can be shaped at an early age, casting the die in the initial stages of their educational journey for a life of unfulfilled potential. In particular, the effects of socioeconomic status (SES) on attitudes towards education are significant, and expectations about education often formed as early as the seventh grade demonstrate a strong correlation with SES (Terenzini, Cabrera, & Bernal, 2001). Such formative outlooks towards higher education affect how young people approach planning for postsecondary education, as low income students have been found to take college entrance examinations less frequently than high income students
(Fitzgerald, 2004). This lack of planning likely leads to disproportional postsecondary enrollment patterns for low income students, particularly at four-year private colleges, as compared to more affluent students with similar academic credentials (Baum & Payea, 2004), and among students of high academic ability at selective institutions (Winston & Hill, 2005). Even today as increasing numbers of students are enhancing their academic qualifications to better prepare for postsecondary enrollment (Haycock, Lynch, & Engle, 2010), there are variations in access to higher education and the institutions selected for low-income students (Fitzgerald & Delaney, 2002).

**Postsecondary Enrollment Disparities by Income**

When considering the high school class of 2004, slightly more than 50% of those students from families with income of $100,000 and more enrolled in postsecondary education at rates significantly greater than those from families earning between $20,000 and $50,000 (Bozick & Lauff, 2007). Additionally, students from families with income of $100,000 and more enrolled at four-year institutions at a rate significantly greater than those from families with income between $20,000 and $50,000 (Bozick & Lauff, 2007). Another study found that in 2007-08, nearly half of students from families with incomes greater than $100,000 enrolled at out-of-state public colleges and universities compared to less than 10% from families earning less than $32,000 (Baum & Payea, 2010). At private, non-profit institutions, the variances in enrollment are even more unpromising. In 2007-08, 50% of students from families earning $100,000 and greater enrolled at the highest priced institutions, compared to only 10% of students from families earning $32,000 and less (Baum & Payea, 2010). These data support previous studies that have found that, even in consideration of overall increased funding to help provide access to
postsecondary education, it has not been uncommon for students with equal academic
preparation and family characteristics to have a significant difference in postsecondary
enrollment based largely on family income (Ellwood & Kane, 2000). These differences
are particularly notable when considering enrollment patterns of students who are
academically qualified to succeed at a selective college or university, but who come from
low income families. Such variations in enrollment at selective colleges and universities
aligned with family income and not academic merit raise important social justice and
institutional policy questions.

Selective Postsecondary Education Disparities

Admissions at selective colleges and universities is a zero-sum proposition and
therefore any spot in a class at one of these institutions that is offered to a student based
on something other than academic qualifications comes at the expense of an otherwise
academically qualified student who lacks preferred financial resources and privileged
status and perpetuates a cycle of advantage for those already in a privileged position
(Schmidt, 2007). Wealthy white students from families with incomes greater than
$90,000 are abundant on college campuses, while white students from working-class
backgrounds represent the minority on the campuses of selective colleges and universities
(Schmidt, 2007). Bozick and Lauff (2007) found that just over 7% of students from
family income between $20,000 and $50,000 attended a highly selective institution
(defined as having a school ACT profile score of 21 or better at the 25th percentile of the
entering class) compared to nearly 35% of students from families with income greater
than $100,000.
Schmidt (2007) also acknowledged the importance of student efficacy in convincing admissions officers at selective institutions of their ability to compete successfully, but how regrettably, middle-income and low-income students, and students of color lack the qualifications to support such an argument. Despite the pivotal role a student’s academic preparation plays in being admitted to a selective institution, socioeconomic status and other non-academic variables likely influence admittance well before the admissions office is even involved (Carnevale & Rose, 2003). Accordingly, certain resources available to high income students underscore how greater amounts of financial income can lead to unique privileges that affect a student’s academic preparation and qualifications to gain entry to a selective postsecondary institution.

Even though an optimal level of higher educational equality and a true postsecondary meritocracy has not been achieved, it has not been without a lack of well-intentioned initiatives that have taken place in the disaggregate, including federal financial assistance in the form of Pell grants and state appropriations to postsecondary institutions, to mitigate the effects of financial resources and socioeconomic variables and increase postsecondary access to low income and other underrepresented student populations. Although some of these policies have had a positive effect on enhanced postsecondary access for low income students, others have had delimiting consequences. A brief review of those policies follows.

**Public Role in Postsecondary Education Access**

Beginning in the 1970s, access to higher education was a focal point of public and institutional policy as the federal government provided direct financial assistance to students, and states established tuition rates at public institutions and provided financial
appropriations to schools and students (Leslie & Brinkman, 1987), while institutions used tuition and financial aid policies as tools to encourage educational opportunity for underrepresented student populations. However, despite this infusion of financial resources to students and institutions, in the 1970s the nation endured the continued stratification of higher education according to SES, with high SES students gaining greater access to four-year and highly selective schools (Baker & Valez, 1996).

Possibly to counteract this stratification, a steady commitment of resources has been directed for financial assistance to students struggling with postsecondary costs. For instance, in the mid 1990s, nearly $6 billion was being awarded in Pell Grants, $30 billion in federally guaranteed loans, $3 billion in other grants (The College Board, 1997), and nearly $48 billion from state and local government appropriations (National Center for Education Statistics, 1998). Over the last decade, the amount of Pell Grant funding, which is one of the primary forms of assistance for financially needy students, has grown considerably. From 2000 to 2010, federal, state and institutional financial assistance grew by 112% and in 2009-10 alone, the federal government provided 49% of all undergraduate grant aid (Baum & Payea, 2010). According to statistics provided by the United States Department of Education, in 2008, over $16 billion was available in Pell Grant funding (U.S. Department of Education, n.d.). In 2009-10, the maximum Pell Grant increased by 16%, the largest one-year increase in its history, and the average grant per undergraduate FTE increased 4.9% annually from 2000 to 2010, after adjusting for inflation (Baum & Payea, 2010). Unfortunately at this same time, state grants to students without regard to financial circumstances increased from 19% in 1998-99 to 28% in 2008-09 (Baum & Payea, 2010).
Interest in postsecondary expansion, particularly for low income students, extends beyond the public domain. Not surprisingly, individual postsecondary institutions have a vested interested in enhancing opportunity. Whether for purely financial reasons or aligned with some aspect of institutional mission, colleges and universities have enacted strategy that have at once increased opportunity and delimited choice sets for low income students.

**Institutional Role in Postsecondary Education Access**

Scholarship and grant programs at most colleges and universities are often designed to offset the difference between the cost to attend the institution and the ability of a student or family to pay that cost. Many schools attempt to meet as much of that difference as possible through one of its various scholarship or grant programs. Although many schools boast of social justice agendas, and some are rightfully lauded for extending opportunities to underserved populations, some postsecondary institutions bear responsibility for the stratification of higher education as a result of certain financial aid and admissions strategies employed at the institution.

For example, Rhoades and Slaughter (1997) posited that supply side economics are not only experienced in economic and social policies, but also increasingly at colleges and universities. When institutions accept a supply side approach, particularly to students, wealth tends to accumulate with the wealthy (Rhoades & Slaughter, 1997). Among the commonly accepted principles of supply side economics are reduced taxes and the belief that tax cuts will stimulate financial growth that would be dispersed throughout the economic system. A major tenet of supply side economic policies enacted following declining private sector revenue losses in the 1970s was to infuse public dollars
into private corporations as a way to fuel economic growth (Rhoades & Slaughter, 1997). Accordingly, one could view the introduction of supply side economic theory in the academy as a shift in thinking of higher education for the common good to higher education for individual (student or institution) benefit. Applying the Rhoades and Slaughter (1997) notion that supply side policies in higher education leads to wealth accumulating with the wealthy might be manifested in institutions offering financial incentives in the form of merit scholarships to students who already possess sufficient financial resources to pay for college, which in turn allows those students and their families to retain more of their income rather than spend it on higher education. The belief might also suggest that wealthy institutions with large endowments can afford to provide enrollment incentives to high income students whereas less-resourced institutions do not have the same luxury. In either scenario, there are implications for expanded access to higher education. Institutions at the top of this stratified system of higher education are those with the greatest amount of private capital donations (Winston, 1999), and therefore have larger shares of available financial resources which can be used to shape the identity of the institution in order to create a competitive advantage in the marketplace or to secure even greater amounts of financial resources.

This is a particularly salient concern at highly selective colleges and universities that often have large endowments and abundant financial resources that can be used to shape the reputation and brand of the institution. The clandestine nature of the admissions process at highly selective colleges and universities allows for many qualified applications to be rejected in favor of students with connections to prominent social networks (Schmidt, 2007). While the practices of these institutions are often imitated,
such practices also inhibit entry into the system and allow greater financial resources to amass at wealthy institutions which in turn allow those institutions to preserve or advance their position in the stratified system (Winston, 1999).

Public and Individual Benefits of Postsecondary Education

In spite of the various examples of inequality across higher education related to income, American postsecondary education can also play a crucial role in providing opportunities for each and every citizen to improve their opportunities for successful and fulfilling lives unimpeded by social constructs initiated at birth and over which they have no control (Trow, 1992). Employers are increasingly in need of a more professionalized workforce and advances in technology have spurred an era of global commerce, thus placing an even greater importance on the role postsecondary education can play in adapting to the various changes that a globally connected, professionalized society bring to ensure socioeconomic equity (Hearn, 2001). Former Secretary of Education, Margaret Spellings, emphasized the importance of a college degree when the commission she appointed to study postsecondary American education prominently addressed higher education access (U.S. Department of Education, 2006). The Commission acknowledged a new economy fueled by jobs that will require some higher education and declared that such education be accessible to all Americans, and recommended an increased focus on providing such access to needy students and sensitivity to obstacles other than academic preparation that impair one’s ability to enroll in postsecondary education (U.S. Department of Education, 2006).

Among the more prominent benefits to individuals of achieving some amount of postsecondary education are enhanced economic capital in the form of increased lifetime
earnings (Bowen & Bok, 1998), greater access to networks of other college graduates who are successful and connected to financial resources (Bowen & Bok, 1998; Schmidt, 2007), and expanded knowledge of acceptable behaviors that influence self-efficacy (Massey, et al., 2003). Participating in some amount of American higher is associated with higher lifetime income (Baum, Ma, & Payea, 2010), access to positions of leadership and influence (Bowen & Bok, 1998), increased state and federal tax revenues and lower levels of public assistance expenditures (Trostel, 2010).

Despite its stratification by income, higher education still provides one of the most important resources students from marginalized backgrounds can utilize to gain entry into a new socioeconomic class (Ellwood & Kane, 2000). This is of particular significance when considering variations in income following graduation based upon the selectivity of institution attended. One study that considered the earned income of a cohort of students nearly 20 years after college graduation showed students from the most selective institutions earning $20,000 per year more than students from less selective institutions (Bowen & Bok, 1998). Accordingly, and especially as it relates to enrollment at highly selective colleges and universities, questions surrounding access and college choice will persist as long as there are variations in the amount of earned income a student will realize based on the institution attended (Clotfelter, 1999).

There is also a downside to the new global marketplace that has spurred a paradigm shift in how postsecondary education prepares students to compete in that marketplace. A byproduct of the global economy that requires new and enhanced skill sets appears to be a postsecondary educational system that has accepted corporate values and become more privatized, acknowledging less the benefits of higher education for the
common good, and more of the economic return to the individual. Such privatization can lend itself to increased levels of stratification, particularly at public institutions of higher education, with higher income students enrolling at state flagship institutions and lower income students at public comprehensive and two-year institutions (Ehrenberg, 2006). It seems appropriate, therefore, to ask if low income students are receiving the level of education required to compete in today’s global economy, or if they are being further disadvantaged by a stratified system of postsecondary education. Although previous research has attempted to inform policy change to allay the role of non-academic factors that stunt access to postsecondary education, data suggest we have still not achieved optimal levels of educational equality and opportunity and that achieving this goal is somewhere in our nation’s future (Terenzini, et al., 2001).

**College Enrollment and Social Reproduction**

In spite of public and institutional programs designed to encourage greater access to postsecondary education, enrollment continues to be influenced by a student’s socioeconomic status, race, and ethnicity (Perna, 2006). Even though certain gains have been made in access for women and students of color, for example, financial incentives notwithstanding, income continues to be a significant factor in predicting enrollment in postsecondary education (Perna, 2006). While some have argued that present day postsecondary enrollment is a kaleidoscope of ages, income levels, and ethnicities that arrive at colleges and universities often having overcome various challenges (Paulsen & St. John, 2002), others have maintained higher education enrollment has become increasingly stratified, white, and affluent and has evolved into a tool that preserves social capital and has divided America by income (Mortenson, 2000).
In a meritocratic system, which many believe higher education to be, a person’s ability and work ethic should determine opportunities and successes, not the social structure into which that individual was born (Alon & Tienda, 2007). Specifically addressing higher education, Alon and Tienda (2007) suggested that the opportunity to pursue a postsecondary degree, particularly at a high quality or selective institution, be fair and open to all. The argument has also been made that opening the opportunity for a life of fulfillment made available through even a limited amount of postsecondary education is one of the leading social justice issues facing America at this time (Engberg & Allen, 2011). Despite the continued emphasis of researchers and policy makers on increasing access to postsecondary education, disparities in postsecondary access continue to remain across different groups, particularly among low income students (Bozick & Lauff, 2007). These differences in postsecondary enrollment are noteworthy when considering students who possess the academic credentials required to pursue some level of college education, but who, for varied reasons, do not enroll or enroll at institutions that are under-matched for the student’s academic preparation: “Unless something is done, many more of America’s brightest, lower income students will meet this same educational fate, robbing them of opportunity and our nation of a valuable resource” (Wyner, Bridgeland & Diiulio, 2007). Too often, those paying the price of insufficient resources are low income students of high academic ability: “These remarkable young people are hidden from public view and absent from public policy debates, with educators, policymakers, and the public assuming they can fend for themselves” (Wyner, et al., 2007).
Factors outside of academic merit that influence and predict postsecondary enrollment are illustrative of a higher educational system tantamount to social reproduction. In a 2005 special report, *The Economist* offered the following:

America's great universities are increasingly reinforcing rather than reducing these educational inequalities. Poorer students are at a huge disadvantage, both when they try to get in and, if they are successful, in their ability to make the most of what is on offer. This disadvantage is most marked in the elite colleges that hold the keys to the best jobs. Three-quarters of the students at the country's top 146 colleges come from the richest socio-economic fourth, compared with just 3% who come from the poorest fourth. This means that, at an elite university, you are 25 times as likely to run into a rich student as a poor one.

-The Economist, pp.22-24, 2005

The importance of postsecondary education to our nation’s future vitality and the need to make some amount of college education available to all citizens was recently thrust into the national spotlight when President Obama called for every American to “commit” to at least one year of postsecondary education (Obama, 2009), and when he suggested in his 2010 State of the Union address that a world-class education is an effective tool in mitigating the effects of income (Obama, 2010). Therefore analyzing the availability of postsecondary education for students who overcome barriers to access the tangible and intangible benefits of higher education, and determining if the selectivity of institutions attended by academically qualified students is influenced by income and other socioeconomic characteristics, seem essential for understanding if higher education is an agent of equality or disenfranchisement.

Given the significance of higher education in relationship to improving a person’s life opportunities (Trow, 1992), and acknowledging that college enrollment remains divided by income (Perna, 2006), it is necessary that lines of inquiry are pursued in the interest of creating a more just and equitable framework for each person to take
advantage of opportunities to increase capacity that is often associated with a postsecondary education. As a nation, we honor individual efforts of achievement, but know at the same time such efforts are often influenced and supported by families, neighborhoods, and schools (Bowen & Bok, 1998). This study might assist in developing a more lucid understanding of how variables often outside of a student’s control influence their postsecondary choices, and if higher education assuages disadvantage for at-risk populations or enables the progress of already privileged students. Accordingly, I hope the results of this investigation will lend evidence to policy decisions that might ensure each citizen has an opportunity to pursue postsecondary education at colleges and universities of their choosing in accordance with their academic qualifications.

**Purpose and Research Questions**

The purpose of this study is to examine how various forms of capital influence the decision making of academically qualified, low income students throughout the college choice process, and to determine if our nation’s selective colleges and universities disregard differences in capital or fuel further differences according to wealth. Specifically, I will consider human, economic, social, and cultural factors that predict the schools to which students apply, are accepted, and ultimately matriculate. I intend to analyze if factors other than a student’s own merit or academic ability are influencing decisions throughout the college choice process.

I hope the study might inform policies that could diminish the effects of capital deficiency on postsecondary enrollment and provide evidence that contributes to discussions regarding how the American system of higher education might advance opportunity for historically underrepresented populations at its selective colleges and
universities. Previous research (Cabrera & LaNasa, 2001; Ellwood and Kane, 2000; Perna, 2006; St. John, Paulsen, & Carter, 2005; Thomas & Perna, 2004) has acknowledged the very strong effects of variables outside the realm of academic ability that significantly predicted the enrollment behaviors of students from underrepresented populations. A prevailing theme was that decisions are contextual and influenced by variables at the student, institutional, community, higher educational, societal, economic, and policy levels (Perna, 2006).

Previous research has also acknowledged the significance of academic preparation to postsecondary enrollment (e.g. Ellwood & Kane, 2000; Engberg & Allen, 2011), and recent data have indicated that the number of low income students taking the AP exam has grown by 75% since 2006 and the number of low income students who have scored a three or higher on the AP exam has increased by nearly 57% (The College Board, 2011). Accordingly, if greater numbers of low income students are taking a more rigorous path of academic preparation for postsecondary education, and succeeding in such rigor, I hope the present study will illuminate the college choice sets of these better prepared students and what factors are significant in predicting their postsecondary decisions.

Prior research has also elucidated the salient benefits of attending a more selective postsecondary institution over a less selective institution (e.g., Carnevale, 2010; Dale & Krueger, 2002; Dye, 2002; Soares, 2007). These studies suggested that selectivity level of postsecondary institution attended has been associated with enhanced access to valuable resources that lead to an increased likelihood of graduation, greater graduate school attendance, and higher wage premiums (Carnevale & Rose, 2003). Too often it is
students already advantaged with these various resources who acquire the additional benefit of attending a selective school. Accordingly, the power of such privilege is revealed when the children of the wealthy and famous enter America’s selective colleges and universities not on merit, but based on their financial and cultural resources and networks (Golden, 2006). Although selective colleges and universities produce excellence, they also appear to reproduce inequality (Carnevale, 2010). Golden (2006) asserted that such behavior on the part of selective institutions amounts to affirmative action for white people. Astin and Oseguera (2004) suggested that American higher education is more stratified by socioeconomic status than at any other time in the last three decades, with the students from the wealthiest families overrepresented and students from the poorest families underrepresented at selective schools. When family resources, determine the viability of pursuing postsecondary education and the type of institution a student attends, it is an anathema and runs counter to the ideals on which the United States were founded (Newbart, 2004).

I intend for this study to bring forward the social justice and national economic concerns surrounding successive generations of students with the ability to compete at our nation’s selective postsecondary institutions but who for reasons outside of their control, are depriving themselves and our country of the benefits of their enhanced potential. Accordingly, this study will examine the resources that influence decisions throughout the college search process for academically qualified, low income students, and inform an understanding of whether the United States’ highly selective colleges and universities are engines of equality or social reproduction.
Research Questions

Six central research questions direct this study to understand college enrollment patterns among academically qualified, low-income students. Using a conceptual framework based in the theoretical ideas of individual habitus, the financial nexus model, capital deficiency model, and the fit hypothesis, the present study addresses the following research questions:

1. In what ways does the amount of human, economic, social, and cultural capital vary between academically qualified, low-income students who apply and do not apply to highly selective institutions?

2. In what ways does the amount of human, economic, social, and cultural capital increase the likelihood that academically qualified, low-income students will apply to highly selective institutions?

A prerequisite for gaining admittance to any postsecondary institution is completing and submitting an application for admission. This question could illuminate the various non-academic factors that influence a student’s predisposition to attending a school they are academically qualified to consider and that could offer increased access to crucial enhanced income, life enjoyment, and productivity. Accordingly, policy could be designed to lessen these effects and encourage students to consider application to schools best aligned with their educational interests and academic qualifications.

3. In what ways does the amount of human, economic, social, and cultural capital vary between academically qualified, low-income students who are admitted and not admitted to highly selective institutions after application?
4. In what ways does the amount of human, economic, social, and cultural capital increase the likelihood that academically qualified, low income students will be admitted to highly selective institutions?

These questions are designed to analyze if students with similar academic credentials, but different levels of human, economic, social, and cultural capital, who apply for acceptance at institutions with the same academic profile are being accepted at varying rates. If there are differences, findings around this question will be helpful in designing institutional level strategy to moderate the influence of variables other than academic qualifications that could marginalize low income students and advantage students who already privileged with vibrant amounts of capital.

5. In what ways does the amount of human, economic, social, and cultural capital vary between academically qualified, low income students who enroll or do not enroll at highly selective institutions after being admitted?

6. In what ways does the amount of human, economic, social, and cultural capital increase the likelihood that academically qualified, low income students will enroll at highly selective institutions?

The purpose of these questions is to better understand if academically qualified, low income students are availing themselves of opportunities being offered by selective colleges and universities. Important to this study and future policy would be empirical evidence that demonstrates what human, economic, social, and cultural capital variables influence a student’s enrollment at a highly selective college or university and what variables seem to lower the odds of enrollment. Subsequent policy and strategy could be
developed to maximize the capital that influences enrollment and moderate those variables that reduce the likelihood of enrollment.

The overall importance of the answers to these questions rests in issues of social justice, life income opportunities, and social reproduction. Specifically, if graduation from a highly selective postsecondary institution is related to enhanced lifetime earnings and access to crucial social and cultural capital, and if application, acceptance, and enrollment at these schools is influenced by variables outside of a student’s academic qualifications, particularly family income, then American higher education is at risk of being labeled as one of the United State’s most effective engines of social reproduction.

**Definitions of Key Terms**

**Academically Qualified**

Acknowledging the agenda of the present administration to increase access to postsecondary education for all Americans, the focus of this study is on the college choice sets of low income students who are academically qualified to attend four year institutions of higher education and their enrollment patterns at highly selective colleges and universities. This population warrants such an investigation given the very significant advantages of attending a more selective institution over a less selective institution. It is important to study this group of students to determine if a generation of young people is not gaining access to crucial human, economic, social, and cultural capital found at institutions of increased selectivity even though they might be academically qualified to enroll at these schools.

Borrowing from studies completed by Engberg and Allen (2011) and Berkner and Chavez (1997), the present study considers students at the three highest quintiles of an
Academic Profile Index developed by Engberg and Allen (2011). Engberg and Allen (2011) considered five standardized items, including total number of Advanced Placement and International Baccalaureate courses taken, composite SAT/ACT score, high school grade point average, and standardized math and English scores on the ELS: 2002 examination to consider resource allocation patterns and college enrollment differences among low income students. The Engberg and Allen (2011) Academic Profile Index generated a raw score that was segmented into quintiles with students ranked from 1 (low) to 5 (high). In developing the Academic Profile Index, Engberg and Allen (2011) were informed by Berkner and Chavez (1997) who used a College Qualification Index in studying the NELS: 88 dataset for differences in postsecondary access for students who graduated high school in 1992. Berkner and Chavez (1997) considered grade point average, class rank, 1992 NELS aptitude test score, and SAT/ACT score to create a College Qualification Index. Students were ranked on the College Qualification Index by the highest level achieved on any of the criteria for which there was data (Berkner & Chavez, 1997).

The use of the Academic Profile Index developed by Engberg and Allen (2011) is an appropriate measure of academic qualification because it allows for a robust consideration of academic preparedness by including variables other than standardized test scores. Accordingly, the Engberg and Allen (2011) Academic Profile Index effectively allows for a holistic consideration of a student’s academic ability and does not focus solely on a student’s standardized test scores.
Institutional Selectivity

Institutional selectivity will be determined using the 2005 Carnegie classification system. The Carnegie classification system was used in the ELS: 2002 to determine the highest level of selectivity at the postsecondary institutions attended by the high school class of 2004. In the ELS: 2002, postsecondary institutions were classified as highly selective, moderately selective, or inclusive. These categories are related to ACT-equivalent scores at the 25th percentile of the entering freshman class of less than 18 for inclusive institutions, 18-21 for moderately selective institutions, and 21 or greater for highly selective institutions.

Human Capital

“Human capital refers to the knowledge, information, ideas, skills, and health of individuals” (Becker, p. 3, 2002). Human capital investments involve the allocation of resources to influence future individual productivity (Becker, 1962) and are often associated with an individual’s investment in developing a skill set and abilities that in turn allow that individual to be more productive (Becker, 1964). Any activity in which an individual engages to influence future monetary and psychic income can be seen as an investment in human capital (Becker, 1964).

In the present study, an investment in human capital will be considered as a student’s or a family’s investment in education. Specifically, the level of student academic preparation and a student’s academic qualifications will be used to determine the human capital investment in that student. Aligned with Becker’s (1964) theory of human capital, a student or a student’s family will place varying degrees of emphasis on academic preparation for postsecondary education based upon the value that individual
student or that student’s family places on postsecondary education influencing future productivity and income.

**Economic Capital**

Economic capital is best understood as an individual’s financial resources that form to make up a family’s wealth or purchasing power (Massey, et al., 2003). Considered within the framework of college choice decisions, economic capital is manifested in the availability of financial resources necessary to meet the expenses associated with earning a college degree (Kane, 1995, 1999; McPherson & Schapiro, 1991, 1997; St. John, 2003).

The economic benefits considered during the college choice process, however, are often mitigated by other variables unique to each individual, namely SES, academic preparedness, and access to college information (Paulsen, 2001). In the present study, measures of family income, and the importance of college financial aid and postsecondary education affordability will be used to determine a student’s economic capital.

**Cultural Capital**

Cultural capital refers to customs found within a social network that allow an individual who possesses sufficient cultural capital to navigate the social network with efficacy (Massey, et al., 2003). Massey et al. (2003) suggested that much of what students needed to know to help them successfully navigate the higher educational system is derived not from in classroom learning, but rather knowledge passed on from parents, particularly knowledge about what a college graduate should know. Bourdieu (1977) argued that cultural information that was passed on from generation to generation
influenced the continued social stratification of society. Cultural capital can be revealed in the emphasis students and families place on postsecondary education (Perna, 2006), with some lowering educational expectations or changing them completely because of a lack of cultural knowledge about postsecondary education (Lamont & Lareau, 1988). Cultural capital has been considered differently in contemporary research, including emphasizing the importance of parent educational attainment (Ellwood & Kane, 2000; Hossler, Schmit, & Vesper, 1999; Perna & Titus, 2005), parent aspirations for their children (Cabrera & La Nasa, 2001), and language acquisition (Perna & Titus, 2005). In the present study, a student’s cultural capital will be defined by considering the educational aspirations for the students of the student’s parents, relatives, and closest friends, the type and amount of student-parent interaction about academics and postsecondary plans, level of parental education, and the type and amount of student exposure to various cultural institutions.

Social Capital

Social capital is present in relations between persons and structures and in certain actions that take place within this framework that exists between persons and structures (Coleman, 1988). Coleman (1988) suggested that social capital exists in relationships and is developed through changes in relationships that make actions possible. Social capital communicates norms and trustworthiness, and can be viewed in the potential for information to be exchanged within networks (Coleman, 1988). Parental involvement has been identified as an important aspect of developing social capital, and has been linked to varying levels of postsecondary attainment (Perna & Titus, 2005), while others have emphasized the crucial nature of peer networks, particularly the importance of
postsecondary education to closest friends, that inform postsecondary education choice (Perez & McDonough, 2008). The role of those resources students access to assist in making decisions about postsecondary education, oftentimes referred to as college linking resources, including college viewbooks, websites, counselors, and coaches, has also been identified as being a significant predictor of college enrollment (Cabrera & LaNasa, 2001; O’Connor, Hammack & Scott, 2010). Cabrera and LaNasa’s (2001) study highlighted the importance of actually applying to college as a key determinant in enrolling, and that acquiring school based assistance with the application process and also gathering information about college financial assistance increased the likelihood that a student would submit an application. The choice to “purchase” postsecondary education is often unclear and the value of that decision is typically not seen until well after the purchase has been made (Winston, 1999), thus making the information available about that purchase crucial in the decision making process. Accordingly, the present study will define a student’s social capital by considering where the student sought information about postsecondary education as well as the postsecondary educational plans of the student’s friends, and involvement of the student’s parents in the student’s school and with other parents.

**Conceptual Framework**

This study will be based upon Perna’s (2006) conceptual model of access and choice that integrates previous economic and sociological theory centered around postsecondary education decisions. The conceptual model suggested a student’s decision about postsecondary education involved not only an evaluation of the investment in higher education and the return on that investment, but importantly how that student’s
evaluation was contextualized by social, economic, and policy variables, along with that individual’s habitus (Perna, 2006). An “individual’s habitus related to college choice is expected to reflect an individual’s demographic characteristics, particularly gender, race/ethnicity, and SES, as well as cultural and social capital” (Perna, 2006, p. 117).

Perna (2006) considered variations in educational goals across different groups, most notably as they relate to this study, differences in income, and accounted for cultural differences between the groups. Academic preparation and available economic capital also figured prominently in Perna’s model as they related to a student’s analysis of the costs and benefits associated with enrolling in postsecondary education (Engberg & Allen, 2011).

A previous study by Paulsen and St. John (2002) will also inform this investigation given its attention to non-economic variables that may influence postsecondary education decisions of low income students. Paulsen and St. John advanced a financial nexus model that considered various factors that influenced college enrollment across social classes (Paulsen & St. John, 2002). Building on the student choice perspective that suggested decisions were informed by family characteristics, environmental experiences, and policy, the financial nexus model allowed for analysis of the contextual nature of college choice and can be used to examine cross group comparisons of diverse populations (Paulsen & St. John, 2002). Perna’s model (2006) draws on the work of Paulsen and St. John (2002) by considering the various forms of economic, social, and cultural capital. Taken together, these models provide an effective construct for the purposes of analyzing student college choice decisions and for
investigating which forms of capital are most influential in predicting the selectivity of postsecondary institution attended by low income students.

This study will also be informed by the capital deficiency theory promulgated by Massey et al. (2003). Borrowing ideas from a number of economic and sociological theories, the theory of capital deficiency highlights resource differences as essential determinants in understanding academic achievement, particularly resources related to financial, human, social, and cultural capital (Engberg & Allen, 2011). Previous and extensive research that analyzed the relationship between the availability of capital resources and educational attainment (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, York, 1966; Paulsen, 2001; Paulsen & St. John, 2002; McDonough, 1997; Perna, 2000; Terenzini, et al., 2001) supported the work of Massey et al. (2003) and formed the foundation of the capital deficiency theory.

Lastly, this study will be informed by the fit hypothesis, which suggested a student’s postsecondary success rate will increase if the student attends a school that has a test-profile that matches the student’s standardized test score (Bowen & Bok, 1998). Bowen and Bok (1998) found that contrary to this hypothesis, black students were in fact more satisfied with their college experiences the more selective the institutions they attended. In this study, I will attempt to determine if the fit hypothesis applies for low-income students.

Scope

Data for this study are drawn from the Educational Longitudinal Study (ELS) of 2002, a federally funded, nationally representative study of high school sophomores. The ELS: 2002 is beneficial in examining college choice decisions as students were followed
and surveyed again during their senior year of high school in 2004 and again two years later in 2006. The ELS: 2002 study also includes information from multiple sources, including parents and counselors, and accordingly, it provides a rich dataset from which a researcher can draw variables that might have affected the student’s college decision-making process.

The ELS used a multi-stage sampling of high schools and a random sampling of approximately 26 students within each high school. The initial respondent pool included over 15,000 students from 750 schools, but the sample for this study is a population of students who applied, were accepted, and eventually matriculated into postsecondary education. Analysis of college choice patterns across income strata will use the following income ranges derived from information provided by parents in the ELS survey based on 2001 family income: Low income students will be considered as those coming from families with income of $35,000 and less. I operationalized low income students based on Engberg and Allen’s (2011) study of low income student access to higher education that used a family income cutoff of $35,000 or less based on the United States Department of Education (2010b) TRIO eligibility cutoff, set at 150 percent of the poverty level or $33,075 for a family of four; and a consumer price index (CPI) adjusted value of the $25,000 for low-income measures used in a variety of NELS:88 studies (see Cabrera & La Nasa, 2001), which was equivalent to $34,411. In their NELS: 88 study, Berkner and Chavez (1997) identified low income as parental reported income of $25,000 and less.

Because the commonly accepted path of high ability students is to pursue postsecondary education directly from high school and typically at four-year institutions, the present study will consider the first college choice decisions of students who went
directly from high school to college and attended only four-year, highly selective institutions. The focus of this study is not intended to diminish the very valuable contribution two-year institutions make to the American higher educational landscape. Nor is it unaware of the likelihood that some academically qualified, low income students may in fact graduate from a highly selective postsecondary institution after first enrolling at a two-year institution or delaying enrollment for a period of time after high school to attend to family or employment needs and responsibilities. The purpose of this study is to determine if variables other than academic preparation predict the selectivity levels of schools to which academically qualified, low income students apply, are accepted, and to which they matriculate. The importance of considering only highly selective, four-year institutions is found in the pivotal human, economic, cultural, and social capital that is associated with a degree from these institutions. This study, therefore, aims to determine if academically qualified, low income students are being deprived of those valuable capital resources because their college choice behavior is being influenced by something other than academic ability.

Organization of the Study

The following chapter is a review of the literature that identified the conceptual framework used in this study and provided the theoretical foundation for its analysis. Subsequent chapters outline the methodology used to complete the investigation, findings of the study, and the implications of the results on future research and policy decisions.
CHAPTER TWO
LITERATURE REVIEW

This study is based upon theories that address the influential role of human, cultural, social, and economic capital in shaping the postsecondary enrollment decisions of academically qualified, low income students. The study is grounded in Perna’s (2006) conceptual model that considered previous economic and sociological perspectives and posited that a student’s disposition regarding higher education is informed by that student’s habitus. The current study also considers other works that informed Perna’s conceptual model and demonstrated how various forms of capital shape postsecondary enrollment decisions. In addition to Perna’s (2006) conceptual model, the current study is also influenced by Paulsen and St. John’s (2002) financial nexus model that considered the effects of financial factors on college enrollment across different income groups, the fit hypothesis articulated by Bowen and Bok (1998) that considered enrollment decisions in view of a student’s standardized test scores and the profile of the institution attended, and the capital deficiency theory offered by Massey, et al. (2003) that showcased how differences in access to various forms of capital inform an understanding of student academic achievement. Finally, in analyzing how different forms of capital affect the selectivity of the first postsecondary institution attended by academically qualified, low income students, this study will use the Hossler and Gallagher (1987) model of college
choice to understand capital influence at the various stages of the college choice process. The Hossler and Gallagher (1987) model posited that there are three discrete phases in the college choice process; predisposition, search, and choice. This study will attempt to determine the role of capital resources at each of these phases.

Following a brief summary of the history of access to American higher education for historically underrepresented student populations, particularly low income students, this review will present the theories of Hossler and Gallagher (1987), Perna (2006), St. John and Paulsen (2002) and Massey et al. (2003) and provide empirical evidence that supports each theory and demonstrates the effects of capital resources on postsecondary enrollment decisions. After building a justification for considering how capital resources affect postsecondary enrollment decisions, I will use Bowen and Bok’s (1998) fit hypothesis to begin a review of the literature related specifically to how capital resources influence the selectivity level of postsecondary institution attended. Literature will then be presented that emphasizes the individual and societal level effects of students acquiring some amount of postsecondary education, with a focus on the benefits determined by the selectivity level of the institution attended. The chapter concludes with a proposed conceptual model that considers these various theories and serves as the framework of this study.

**History of Access to American Higher Education**

Despite the premise of American higher education to create a level playing field and make available the pivotal forms of capital, the history of access to higher education in the United States has been anything but equal. Barriers have existed that have prevented many Americans from accessing the multitude of benefits that correspond with
some amount of postsecondary education. Those barriers include inadequate secondary education achievement and preparation for postsecondary education, insufficient economic capital, inferior information about postsecondary education, and lack of family support (Perna, 2006). Specifically, women, students of color, and students who come from low income and low socioeconomic status families have not enjoyed full participation in American colleges and universities. In particular, students from economically marginalized backgrounds have endured numerous challenges on the path to earning a college degree for as long as the American system of postsecondary education has been in existence.

Access at the Inception of American Higher Education

From the nascent stages of American higher education to the mid 19th century, access was limited to white young men of a higher social status who were encouraged to foster a deeper commitment to religion, while students from families who were unable to afford tuition and therefore received scholarships and financial assistance endured the alienation from their socially elite classmates (Thelin, 2004). Access to higher education for women, students of color, and low income students did not gain significant momentum until the late 19th and early 20th centuries (Thelin, 2004). Among the more salient features of access to American higher education during the early 20th century was the manner in which it was segregated by religion and social class. During this time period, students from low income families took a giant step backward in their ability to access postsecondary education with circumstances surrounding the Great Depression having forced many schools to raise tuition and reduce financial assistance to financially needy students (Thelin, 2004).
World War II and Civil Rights

The middle of the 20th century was marked by World War II and Civil Rights flashpoints that resulted in greater numbers of students from previously underrepresented backgrounds enrolling in American colleges and universities (Baker & Valez, 1996), with notable gains in entry to selective postsecondary education. Research completed by Karen (1991) concluded that women and black students gained access to elite institutions during the 1960s and 1970s, however students from more modest social backgrounds did not enjoy the same progress. Students from working class families did not matriculate to selective institutions at the same rate as women and African Americans, but rather enrolled in lower tier colleges and universities (Karen, 1991).

Approaching the 21st Century

From 1973 to 1992, enrollment in postsecondary education increased by 15%, as did the variation in attendance according to income (Baker & Valez, 1996). Disproportionate enrollment patterns were emerging during these decades for low income students (Swail & Perna, 2002), notably the disturbing trend of low income students enrolling in large numbers at two-year institutions (Zusman, 1999). Research suggested that during this period of higher education, students of more privileged backgrounds enrolled in higher education at rates greater than other students and higher education continued to be stratified by race and income (Baker & Valez, 1996). One study showed that even after taking other variables related to college choice into account, students from low socioeconomic backgrounds applied for admission at a rate of 25% less than those from high socioeconomic status (Cabrera & LaNasa, 2001). Cabrera and LaNasa (2001)
attributed this trend to differences in economic, social, and cultural capital, and suggested a “Darwinian Path” (p. 141) to college for low socioeconomic students.

The significant advancements that were made on behalf of students from populations previously underrepresented in higher education seemed to have been lost in large measure because of a drastic shift in higher education funding policy that placed responsibility on the individual and away from the public agenda for providing equal educational opportunity for all. As such, postsecondary educational opportunity seemed to return to a time when the traits assigned at birth mattered more than talent and ability (Karen, 2002).

American Higher Education Today

Despite numerous programs and policies that were implemented prior to 2000 to support opportunities for underrepresented students, whites continue to earn college degrees at nearly twice the rate of blacks and almost three times that of Latinos (Stoops, 2004). Also in the first decade of the 21st century, nearly two million low and middle income, college qualified high school graduates will not pursue postsecondary education for financial reasons (Advisory Committee on Student Financial Assistance, 2002). Terenzini, et al. (2001) concluded that differences along socioeconomic lines negatively affect the college choice decisions of low socioeconomic students thus perpetuating inequality in postsecondary educational opportunities based only on birth traits and not related to talent or achievement. Data support this belief given that in the present era of American postsecondary education, high income students in the lowest quartile of standardized academic tests are enrolling in higher education at the same rate as low income students in the top quartile of standardized academic tests (U.S. Department of
Today, there is a cycle of advantage related to higher educational opportunity that creates continued disparities and returns benefits to high income students who already enjoy many advantages (Ellwood & Kane, 2000). In essence, over the course of approximately three centuries, American higher education today still harbors many of the structural elements that foster a system of inequality based on privilege, not merit, and is likely a primary actor in the process of social reproduction.

**Conceptual Models That Ground the Present Study**

**Perna’s Conceptual Model of College Choice**

In 2006, Laura Perna proposed a conceptual model of student college choice that blended economic and sociological theory to help understand how an individual’s habitus, defined as that individual’s immediate surroundings and experiences, shaped attitudes and assessments about the costs and benefits of pursuing postsecondary education. Nested within a multi-faceted framework of organizations (i.e., secondary, postsecondary, and community) and policy environments, an “individual’s habitus regarding college choice is expected to reflect an individual’s demographic characteristics, particularly gender, race/ethnicity, and SES, as well as cultural and social capital” (Perna, 2006, p. 117).

In proposing her conceptual model, Perna posited that “taken separately, neither rational human capital investment models nor sociological approaches are sufficient for understanding differences across groups in college choice” (Perna, 2006, p. 114). Accordingly, Perna advanced a conceptual model that incorporated economic and sociological perspectives that manifested differences in “expectations, preferences, tastes, and certainties about higher education investment” (Perna, 2006, p. 116) with a human
capital perspective that considered an individual’s cost-benefit analysis of postsecondary education (Perna, 2006). Importantly, Perna’s model suggested that each person’s postsecondary enrollment decisions are contextual, allowing for multiple pathways leading to college enrollment and not set in one, rational decision-making framework. Perna’s model considered four contextual layers that inform college enrollment decisions, including the individual’s habitus, the school and community context, the higher education context, and the social, economic, and policy context (Perna, 2006). Layer one represents individual demographic characteristics and reflects cultural and social capital; layer two considers how social structures and resources influence student postsecondary enrollment decisions; layer three acknowledges how colleges and universities influence the college decision process through information dissemination, student admissions processes, and the attributes of the institution; and layer four recognizes how forces outside of individual and institutional control, such as the economy and public policies influence student postsecondary enrollment decisions (Perna, 2006). Although Perna’s (2006) model included four layers, the present study will only consider the variables considered in layer one. Accordingly, an adapted version of Perna’s Conceptual Model of College Choice highlighting only layer one of the model is presented in Figure 1.
Perna’s conceptual model very effectively considered varying levels of context in the college choice process, including “aspects of schools and communities, higher education institutions, and the social, economic, and policy context” (Perna, 2006, p. 105). Perna also placed human capital investments at the very center of her model, emphasizing the importance of academic preparation and the availability of financial resources in calculating the cost-benefit analysis associated with college decision-making.

Previous research provided empirical support for Perna’s model and validated the importance of considering various social and cultural capital factors, in addition to a human capital cost-benefit frame, for analyzing postsecondary enrollment decisions. For example, acknowledging the importance of higher education financial policies in creating opportunity for increased postsecondary educational access, St. John and Paulsen (2001)
recommended that “social and cultural theory, policy sciences, and higher education theory be combined with economic theory and research to inform policy research in the area of higher education finance” (St. John & Paulsen, 2001, p. 564). The present study considers how the various forms of capital interact are present at the student level and influence the college choice behavior of academically qualified, low income students. Following is an overview of these forms of capital and literature that support inclusion of this capital in Perna’s (2006) conceptual model.

**Human Capital**

Human capital assets are illiquid and a person typically considers the costs of investing in such an asset with the expected rate of return on that investment (Becker, 1964). Each person might be considered as an individual human capital market with that person’s rate of return dependent upon the amount invested in that person and the amount the person invests personally in their potential (Becker & Tomes, 1986). However, determining the actual rate of return on a human capital investment in higher education can be difficult for students to calculate because uncertainty exists surrounding ability to succeed in postsecondary education and because the return is long term not allowing for complete information about the potential return at the time of the investment (Becker, 1964). This has particular relevance to the present study as previous research (e.g., Cabrera & LaNasa, 2001) has found that low income students are at a disadvantage compared to high income students in acquiring knowledge about postsecondary education.

Social or family background influences human capital investments related to higher education beyond having access to information about college. Parents can also
influence the adult incomes of their children by making human capital investments in their children’s skills, learning, and credentials (Becker & Tomes, 1986). Becker and Tomes (1986) also posited that parents can maximize their children’s net income by borrowing whatever is required to maximize their children’s potential. As it relates to higher education, low income families generally do not have the same ability as middle and upper income families to borrow for this pivotal human capital investment. Poorer families are challenged in financing this higher education investment because loans are typically not made when collateral is offered in the form of human capital (Becker & Tomes, 1986).

An investment in higher education, viewed through the lens of human capital theory is crucial not only at the individual level, but also at the societal level. Much of what a community enjoys in social gains can be traced to individual gains acquired through human capital investments in higher education that lead to a more educated citizenry (Becker, 1964). It has also been posited that the success of worldwide economies is dependent upon how vibrantly individuals invest in themselves, as human capital is the resource that animates the modern economy (Becker, 2002). Becker (2002) also acknowledged previous studies that considered the economic growth of various nations over recent decades that showed close relations between economic growth, education, and human capital investments.

Under human capital theory, parents make an educational investment in their children they hope will have a long-term benefit in providing a more rewarding, productive, and fulfilling life (Massey et al., 2003). Human capital theory also suggests students make an investment in themselves as indicated by the level and amount of
education they pursue. Previous research on college choice has used human capital theory (e.g. Ellwood & Kane, 2000; Paulsen, 2001) to demonstrate how human capital investments in varying forms predict college enrollment. Ellwood and Kane utilized a human capital investment model to analyze the relationship between college enrollment and family income and found that although differences in enrollment patterns existed between high and low income students, family background characteristics that factor into a student’s SES were also highly influential in the college choice process (Ellwood & Kane, 2000). Although Ellwood and Kane (2000) found that high school academic achievement remains the strongest predictor of postsecondary enrollment, and when controlling for academic achievement, the postsecondary enrollment gap between low-income and high-income students shrank from nearly 40% to only 15%, the authors concluded there was a cycle of advantage related to higher educational opportunity that created continued disparities in benefits to high income students who already enjoy many advantages (Ellwood & Kane, 2000).

Human capital theory illuminates the college choice process by grounding the decision to attend college in the language of productivity-enhancement and investment returns (Becker, 1993; Paulsen, 2001). Within this theoretical framework, attending college is based on a rational decision in which the potential gains in productivity (and therefore improved earnings and other monetary or nonmonetary returns) are compared with the direct and indirect costs associated with acquiring a college education (Cohn & Geske, 1990). However, an approach based only in human capital theory does not effectively allow for an understanding of college choice differences across groups (Perna,
Financial resources, as manifested in economic capital, also play a pivotal role in predicting postsecondary enrollment behavior.

Economic Capital

In a 2001 study that considered who could most afford a college education, Sandy Baum recommended that priority be given to enhancing access to postsecondary education for academically prepared, low income students whose access is often delimited by financial constraints (Baum, 2001). Among the most salient economic variables that affect access to postsecondary education for low income students are price, educational expenses, loans, and grants.

Research on the correlation between enrollment and tuition prices confirmed that as tuition increased, a decline in enrollment was expected and that controlling for other variables, most student groups responded negatively to increases in tuition (Heller, 1999; Leslie & Brinkman, 1987). Ellwood and Kane (2000) found that a $1,000 tuition increase lead to a five to seven percentage points drop in the likelihood of enrollment, but still advocated for targeting financial aid to needy students rather than lowering tuition “across the board” which would in effect serve as benefit for all students, even those not in need of financial assistance (Ellwood & Kane, 2000). Increased tuition had the most significant effect on low income students and the least on high income students, and reducing tuition had a stronger positive effect than increased tuition had a negative effect (Leslie & Brinkman, 1987). Terenzini et al. (2001) also concluded that escalating costs to attend a college or university contributed to the stratification of students by SES, and the redistribution appeared to be particularly disadvantageous for students from the lowest end of the SES spectrum. Price, as reflected in tuition, room, and board costs, has
a stronger effect on access for low income groups because low income students are more responsive to price than are students from middle and high income groups (McPherson & Schapiro, 1991). Baum (2001) also concluded that in addition to student aid, college costs have had the greatest relationship to low income student access to postsecondary education. Other studies (Paulsen, 2001) have found that as direct costs of attendance are lowered for such items as tuition, fees, and books, the likelihood of enrollment increases. Indirect costs of postsecondary education, such as low living expenses, are also pivotal for poor students and less important for upper income students.

To help mitigate the effects of price on access to postsecondary education, institutions typically utilize grants, scholarships, and loans. However, institutional financial aid strategies are correlated with enrollment patterns that are stratified by student socioeconomic status and selectivity of institution attended, with students from lower socioeconomic status attending in-state private institutions at greater rates than in-state public four-year institutions (Perna & Titus, 2004). Some colleges and universities also intentionally targeted students from high income families who did not require financial assistance for postsecondary education. Even though such a policy likely lead to increased rankings and prestige for the institutions, the impact of this policy significantly affected qualified, low income students who were denied an opportunity for enrollment (Orfield, 1990). Additionally, Orfield (1990) concluded that such a policy did not affect the dispersement of students across colleges and universities as these high income students were likely to enroll in postsecondary education regardless of financial aid.
Low income students are less likely to assume loans, which are often considered short term solutions to a lack of economic capital, and respond more favorably to long term assistance like grants (Baum, 2001). Moreover, when low income families are required to repay a loan in exchange for a college education, it extends their legacy of marginalization as compared to middle and upper income families that are often able to use their savings and current income to pay for postsecondary expenses (Hearn, 2001). Hearn (2001) also posited that grants have a more positive effect than loans on low income student access to postsecondary education, especially federal, state, and institutional grant aid.

However, there has been a steady decline in federal grant aid that has heightened the significance of institutional grant aid for poor students (St. John, Asker, & Hu, 2001). Not surprisingly, this policy shift away from grants to loans has had a significant effect on low income students (Hearn, 2001). Even recent initiatives designed to increase postsecondary access, although well-intentioned, lack sensitivity to the needs of poor students. For example, tax credits for higher education can be viewed as anti-low income given that a family must earn enough income to qualify for the credit and only “out of pocket” expenses are considered when providing the credit (Baum, 2001). As such, this initiative has little bearing on those students and families who do not have the resources “in their pockets” to begin with and are therefore in need of a diminishing pool of financial assistance. This finding highlights the very crucial nature of family income in predicting postsecondary enrollment, even in consideration of the aforementioned strategies designed to assuage the effects of income on enrollment.
Ellwood and Kane (2000) concluded that variances in family income determined postsecondary enrollment behavior, even when students held the same amount of academic preparation. Using data from the National Educational Longitudinal Study (NELS) that considered students graduating from high school in 1992, the authors found that 40% of students from the lowest income quartile pursued no postsecondary education within the first 20 months following high school graduation, compared to only 10% of students from the highest income quartile; and only 28% of lowest income quartile students pursued a four-year institution compared to 66% of students from the highest income quartile (Ellwood & Kane, 2000).

Significant to the present study, Ellwood and Kane (2000) also concluded that their most important finding was that college going rates for students with identical high school records of academic achievement differ significantly by a combination of parental income and education, with more highly educated parents likely delivering sets of expectations and quality of information about the benefits of postsecondary education to their children. As such, this finding accentuates the influence of social and cultural capital.

**Social Capital**

Social capital has been defined as the benefits and advantages individuals receive from being included in a social network that communicates acceptable norms and authorities and provides pivotal resources in the network (Bourdieu, 1986, Coleman, 1988, Lin, 1999a). “Social capital refers primarily to resources accessed in social networks” (Lin, p. 471, 1999a). Lin (1999a) posited that social resources are available directly and indirectly through a person’s relationships and that an individual’s investment in and
mobilization of these resources can enhance socioeconomic status. “Social capital contains three important ingredients: resources embedded in a social structure, accessibility to such resources by individuals, and use or mobilization of such social resources by individuals in purposive actions” (Lin, 1999, p. 35). Lin (1999) suggested the returns to the individual of enhanced social capital included wealth, power, reputation, better physical and mental health, and increased life satisfaction.

The amount of social capital an individual possesses is dependent on the size of that person’s network and the volume of resources that persons in the network possess (Bourdieu, 1986). Bourdieu (1986) posited that the amount of social capital an individual possesses is the result of an ongoing effort to build and maintain social relationships that reproduce both short-term and long-term benefits. Importantly, the extent of the social resources a person can access for building these short-term and long-term gains is related to a person’s education and their parent’s education (Lin, 1999a). However, if used for nefarious purposes, social capital gain be used to gather like-minded and like-resourced individuals for the purpose of preserving and protecting those resources at the exclusion of others who do not share the same resources (Lin, 1999). With each new member introduced to a group, the likelihood of redefining that group’s identity, norms, and values increases (Bourdieu, 1986). Higher education should be considered a mechanism that enables individuals from low income or low SES backgrounds to gain entry into a new group, often manifested by mobilization into a new SES band. However, if colleges and universities are enrolling students who already enjoy positions of privilege at the expense of those who come from populations largely underrepresented in postsecondary
education, the opportunity for such upward mobilization is negated and social capital for the wealthy preserved.

Social capital is also considered productive, being put to use to make some end possible (Coleman, 1988). In the theory of college choice, social capital can be accessed through a student’s parents, friends, teachers, coaches, counselors, and other peers. The information that exists about postsecondary education within this network can be used to advance a student’s understand of the objectives that must be met and the processes that are undertaken that make one eligible to enroll at a college or university. Coleman (1988) acknowledged that one of the more important forms of social capital is the information that is shared within a group or social network. In college choice theory, making such information accessible or restricting information to only those in a given social network, has pivotal influence over enhancing or delimiting postsecondary educational access for those whose social networks do not contain information about the process.

For example, not more than 47% of low income parents from a study of three states said they received college information compared to between 66% and 74% of economically advantaged parents from the same three states (Venezia & Kirst, 2005). Tierney and Venegas (2009) considered programs that prepared students academically for postsecondary education and the support services those students and their families required to receive essential financial assistance that provided opportunity for a college degree. Cultural contexts influenced how students and their families learned about available financial assistance and the measures they undertook to apply for that assistance (Tierney & Venegas, 2009). Tierney and Venegas (2009) concluded that with more
complete knowledge about the financial aid system and how to prepare to receive financial aid, low income students would be able to perform better academically and therefore have stronger credentials that might allow them greater access to postsecondary education.

Families that are economically advantaged have also summoned their considerable social capital to ensure access for their students to more selective institutions, even though these students may not be academically qualified. One way economically advantaged families marshal social capital to maximize their socioeconomic advantages is through the use of high priced private counselors who provide resources and assistance to help students of high socioeconomic status gain entry to colleges often thought of as their “birthright” (McDonough, p. 428, 1994). While students from middle to high income backgrounds increased their already considerable advantage through the use of private counselors, students at public high schools had limited access to college counselors as many schools reduced resources targeted for postsecondary advisement due to economic challenges (McDonough, 1994). McDonough (1994) found that the students at American public high schools competed with 324 other students for the attention of one counselor and in worst case scenarios, competed with 739 other students for the attention of one counselor.

Research has also shown that low income students are associated with lower expectations about educational attainment and take college entrance examinations less frequently compared to their high income counterparts (Fitzgerald & Delaney, 2002). Not only do low income students not complete tasks required to be considered for postsecondary enrollment, even acquiring information about crucial resources to make a
college education possible can be a challenge. As an example, for low-income
students, acquiring the knowledge and understanding of the financial aid process can be a
daunting process, creating a formidable barrier to postsecondary enrollment (Bell,
Rowan-Kenyon & Perna, 2009; Luna DeLaRosa, 2006).

Perna and Titus (2005) also examined how varying forms of parent interaction,
including parent-parent, parent-student, and parent-school influenced two-year or four-
year school enrollment decisions. Other researchers have considered the role of peer
networks and how a student’s closest group of friends inform attitudes surrounding
possible and eventual postsecondary destinations (Engberg & Wolniak, 2010; Perez &
McDonough, 2008; Person & Rosenbaum, 2006). College-linking networks, in which
students are linked to different information resources and individuals pertaining to the
college admissions process, have been found to significantly predict postsecondary
enrollment (Cabrera & La Nasa, 2001; Hill, 2008; O’Connor, Hammack & Scott, 2010).
Specifically, O’Connor et al.’s (2010) study found that Hispanic students were more
likely to enroll at a four-year institution as their parents acquired greater amounts of
information about financial aid from various networks.

Accordingly, students who come from backgrounds largely underrepresented in
higher education are required to exert special effort to gain access to resources that might
be found outside their usual or existing networks (Lin, 1999a). In this regard, counselors,
teachers, and coaches play a special role. Using these resources outside of the usual
social network has the effect of allowing students to overcome limits in the type and
amount of cultural capital they possess.
Cultural Capital

Although cultural and social capital tend to have many similarities, Bourdieu (1986) described cultural capital as a system of characteristics passed on through one’s family that have the power to assign a level of status to an individual (Bourdieu, 1986). Bourdieu’s (1986) initial conceptualization of cultural capital was drawn from his observation of differences in educational achievement between children from different social classes and the role of social class in understanding those variations in educational achievement. Cultural capital can be embodied, that is, in the very nature of mind and body; objectified, as evidenced in cultural goods such as books; or institutionalized, manifested for example, in the conferring of an academic degree that signifies culture (Bourdieu, 1986). As with the other forms of capital, those who are in positions of privilege tend to enjoy advantages related to their volume and awareness of cultural capital. For example, the expeditious accumulation of other forms of valuable resources begins without interruption for children from cultural capital rich families (Bourdieu, 1986). Cultural capital, both objectified and embodied, is used by differing social classes to secure power and profit, with those having mastered cultural capital in these forms enjoying more power and profit (Bourdieu, 1986). As such, one can understand how children of privilege who have had longer periods of time to master cultural capital would enjoy an advantage in the college choice process.

Awareness of the system of characteristics or attributes that are related to enhanced productivity and an ability to successfully manage them increases the odds of individual success (Massey et al., 2003). Because wealthy individuals have greater access to significant cultural capital, children of wealthy parents are advantaged as it
relates to employing this important form of capital (Massey et al., 2003). When passed on from family to family and generation to generation, cultural capital can be an instrument of social stratification (Bourdieu, 1977). As an example, because of a student’s race or economic status, they are often pushed to live in neighborhoods with below average schools and inadequate counseling, creating a cycle of disadvantage from which there is often no escape (Orfield, 1990).

In the college choice literature, cultural capital has been considered in a variety of ways for different studies, emphasizing the importance of parent educational attainment (Ellwood & Kane, 2000; Hossler, Schmit, & Vesper, 1999; Perna & Titus, 2005), parent aspirations for their children (Cabrera & La Nasa, 2001; Hamrick & Stage, 2004), involvement in culturally enriching activities (Perna & Titus, 2005), language acquisition (Perna & Titus, 2005), and parental encouragement (Hossler, Schmit, & Vesper, 1999), and the effect of these variables on postsecondary enrollment.

Ellwood and Kane (2000) found that that the likelihood of pursuing some amount of postsecondary education increased by nearly 40 percentage points as the level of parental education increased, and the likelihood of attending a four-year institution increased 56 percentage points as the level of parental education increased. Accordingly, a student’s attitude about postsecondary education may be influenced by the level of parental education with more highly educated parents encouraging their children to pursue similar levels of education as themselves (Ellwood & Kane, 2000).

In their report on low-income students in American higher education, Terenzini, et al. (2001) concluded that by the ninth grade, and possibly even the seventh, most students have developed occupational and educational expectations that are strongly
related to socioeconomic status. When considering non-financial variables and the affect of those variables on enrollment, participation in postsecondary education was correlated more with non-economic, family level characteristics such as the level of parents’ education and social class (Leslie & Brinkman, 1987; St. John, 2003). Hearn (2001) and St. John (2002) called for analysis of non-economic variables such as academic preparation, level of parents’ education, and student-life experiences and how these variables intersect with economic variables to inform policies that encourage pursuit of economic capital through higher education. Unfortunately, even the hope of enhanced economic capital made possible through some amount of postsecondary education is too often mitigated by other variables unique to each individual, namely socioeconomic status, academic preparedness, and access to college information (Paulsen, 2001).

The Hossler and Gallagher Model

The Hossler and Gallagher model of college choice involves three discrete phases in the choice timeline; predisposition, search, and choice (Hossler & Gallagher, 1987). Predisposition is considered the phase when a student makes the decision to attend college rather than pursue some other alternative; search involves gathering information about specific institutions, and choice is when a student makes the decision to submit applications to a particular institution and ultimately enroll if accepted (Hossler, Schmit, & Vesper, 1999).

In the predisposition phase, which can begin as early as the seventh grade, attitudes and aspirations are developed related to postsecondary education and how additional amounts of education align with a student’s career interests (Terenzini, et al.,
The predisposition stage involves a student making a decision to act upon aspirations, and in this model, that decision is to go to college (Hossler, Schmit, & Vesper, 1999). The search phase is characterized by heightened interaction between the student and various institutions as the student seeks information to assist with the decision (Hossler, et al., 1999). The set of schools a student considers during this phase is determined by the quality and style of the search, with students from high income families exercising their considerable social capital to ensure the value of information is robust (Hossler, et al., 1999; Terenzini, et al., 2001). Hossler et al. (1999) posited this phase of the process is the most important as it is heavily influenced by students’ social conditioning and also open to intervention that would permit changes in the list of schools being considered. The final phase, choice, is when a student makes the decision to enroll in a particular school. In this stage, students are assumed to make decisions consistent with schools that were considered in the search stage after reflecting on the academic and non-academic aspects of each school that would provide the greatest return on their investment (Hossler, et al., 1999). For low income and low SES students during this phase, the availability of financial aid is a crucial variable and can limit the number and type of institutions to which these students apply (Berkner & Chavez, 1997; Hossler, et al., 1999).

This model of college choice is rooted in sociological theory and takes into consideration a student’s habitus and allows for varying levels of influence from a student’s habitus throughout the entire college choice timeline (Hossler, et al., 1999). Important to the foundation of this study, the Hossler and Gallagher (1987) model of college choice is open to the varying influence of human, economic, social, and cultural
capital in the college choice process. Consideration of how students of capital privilege are advantaged over capitally deficient students in the college choice process is of particular interest. The current study will consider how human, cultural, social, and economic capital affect the application, acceptance and enrollment patterns of low income students at selective colleges and universities.

The Financial Nexus Model

Reflecting on how changes in federal financial aid policies, diminished state support for higher education, and institutional pricing strategies have influenced access to higher education, Paulsen and St. John (2002) investigated how economic variables affected college choice and persistence behavior across different income strata. The financial nexus model advanced by Paulsen and St. John (2002) endeavored to link college choice and persistence behaviors in ways that had not previously been explored. The model undergirded their line of inquiry that attempted to demonstrate how these college choice and persistence behaviors were influenced by socioeconomic status, and how various policy decisions could support increased diversity in higher education (Paulsen & St. John, 2002). The model was developed to understand how factors that influenced college choice decisions might also influence decisions related to college persistence with particular interest in the financial nexus between college choice and college persistence (Paulsen & St. John, 2002). The authors posited that if economic variables were factors in the initial college choice decision then they were also likely to be factors in future decisions related to persistence (Paulsen & St. John, 2002).

In the initial examination of the financial nexus by St. John, Paulsen, and Starkey (1996), one of the most significant findings of the study was that behavior during the
college choice process was contextual and that contextualized behavior was pervasive throughout the process (St. John, Paulsen, & Starkey, 1996).

Paulsen and St. John grounded their 2002 work in the theory of habitus and posited that a student’s habitus would “operate implicitly to frame, constrain, and inform the patterns of students’ responses to financial factors in such choices in ways that are consistent with the views of others in the student’s social class” (p. 196). Accordingly, Paulsen and St. John (2002) attempted to challenge previously held beliefs that decisions about college choice and persistence were being made with access to similar information, situated in like contexts, with each person holding a shared set of values and beliefs.

Paulsen and St. John (2002) found that there was a degree of social reproduction in higher education in that lower income students were less likely than higher income students to attend private, four year institutions on a full time, residential basis. The authors acknowledged these as pivotal, class-based distinctions that allowed for the unequal distribution of among other things, cultural and economic capital (Paulsen & St. John, 2002). Moreover, Paulsen and St. John found differences in enrollment and persistence patterns based on ethnicity and age, and strikingly that low and middle income students were more likely than high income students to excel academically, yet these low and middle income students had significantly lower expectations for their own educational aspirations than the higher income students. The results of this study confirmed that college choice and persistence behavior should be studied with sensitivity to the differences in college choice behavior across social classes, having acknowledged class based differences in enrollment behavior determined by students’ perceptions and expectations of postsecondary education costs.
The Capital Deficiency Model

The theories of Perna (2006) and Paulsen and St. John (2002) that stressed the prominence of habitus in the college choice process are joined for this current study by the work of Massey, et al. (2003) that used capital deficiency theory to explain differences in racial/ethnic minority academic achievement in college. Specifically, the capital deficiency theory posited that certain people or groups of people lack the resources that are required to excel academically (Massey, et al., 2003). Massey et al. (2003) suggested the resources that influence academic achievement include economic, human, cultural, and social capital. Although these forms of capital are highly interrelated, individuals with large amounts of economic or financial capital “usually have privileged access to cultural, social, and human capital” (Massey, et al., 2003; p. 7). In their study, Massey and colleagues found that across ethnic groups there were significant differences in capital resources, with whites and Asians possessing the highest levels of capital, followed by Latinos, and then blacks. These resource differences consistently and significantly predicted academic preparation as measured by high school grade point average, advanced placement credits, and student self assessment (Massey, et al., 2003). Related to the college choice process, and particularly to the selectivity of institution at which a student is accepted and then enrolls, academic preparation figures significantly into the process. In other words, a student will likely not be accepted at an institution where there is a mismatch between the student’s qualifications and the institutional academic profile. Accordingly, if capital resources influence the manner in which students approach academic preparation then further investigation of how capital resources influence the college choice process is warranted.
The Fit Hypothesis Model

The fit or mismatch hypothesis is that minority students will graduate at increased rates if they attend institutions where the institutional profile is matched to the student’s standardized test scores than if the student attended an institution where students have higher test scores than their own (Alon & Tienda, 2005; Bowen & Bok, 1998). The fit hypothesis has its roots in affirmative action dialogue surrounding higher education admissions criteria and the academic preparedness levels of minority students for selective and highly selective colleges and universities (Alon & Tienda, 2005). Bowen and Bok (1998) termed the thinking surrounding expectations of achievement for minority students at schools with higher test score averages than the individual student’s the “fit hypothesis,” while Alon and Tienda (2005) suggested the “mismatch hypothesis” more accurately reflected the tenor of the conversation around this subject.

In their study, Bowen and Bok (1998) concluded that the fit hypothesis did not hold and in fact, black students who were identified with the lowest band of SAT scores actually graduated at higher rates the more selective the institution they attended, and black students’ lowest graduation rates were at the least selective institutions. Additionally, all students in the sample, without consideration of race or academic preparation, had graduation rates that were highest at the most selective institutions (Bowen & Bok, 1998). Bowen and Bok (1998) also concluded that these minority students (as well as other white students) were well advised to pursue postsecondary education at selective institutions that were not a “fit” with their own standardized test scores as their earned income nearly 20 years after entering college was greater if the students graduated from a more selective institution.
Alon and Tienda (2005) considered a group of students who participated in postsecondary education in the 1980s and 1990s and also concluded that the “mismatch” or “fit” hypothesis did not hold, with all students (black, Latino, white, and Asian) benefitting from having attended more selective institutions. Specifically, regardless of analytical method used and student ethnicity, graduation rates were positively correlated with increased levels of institutional selectivity (Alon & Tienda, 2005). However, Alon and Tienda (2005) also determined that the benefit of attending a more selective institution is even greater for minority students than it is for white students.

In the current study I intend to extend the fit or mismatch hypothesis proposed by Bowen and Bok (1998) and Alon and Tienda (2005) beyond a focus on race and linkage to affirmative action policy, to a consideration of enrollment at selective institutions by income. Where Bowen and Bok, and Alon and Tienda, largely considered how graduation rates correlated with institutional selectivity for minority students, I will consider application, acceptance, and enrollment rates at selective institutions and how they correlate with income and other forms of capital. Given Bowen and Bok’s (1998) finding related to graduation rates and earned income nearly 20 years after enrollment, the fit hypothesis is an appropriate theory to inform the current study as it can ground an investigation of whether or not academically qualified low income students are availing themselves of the powerful human, social, cultural, and economic capital available at America’s selective colleges and universities.

**The Influence of Capital on Institutional Selectivity**

Access to America’s selective colleges and universities appears stratified by income, lending support to the hypothesis that the American system of postsecondary
education is one that reproduces wealth and privilege more than it serves as a vehicle of social mobility. For example, a student from a family considered to be wealthy is 25 times more likely to attend a highly selective institution than is a student from a poor family, and only 3% of students at the top two tiers of institutions as identified by Barron’s come from families earning less than $27,000 annually, even though these institutions enroll just over one third of all college students (Carnevale & Rose, 2003).

The stratification of American higher education also appears to exist beyond simple income measures. When considering socioeconomic status as a measure of family income, parental education, and parental occupation, 74% of the students at 146 of the nation’s most selective schools come from the top socioeconomic quartile and only 10% come from the bottom quartile (Carnevale & Rose, 2003). When using endowment size as a proxy for institutional wealth, the data related to wealthy institutions reproducing wealth is equally as alarming. A study of schools with endowments valued at $500 million and greater in 2004-2005 showed that less than 15% of the students enrolled at these schools came from families qualified to receive a Pell grant (Fischer, 2006). At one of those schools, Northwestern University, less than 10% of its students qualified for the Pell grant (Fischer, 2006), but 20% of its students came from families earning $250,000 and more (Newbart, 2004). At Harvard University, only slightly more than 8% of its 9,500 undergraduates receive the Pell grant, and even low income students enrolled at Harvard were not aware of all the financial resources available to them (Fischer, 2006). Richard Kahlenberg, a Senior Fellow at The Century Foundation suggested that “the dirty little secret is that low income students are even more underrepresented than minority students” on elite college campuses (Fischer, 2006).
A study of enrollment at flagship institutions, institutions arguably founded to educate students from working class backgrounds, found that only 13% of students from low income backgrounds attended these institutions although the population comprised 20% of the college students (Haycock, Lynch, & Engle, 2010). At the University of Illinois, nearly 40% of students report family income of $100,000 and more, even though only 2% of all families in the state of Illinois have incomes at that level (Newbart, 2004).

In his work that considered how the wealthy access America’s most selective colleges and universities, Golden (2006) interviewed a university president who acknowledged the great “disconnect between a place like Yale and the one-third or more of high schools in the United States that serve mostly poor kids” (Golden, p.9, 2006). Another university administrator also confirmed for Golden that “so many spaces at elites are reserved for the well-connected that the poor schmuck who has to get in on his own has to walk on water” (Golden, p.14, 2006).

**Institutional Role in Shaping Enrollment**

Because many selective colleges have larger endowments they are able to subsidize a greater percentage of a student’s education (Schmidt, 2007), thereby allowing already privileged and wealthy students to spend less of their financial resources on an education that grants them access to even greater amounts of capital. At the nation’s wealthiest colleges, students pay only 20% of the cost of attendance compared to students who pay 78% of the cost at the least wealthy institutions (Kahlenberg, 2010). Selective institutions have also been found to spend up to $50,000 per student compared to $15,000 per student at public, four year institutions, and $10,000 at community colleges (Carnevale, 2010). To cover up the fact that an institution has accepted a student who is
academically unqualified but heavily capitalized, selective institutions will accept every student from the same school as the unqualified student so as not to draw attention to the admissions decision (Golden, 2006). With dwindling financial resources from state government being directed to higher education, many colleges and universities raised tuition which in turn provided yet another barrier to access for low income students (Astin & Oseguera, 2004).

Moreover, in a recent study that considered undergraduate learning, Arum, Roksa, and Cho (2011) concluded that students at certain types of institutions benefitted from high expectations for reading and writing, increased hours of study, and high faculty expectations that lead to gains in critical thinking, reasoning, and writing. A major finding of the study was that increased student development and performance was associated with increased level of institutional selectivity (Arum, Roksa, & Cho, 2011).

Selective institutions also appeared to be more effective in graduating students. Among equally academically qualified students, 96% graduate at selective schools compared to 78% at less selective institutions (Carnevale, 2010). Among equally academically qualified students, 40% of selective school graduates enrolled in graduate school compared to 25% of the graduates from less selective schools (Carnevale, 2010). Carnevale and Rose (2003) posited that at selective schools the peer effects of being with other talented students who had high aspirations were positive and likely lead to increased graduation rates and graduate school enrollment.

**Economic Benefits of Attending a Selective School**

One study determined that, overall, students who attended selective colleges had the same earnings as those who attended less selective colleges, but there was a
statistically significant effect for enhanced earnings found for low income students who attended selective schools (Dale & Krueger, 2002). Dale and Krueger (2002) also found that after adjusting for institutional selection variables, the monetary return of attending a more selective institution fell, but there was a substantial monetary return for attending a school with higher net tuition. This finding is important in that it should be juxtaposed with previous research that underscored the importance of price in the choice process for low income students (Ellwood & Kane, 2000; Leslie & Brinkman, 1987) and the fact that more selective institutions are typically those with higher net costs. Dale & Krueger (2002) concluded that schools that charge more likely are able to provide higher quality resources to students that in turn develop skill sets that lead to greater levels of compensation.

Dale and Krueger recently extended their 2002 work with a study that analyzed the return of institutional selectivity to a more recent cohort of college graduates and used data reported by the Social Security Administration rather than self-reported data for the cohort in their 2002 study. Dale and Krueger (2011) found that the returns for institutional selectivity were negligible when they controlled for unobserved student ability. However, Dale and Krueger (2011) concluded again that even after controlling for unobserved student ability, institutional selectivity had a significant effect on earnings for students of color, low income students, and students who came from families with low levels of parental education. The results of the updated study suggested that students from less privileged family backgrounds experience a more significant benefit from attending a more selective institution than do privileged students, and this benefit could
be largely related to having increased access to greater amounts of social capital found at selective institutions (Dale & Krueger, 2011).

Carnevale (2010) found that the average graduate of an elite, selective school earned $54,000 in an entry level job compared to $37,000 earned by graduates of less selective institutions, and Kahlenberg (2010) suggested entry level earnings are 45% higher for graduates of the most selective schools compared to those from the least selective institutions. Having this additional economic capital also influenced the graduate’s access to additional social and cultural capital found in networks of power and influence (Carnevale, 2010).

**Social Capital Benefits of Attending a Selective School**

Elites, and not the masses, are leading the United States with significant political, economic, and social decisions being made a small group of people (Dye & Zeigler, 2009). In addition to concentrating decision-making power with this small group of elites, it also appears the postsecondary education of this group of elites is also concentrated with a small group of colleges and universities. For example, of the 18 United States Presidents since 1900, seven attended Harvard, Yale, or Princeton (Schmidt, 2007). One study identified only 7,300 positions of elite leadership across such industries as business, law, finance, government and cultural endeavors, with the decision making power of the United States concentrated in these positions (Dye, 2002). Dye (2002) further found that these elite positions in the corporate world were occupied by upper middle class individuals who largely attended Ivy League institutions and who, although working their way up the corporate ladder, likely held crucial knowledge about how bureaucratic organizations work and possessed some amount of graduate education.
Graduates of selective schools appear to have greater access to valuable social capital that can be found in networks at graduate schools. Dye (2002) posited that power is the results of one’s position in a social organization rather than an attribute found at the individual level. Accordingly, students who attend selective institutions likely have greater access to crucial social networks that already possess significant privilege and capital. Given the stratification of enrollment at selective institutions by income and socioeconomic status, one might conclude that these institutions are advancing a cycle of inequality and power imbalance as they foster a system that places heavily capitalized and privileged students in elite decision making positions.

**Cultural Benefits of Attending a Selective School**

Astin and Oseguera (2004) posited that one of the explanations for the differences in attendance at selective colleges and universities based on socioeconomic status is the significant differences in cultural capital. Specifically, Astin and Oseguera (2004) pointed to the knowledge of benefits associated with attending a selective institution and strategies for securing enrollment at one of these schools, skills often passed on to students by their better educated parents, as being more significant than previously known. Hossler, Schmit, and Vesper (1999) acknowledged the most important factor in the college search and choice process was parental support and encouragement, which can be viewed as a pivotal form of cultural capital found in greater amounts with high socioeconomic students than those from low socioeconomic backgrounds. McDonough (1997) concluded that cultural capital influenced the level and quality of postsecondary institution attended and that each student’s college choice is situated in their individual habitus or everyday social, cultural, and organizational perspectives. For wealthy
students or students who are privileged, they believe their habitus is an entitlement to a certain level of education, typically at a selective institution (McDonough, 1997). For low income students, their lack of cultural capital introduces the theory of bounded rationality that suggests rationale decision making is limited by cognitive restraints (McDonough, 1997). As it relates to selective institution enrollment, studies have found that social class influences access to selective institutions, including a student’s predisposition towards selective institutions and the level of academic preparation undertaken to qualify for admission (Radford & Espenshade, 2009). As such, these low income students delimit their postsecondary options based on their accepted habitus. For example, in McDonough’s (1997) study, the author found that high socioeconomic status students consider distance from home to potential postsecondary institution in terms of travel time via air, whereas low socioeconomic status students consider such time via ground travel.

Numerous studies have confirmed the effect of cultural capital on college access and choice, but the effect of institutional selectivity on the enhancement of cultural capital is just as significant. As an example, using the Northeast section of the United States as the epicenter of American cultural capital, Soares (2007) concluded that children of high income, professional families living in the Northeast applied to and graduated from elite colleges and universities at a pace greater than any other group across the country. Moreover, given that parental education has served as a proxy for cultural knowledge or cultural capital (McDonough, 1997; Perna & Titus, 2004) it would seem that to stem this tide of concentrated cultural capital it would be important to have greater numbers of low income students enrolling in and graduating from our nation’s
selective colleges and universities in order to share their enhanced cultural capital with future generations.

Pat Callan of The National Center of Public Policy and Higher Education concluded that “it’s better to be dumb and rich than smart and poor if you want to go to college” (Newbart, 2004). Unfortunately, college admissions is a zero sum game whereby one spot taken by an unqualified, highly capitalized student is one less spot for another deserving student (Schmidt, 2007). Perpetuating this cycle of inequality by rewarding mediocrity and capital over academic preparedness does a disservice to our national economic competitiveness and leadership (Golden, 2006). The challenge to America’s most selective colleges and universities is that if those institutions were committed to enrolling classes that represented the diverse fabric of the United States, some 83,000 students who were not qualified to study at these elite institutions would be displaced by students who were qualified, but likely possessed less economic, social, and cultural capital (Carnevale & Rose, 2003).

**Present Study Conceptual Framework**

Based on Hossler and Gallagher’s (1987) and Perna’s (2006) models of college choice, I propose the model as shown in figure 2.3 as the foundation for this study. In this investigation I will attempt to understand how human, social, cultural, and economic capital affect the decisions academically qualified, low income students make at various points in their respective journeys to postsecondary education, and if these various forms of capital are predictive of the selectivity level of the institution attended. The proposed model attempts to recognize the contextual nature of these decisions (McDonough, 1997;
Perna, 2006) while at the same time acknowledging that there are discrete decision points along the journey, contextualized as they might be.

The conceptual model presented in Figure 2 assumes that the student level demographics along with human, economic, social, and cultural capital join to form the student’s habitus and influence the student’s predisposition to postsecondary education. The student’s predisposition to postsecondary education is manifested in the student’s decision to apply for admittance to a college or university and the selectivity level of the institution to which the student applied. Being accepted to a postsecondary institution depends on first applying to the institution, and enrolling at the institution depends on being accepted to the institution. Because these three discrete phases of the college choice process are interdependent, the conceptual model considers how a student’s predisposition to postsecondary education, as influenced by the capital present in the student’s habitus, predicts the selectivity of postsecondary institutions to which a student applies, is admitted, and finally enrolls. Finally, the conceptual model shows how the selectivity of postsecondary institution attended can influence the amount of capital in a student’s habitus, but also how the amount of capital in a student’s habitus influences the selectivity of postsecondary institution attended. In other words, the model attempts to demonstrate the cycle of inequality present in postsecondary education when capital resources inform college choice behavior more than academic merit.
Figure 2 - Allen’s Conceptual Model of Postsecondary Educational Social Reproduction

Demographic characteristics
   Gender
   Race/ethnicity
Economic Capital
   Family income
Cultural capital
   Cultural knowledge
   Value of college attainment
Social capital
   Information about college
   Assistance with college
Human Capital
   Academic
   preparation/achievement
   Expected costs/returns of
   postsecondary education

Student Level Habitus

Institutional Selectivity

Application Admittance Enrollment

Postsecondary Predisposition
CHAPTER THREE
METHODOLOGY

Introduction

This study will consider how various forms of capital influence the college choice decisions of academically qualified, low income students who are continuously enrolled in postsecondary education immediately following graduation from high school, and the role of highly selective colleges and universities in allaying capital deficiency. Human, economic, social, and cultural effects will be analyzed to determine how these forms of capital influence the college choice behavior of academically qualified, low income students at highly selective postsecondary institutions. Specifically, this study will use descriptive and logistic regression analyses to examine the following research questions:

1. In what ways does the amount of human, economic, social, and cultural capital vary between academically qualified, low income students who apply and do not apply to highly selective institutions?

2. In what ways does the amount of human, economic, social, and cultural capital increase the likelihood that academically qualified, low income students will apply to highly selective institution?

3. In what ways does the amount of human, economic, social, and cultural capital vary between academically qualified, low income students who are admitted and not admitted to highly selective institutions after application?
4. In what ways does the amount of human, economic, social, and cultural capital increase the likelihood that academically qualified, low income students will be admitted to highly selective institutions?

5. In what ways does the amount of human, economic, social, and cultural capital vary between academically qualified, low income students who enroll or do not enroll at highly selective institutions after being admitted?

6. In what ways does the amount of human, economic, social, and cultural capital increase the likelihood that academically qualified, low income students will enroll at highly selective institutions?

The chapter will begin with a description and overview of the Educational Longitudinal Study: 2002 (ELS) dataset, outline the independent and dependent variables in the present study, describe the statistical methods used to answer the research questions, and conclude with the limitations of the study. The present study is based upon the hypothesis that academically qualified, low income students who apply, are admitted, and eventually enroll at highly selective colleges and universities have different levels of human, cultural, social, and economic capital than those academically qualified, low income students who do not follow similar college choice behavior, and that enhanced amounts of these forms of capital increase the likelihood that academically qualified, low income students will apply, be admitted and enroll at highly selective postsecondary schools. My thesis is that the influence of a student’s habitus will be manifested in the college choice decisions of a sample of academically qualified, low income students in such a way that the academic ability and future potential of this population is moderated by factors often beyond students’ control and not related to
merit. Accordingly, I postulate that highly selective colleges and universities might be missing an opportunity to advance the prospects of these students while advantaging students already privileged with robust capital portfolios.

**Data**

This study will use data from ELS: 2002. The ELS: 2002 is a federally funded, longitudinal dataset that involved a nationally representative sample of high school sophomores. The ELS: 2002 is an appropriate dataset for this study given that it is longitudinal in nature and incorporates responses from multiple sources that result in a dynamic lens through which the college choice behavior of academically qualified, low income students can be viewed. ELS:2002 is sponsored by the National Center for Education Statistics (NCES) and was designed to offer data about trends students experience as they transitioned from high school to postsecondary education and the workplace (Ingels, Pratt, Rogers, Siegel, & Stutts, 2004). Among the more relevant objectives of ELS: 2002 for this study is the ability of researchers to cull information from the data to determine the effectiveness of various student-level variables on postsecondary educational choices (Ingels, et al., 2004).

The fourth in a series of longitudinal studies sponsored by the NCES, ELS: 2002 is a multilevel, multirespondent study (Ingels, et al., 2004). The ELS: 2002 study began collecting data from students who were high school sophomores in 2002 (Base Year or BY), again in 2004 when they were seniors in high school (First Follow Up or FY1), and then again two years after high school (Second Follow Up or FY2). The initial sample of the ELS 2002 study included approximately 17,000 students from 750 schools (ELS restricted data policy requires all non-weighted samples to be rounded to the nearest
tenth), with the school being the first stage unit and the sophomore students randomly selected from within the 750 schools (Ingels, et al., 2004).

Ingels et al. (2004) specifically noted that among the distinct policy issues that could be considered by researchers using the ELS: 2002 database were access to postsecondary education, barriers to postsecondary attainment, and the economic and social rates of return of education at the individual and societal levels. Important to the conceptual model for the present study, ELS: 2002 gathered responses from students, parents, school administrators, and teachers that were illustrative of the various human, social, cultural, and economic capital available to students throughout the sophomore and senior years of high school when college choice decisions are often made.

**Study Design**

ELS: 2002 is a national sample of high school sophomores in the spring of the 2001-2002 school year. Just over 15,000 of these sophomores completed a base year questionnaire, as did nearly 13,500 parents, and slightly more than 7,100 teachers, and nearly 750 school principals (Ingels, et al., 2004). Multi-stage sampling was used in the ELS: 2002 survey in which schools were stratified by region and school control and the likelihood of a school being selected to participate in the survey was proportional to the size of the school (Engberg & Wolniak, 2010). ELS: 2002 used a two-stage sample selection with schools as the primary units of analysis. The schools provided enrollment lists to NCES from which 26 students per participating school were randomly selected. No category of students was excluded, but rather students were evaluated on a case by case basis to determine fit to participate based largely on instruction in English and the
school’s determination that the student could participate meaningfully (Ingels, et al., 2004).

ELS: 2002 involved a national probability sample design, and accordingly provided a nationally representative dataset of high school sophomores in the United States, therefore allowing for generalization to the population of high schools and high school sophomores in 2002. The weighted schools and students included in the ELS:2002 base year sample represented approximately 23,000 schools and 3.6 million 10th graders in the United States.

**Data Collection for ELS: 2002**

**Base Year Data Collection**

The base year survey involved questionnaires given to students, parents, teachers, school administrators, and library media centers, a student level reading and math ability assessment, and a checklist of the school’s facilities. Student level data were gathered from a student questionnaire and assessments and reports from students’ teachers and parents. The student questionnaire sought information about students’ plans for the future, their school experiences, family life, self efficacy, and how they located information (Ingels, et al., 2004). The parent questionnaire considered family background, the student’s school and family, opinions about the school, and parent aspirations and plans for their child’s future (Ingels, et al., 2004). The math and reading assessments were designed to provide measures of student achievement that could be related to student level characteristics and educational programs (Ingels, et al., 2004).
First Follow Up Data Collection

The first follow-up interview was administered in the spring of 2004 and included 16,500 students that resulted in 15,000 participants (Bozick & Lauff, 2007). The sample included seniors from the base year sophomore cohort who remained at their base year school or seniors at those same schools who were included in the survey when the data were freshened to include a sample of 2004 12th graders who were not in the 10th grade at a school in the United States in 2002 (Ingels, Pratt, Wilson, Burns, Currivan, Rogers, & Hubbard-Bednasz, 2007). The first follow-up included seven surveys and a math achievement test. The first follow-up surveys included a student, transfer student, new participant student, home-school student, early graduate, dropout (not currently in school), and school administrator questionnaires (Ingels, Pratt, Rogers, Siegel, & Stutts, 2005). The student questionnaire in the first follow up survey provides salient data around a student’s human, economic, social, and cultural capital. For example, students were asked to provide responses to questions about extracurricular participation, relationship of high school curriculum to educational achievement, use of free time, educational goals and life values, college planning and choice criterion, work, and social network of community, family, and friends (Ingels, et al., 2005).

Second Follow Up Data Collection

The second follow-up interview was administered in 2006 to 15,900 eligible sample members of whom 14,200 participated (Bozick & Lauff, 2007). The ELS: 2002 second follow-up used a single, identical web-based design that sampled the 2002 sophomore cohort and the freshened sample (Ingels, et al., 2007). Data collected during the second follow up centered on the student’s high school completion, postsecondary
education, employment, and community (Ingels, et al., 2007). Postsecondary education questions offered data that revealed all schools to which students applied, were admitted, and enrolled from 2004 to 2006, financial aid awarded, educational expectations and experiences at the institution attended (Ingels, et al., 2007).

**Analytic Sample**

The weighted sample for the present study includes all academically qualified, low income students in the 2002 sophomore cohort who were continuously enrolled in postsecondary education following graduation from high school in 2004. The total weighted population analyzed includes 348,044 students. The initial sample includes only those academically qualified, low income seniors from the 2004 cohort (G12COHRT) who went directly to a postsecondary educational institution following high school graduation in 2004 without taking any time off from school.

In the present study, a student is considered academically qualified based on student performance on five measures of academic preparedness, including grade point average, total number of Advanced Placement and International Baccalaureate courses taken, composite SAT/ACT scores, and standardized math and English scores on the ELS: 2002 examination, and a cut off score that suggested minimal academic preparedness required to enroll at a four-year postsecondary institution that was based on previous work by Berkner and Chavez (1997).

In their study, Berkner and Chavez (1997) considered grade point average, class rank, score on standardized test given as part of the National Educational Longitudinal Study of 1988 (NELS: 88), combined SAT score, and ACT score. Berkner and Chavez (1997) ranked students according to the highest score the student received on any one of
these five criterion. Students were considered minimally qualified to enroll in four-year postsecondary education if the highest score placed the student among the top 75% of all four-year college students for that particular criterion (Berkner & Chavez, 1997). These scores translated into minimum values of a 2.5 grade point average (on a 4.0 scale), class rank at the 54th percentile, NELS: 88 test score of 56, combined SAT of 820, and ACT score of 19 (Berkner & Chavez, 1997).

In the present study, a student is considered to be low income if the student is from a family with $35,000 and less of parental income. The present study uses a family income cutoff of $35,000 or less based on the United States Department of Education (2010b) TRIO eligibility cutoff, which is currently set at 150 percent of the poverty level or $33,075 for a family of four, and a consumer price index (CPI) adjusted value of the $25,000 low-income cutoff used in previous examinations of low income access to higher education that used the NELS: 88 database (e.g. Cabrera & LaNasa, 2001) which is equivalent to $34,411. Additionally, in their recent study of the college choice behavior of low income students using the ELS: 2002 dataset, Engberg and Allen (2011) also used family income of $35,000 to cut their sample and considered students as low income if they came from families with income of $35,000 and less.

For the first two research questions, I examined the full population of academically qualified, low income students from the G12CHRT (n=348,044). For research questions three and four, I considered only those academically qualified, low income students from the G12CHRT who applied to at least one selective postsecondary institution (n=96,306). Finally, for research questions five and six, I considered those academically qualified, low income students from the G12CHRT who applied to and
were admitted to at least one selective institution \((n=74,951)\). An overview of this sample of academically qualified, low income students who continuously enrolled in postsecondary education in 2004 follows in Table 1.

Table 1. Enrollment funnel representing the weighted sample of academically qualified, low income students from the G12 cohort

<table>
<thead>
<tr>
<th>Sample</th>
<th>Total N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>348,044</td>
<td></td>
</tr>
<tr>
<td>Applied</td>
<td>96,306</td>
<td>27.6% of sample</td>
</tr>
<tr>
<td>Admitted</td>
<td>74,951</td>
<td>77.8% of applied, 21.5% of sample</td>
</tr>
<tr>
<td>Enrolled</td>
<td>44,860</td>
<td>59.8% of admitted, 12.8% of sample</td>
</tr>
</tbody>
</table>

**Dependent Variables**

There are three dependent variables in the present study designed to consider the effects of human, social, cultural, and economic capital on the postsecondary enrollment behavior of academically qualified, low income students. At the center of each of these dependent variables is student college choice behavior involving highly selective colleges and universities. The present study defines institutional selectivity using the 2005 Carnegie classification system included as part of the ELS: 2002 study. Although a limited definition of the academic preparedness level of an incoming cohort of students, the Carnegie Foundation for the Advancement of Teaching used the standardized test scores of first-year students in 2005 to describe the selectivity of postsecondary institutions (Carnegie Foundation; n.d.). The Carnegie Foundation for the Advancement of Teaching acknowledged that standardized test scores should not be used as a measure of institutional quality, at the same time recognizing the use of such scores by academic researchers for the purpose of comparing postsecondary institutions (Carnegie
In the ELS: 2002, postsecondary institutions were classified as highly selective, moderately selective, or inclusive. These categories are related to ACT-equivalent scores at the 25th percentile of the entering freshman class of less than 18 for inclusive institutions, 18-21 for moderately selective institutions, and 21 or greater for highly selective institutions. For the purposes of categorizing institutional selectivity, Carnegie converted all SAT scores to the ACT composite scale and for schools that submitted both SAT and ACT scores, it created a weighted composite based on the proportion of students who submitted each type of test score (Carnegie Foundation; n.d.). Carnegie concluded that most schools that did not report SAT or ACT scores were schools with limited admissions requirements and included those schools with lower 25th percentile scores (Carnegie Foundation; n.d.). Although a recent trend is for colleges and universities to be “test optional” in admissions requirements thereby not requiring prospective students to submit standardized test scores to be considered for admittance, this was not as prevalent for the high school class of 2004 and should not affect the validity of the selectivity scale for the present study. Further, while other studies have considered more rigorous definitions of selectivity (Carnevale & Rose, 2003; Winston & Hill, 2005), using this more inclusive, yet commonly accepted and recently employed method of defining institutional selectivity with the ELS: 2002 dataset (e.g., You & Rumberger, 2011) resulted in a larger and more robust sample that allowed for more statistically significant generalizations to the population of academically qualified, low income high school graduates in 2004.

The first dependent variable, application to a selective postsecondary institution, is obtained from the question, did the student apply to a highly selective postsecondary
institution (yes=1, no=0). The second dependent variable considers if a student was admitted to a highly selective postsecondary institution (yes=1, no=0). The third dependent variable, enrollment at a highly selective postsecondary institution, is defined as enrolled at a highly selective postsecondary institution (yes=1, no=0). In the second follow up survey of the ELS: 2002, students were asked to list the first postsecondary institution at which they were enrolled following high school graduation. This dependent variable is derived from each student’s response in accordance with the present study’s definition of selectivity.

**Independent Variables**

The central focus of the present study is how human, economic, social, and cultural capital influence the selectivity of schools to which academically qualified, low income students apply, are admitted, and enroll. In addition to student demographic background characteristics, measures of human, economic, cultural, and social capital have been developed as independent variables for the present study. Table 2 presents an overview of the covariates used in the present study. Following Table 2 is a more complete description of these variables.

Table 2. Summary of variables in research model

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Variable type</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEMOGRAPHICS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Categorical, dummy variables</td>
<td>0 1 0= male 1= female</td>
</tr>
<tr>
<td>Race</td>
<td>Categorical, dummy variables</td>
<td>0 1 Black, Hispanic, Asian, Other, White (Referent group)</td>
</tr>
<tr>
<td>HUMAN CAPITAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Academic profile score</td>
<td>Continuous, standardized</td>
<td></td>
</tr>
<tr>
<td></td>
<td>composite</td>
<td></td>
</tr>
<tr>
<td>Saved for college</td>
<td>Categorical</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0= no effort made to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>save for college</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Importance placed on career/education</td>
<td>Continuous, factor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>composite</td>
<td>1=Not so important</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2= Somewhat important</td>
</tr>
<tr>
<td>Participation in academic enhancement</td>
<td>Categorical</td>
<td>0</td>
</tr>
<tr>
<td>programs</td>
<td></td>
<td>0= did not participate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= did not participate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= participated in one</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of three programs</td>
</tr>
<tr>
<td>ECONOMIC CAPITAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Affordability</td>
<td>Continuous</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= Not important</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2= Somewhat Important</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3= Very important</td>
</tr>
<tr>
<td>Availability of financial aid</td>
<td>Continuous</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= Not important</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2= Somewhat Important</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3= Very important</td>
</tr>
<tr>
<td>Grant Aid Offered</td>
<td>Categorical</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0= Grant aid not offered</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= Grant aid offered</td>
</tr>
<tr>
<td>Loan Offered</td>
<td>Categorical</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0= loan not offered</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= loan offered</td>
</tr>
<tr>
<td>CULTURAL CAPITAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College aspirations of proximal network</td>
<td>Continuous</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= Number in proximal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>network that desired a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>college degree for the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>student</td>
</tr>
<tr>
<td>CULTURAL CAPITAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------</td>
<td>---</td>
</tr>
<tr>
<td>Parent Education</td>
<td>Categorical, dummy variables</td>
<td>0</td>
</tr>
<tr>
<td>Parent involved in cultural activities w/student</td>
<td>Continuous, factor composite</td>
<td>1</td>
</tr>
<tr>
<td>Parental encouragement</td>
<td>Continuous, factor composite</td>
<td>1</td>
</tr>
<tr>
<td>Participation in extracurricular activities</td>
<td>Continuous</td>
<td>0</td>
</tr>
<tr>
<td>SOCIAL CAPITAL: PARENT NEWORKS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent-to-parent involvement</td>
<td>Continuous</td>
<td>0</td>
</tr>
<tr>
<td>Parent-to-school involvement</td>
<td>Categorical</td>
<td>0</td>
</tr>
<tr>
<td>SOCIAL CAPITAL: PEER NEWORKS</td>
<td></td>
<td></td>
</tr>
<tr>
<td># of friends 4yr plans</td>
<td>Continuous</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL CAPITAL: COLLEGE-LINKING NETWORKS/RESOURCES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counselor</td>
<td>Categorical</td>
<td>0</td>
</tr>
<tr>
<td>Coach</td>
<td>Categorical</td>
<td>0</td>
</tr>
</tbody>
</table>
Background Characteristics

Race and ethnicity

Previous research has considered the important role of race in the college choice process (Hossler, Schmitt, and Vesper, 1999; Kao & Tienda, 1998; Perna, 2000; Perna & Titus, 2005). Accordingly, the present study considers the following six categories for race/ethnicity: Asian, Black, Hispanic, Multiracial, and White. These reflect student-reported data in the base year survey. This variable is dummy coded and White students comprise the reference group. The effects of race are evident in the present study when considering the group of academically qualified, low income students who applied to a highly selective postsecondary institution as shown in Table 3.3. Because the effects of race are so prominent in the initial phases of the college choice process (application), it likely has consequences in the final two phases of the process (admittance and enrollment).
Table 3. Differences in college applications to highly selective institutions by race among academically qualified, low income students

<table>
<thead>
<tr>
<th>Race</th>
<th>Total N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>12,178</td>
<td>12.6%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>14,122</td>
<td>14.7%</td>
</tr>
<tr>
<td>Asian</td>
<td>15,717</td>
<td>16.3%</td>
</tr>
<tr>
<td>Other</td>
<td>6,358</td>
<td>6.7%</td>
</tr>
<tr>
<td>White</td>
<td>47,931</td>
<td>49.7%</td>
</tr>
<tr>
<td>Total</td>
<td>96,306</td>
<td>100%</td>
</tr>
</tbody>
</table>

Gender

Taken from student reported data in the base year survey, females comprise the reference group. This is a categorical variable and it has been dummy coded.

Considering the effects of gender on college choice is consistent with previous research by Cabrera and LaNasa (2001), Perna (2000), and Perna and Titus (2004, 2005).

Variances in application to highly selective postsecondary institutions according to gender in the present study are similar to those from previous research with females representing nearly 63% of the academically qualified, low income students (as defined by the present study) who applied for admission to a highly selective institution (also as defined by the present study). Table 3.4 presents the differences in college choice behavior throughout the college choice process according to gender.

Table 4. Differences in application to highly selective institutions by gender among academically qualified, low income students

<table>
<thead>
<tr>
<th>Gender</th>
<th>Total N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>60,587</td>
<td>62.9%</td>
</tr>
<tr>
<td>Male</td>
<td>35,719</td>
<td>37.1%</td>
</tr>
<tr>
<td>Total</td>
<td>96,306</td>
<td>100%</td>
</tr>
</tbody>
</table>
Family income

Numerous studies have considered variances in postsecondary educational access according to income (e.g. Baum & Payea, 2004; Bozick & Lauff, 2007; Ellwood & Kane, 2000; Engberg & Wolniak, 2010; Engberg & Allen, 2011; Fitzgerald & Delaney, 2004). Given the very prominent role income plays in influencing postsecondary educational choices, it will be considered in the present study as an independent variable. Income data were provided by parents in the ELS survey based on 2001 family income, and for the present study, low income students will be considered as those coming from families with income of $35,000 and less. This income cutoff was influenced by the Engberg and Allen (2011) study of low income student access to higher education that used a family income cutoff of $35,000 or less based on the United States Department of Education (2010b) TRIO eligibility cutoff, set at 150 percent of the poverty level or $33,075 for a family of four; and a consumer price index (CPI) adjusted value of $25,000 for low-income measures used in a variety of NELS:88 studies (see Cabrera & La Nasa, 2001), which was equivalent to $34,411.

Human Capital

Previous research has considered the salient role human capital plays in predicting the likelihood that a student would pursue postsecondary education (Cabrera & La Nasa 2001; Engberg & Wolniak 2010; Perna & Titus 2005). In many studies, human capital investments have been operationalized with a largely academic focus, considering such variables as high school grade point average, curriculum, standardized and Advanced Placement tests (Adelman 1999; Cabrera & La Nasa 2001; Engberg & Wolniak 2010; Perna 2000, 2004; Perna & Titus 2005; St. John 1991). Engberg and Allen (2011)
considered academic preparation as a pivotal factor in understanding college choice decisions as well as the importance placed on career success and college savings in operationalizing human capital for their study of low income student access to postsecondary education. Considering these examples, the following will be used to operationalize human capital as an independent variable in the present study:

**Academic Profile Index**

This index is comprised of five standardized items, including grade point average, total number of Advanced Placement and International Baccalaureate courses taken, composite SAT/ACT scores, and standardized math and English scores on the ELS examination. To create the academic profile index, each of the components was first standardized and then an average for each student was created based on the number of metrics available. The final raw score was then divided into quintiles with students ranked from 1(low) to 5 (high). On average, students in the sample for the present study had a GPA of 3.06 (on a 4.0 scale), SAT composite of 1027, taken just over one total AP/IB courses in high school, and had and ELS math and English test composite of 55 on a scale of 10 to 90. These compare favorably to the minimally qualified cutoff scores used in the Berkner and Chavez (1997) study (2.5 grade point average, class rank at the 54th percentile, NELS: 88 test score of 56, combined SAT of 820, and ACT score of 19)

**Importance of Career and Education**

This variable is a continuous factor composite ($\alpha=.714$) derived from student responses in the first follow up survey related to the student’s career and educational aspirations. In the ELS: 2002 survey, students were asked to respond to 18 questions and place answers on a Likert scale that included “not important,” “somewhat important,” and
very important” as possible answers. For the present study, five of the 18 questions were used to create the factor that is a measure of the investment a student intends to make related to work and education, including the importance of being successful in the student’s anticipated line of work, being able to find steady work, being an expert in a field of work, getting a good education, and getting a good job. As Becker (1964) concluded, any activity that enhances future economic and psychic capital can be viewed as an investment in human capital. Additional research (e.g., Becker, 1993; Paulsen, 2001) has confirmed that when making decisions about postsecondary education, students consider the return on that investment and the expected benefits in exchange for the costs of a college degree. Accordingly, analyzing the importance a student places on education and career are indicative of an individual willingness to make a human capital investment that enhances life opportunities through work and education. Cohn and Geske (1990) also posited that improved earnings and other noneconomic returns are compared with the costs of acquiring a college education when students are assumed to make rational decisions about postsecondary education. The importance a student places on work and education is illustrative, therefore, of the value a student places on making a human capital investment in postsecondary education that prepares the student to meet career goals.

**Participation in Academic Enhancement Programs**

Federal TRIO programs are outreach and support programs that identify and provide services for disadvantaged populations, including low income students, to assist in their educational journey from middle school to graduate degree programs (U.S. Department of Education, n.d.). Federal TRIO grants are provided to institutions that
develop programs that provide services to these disadvantaged and underrepresented students. Gear Up is a grant program designed to increase the number of low income students prepared to enroll and persist in postsecondary education (U.S. Department of Education, n.d.). Because previous research has identified the importance of academic preparation in predicting college choice behavior (e.g. Ellwood & Kane, 2000; Engberg & Allen, 2011), and given the emphasis of TRIO programs and Gear Up in preparing low income students to enroll and succeed in higher education, it is appropriate to consider the influence of these programs on access to highly selective colleges and universities. In the ELS: 2002 survey, students were asked if they participated in Gear Up, Talent Search, or Upward bound and were instructed to answer yes or no to each question. For the present study, this will be treated as a categorical variable with students who responded that they participated in any of the three programs receiving a one and those who did not participate in any of the three programs receiving a zero.

Economic Capital

Previous research on access to postsecondary education has focused on the very powerful influence of economic capital (e.g. Massey, et al., 2003; St. John, 2003). Stated simply, economic capital, as consider in the college choice process, is viewed as the availability of financial resources to pay for postsecondary education (Kane, 1995, 1999; McPherson & Schapiro, 1991, 1997). This pivotal capital takes on many different forms during the college choice process and its use as an independent variable in the present study is described as follows:
Family Savings for College

This variable is derived from the parent base year survey and measures if parents have done anything specific to save money for their high school sophomore’s education after high school. In the base year survey, parents were able to select from a list of 13 possible options that considered financial planning for college including, started a college savings account, made investments in stocks and real estate, established a college investment fund, reduced living expenses, and participated in a state sponsored college savings program. Respondents were assigned a one if they selected any number of the possible 13 options and a zero if they selected none of the options. Prior research has alluded to the significant differences in postsecondary enrollment patterns based on family income (e.g., Baum, 2001; Ellwood & Kane, 2000, Orfield, 1990; Perna & Titus, 2004; Terenzini, et al., 2001). It can reasonably be assumed that families with greater amounts of income find it easier to save for college and presumably have greater amounts of financial assets to dedicate for dependent postsecondary educational expenses. This was confirmed by a recent national study that found that 46% of postsecondary educational expenses were met by a combination of parent and student income and savings, with a 72% increase in the amount used from college savings plans alone (Sallie Mae, 2010). The Sallie Mae (2010) study also found families with income of $100,000 and more used 81% more of parent income and savings for college expenses than families earning less than $35,000, however, families with income of $100,000 and more used 26% less of student income and savings than families earning $35,000 and less. Moreover, Tierney and Venegas (2009) posited that cultural contexts affected how students and families learn about financial assistance and how to procure those resources
for postsecondary education. Low income students would have a stronger financial asset base that could enhance access to postsecondary education if they had not only the ability to save for college, but also accurate information about strategies to assist in saving for these expenses (Tierney & Venegas, 2009).

**College Affordability**

The importance of being able to afford a postsecondary education is a proxy for economic capital. Previous research has confirmed that as tuition increased, a decline in enrollment was expected and most student groups responded negatively to increases in tuition (Heller, 1999; Leslie & Brinkman, 1987). Ellwood and Kane (2000) also found that a $1,000 tuition increase lead to a five to seven percentage points drop in the likelihood of enrollment, and college costs reflected in tuition, among other items, has a stronger effect on access for low income groups because low income students are more responsive to price than are students from middle and high income groups (McPherson & Schapiro, 1991). Therefore, it is appropriate to include a variable representing college affordability in the model to predict college choice behavior of academically qualified, low income students. This variable represents the level of importance a student places on how affordable a school is when developing a college choice set. In the original survey, students were asked to rate the importance of the institutional expenses, including books, tuition, and room and board, when deciding to enroll at a particular institution. Students offered answers on a Likert scale that included “Not Important,” “Somewhat Important,” and “Very Important” as possible answers. For the present study, this is treated as a continuous variable on a scale of one (Not Important) to three (Very important).
**Financial Aid Offered**

An additional proxy for economic capital is a student or family’s need for financial assistance to help pay for a college education. Hearn (2001) found federal, state, and institutional grants have a more positive effect than loans on low income student access to postsecondary education, and additional research has concluded that low income students are less likely to assume loan and respond more favorably to long term assistance like grants (Baum, 2001). Accordingly, the models will include a variable that analyzes the importance students place on the availability of financial aid in relationship to postsecondary educational planning. In the original survey, students were asked to rate the importance of the availability of financial aid such as school loan, scholarship or grant in deciding to enroll at a particular institution. Students offered answers on a Likert scale that included “Not Important,” “Somewhat Important,” and “Very Important” as possible answers. For the present study, this variable is treated as continuous on a scale of one (Not Important) to three (Very important).

Additionally, previous research has concluded that the form of financial assistance offered to low income students has a significant affect on their college choice behavior, with grant aid having a positive affect and loans having a delimiting affect (e.g., Baum, 2001). In the ELS: 2002 survey, students were asked about the forms of financial aid that were offered in the first academic year at postsecondary institutions where the student was accepted. Accordingly, the present study will consider the two forms of financial aid that Baum (2001) concluded can influence postsecondary enrollment of low income students.
Grant Aid Offered

In the present study, this will be treated as a categorical variable with students who indicated they were offered grant aid receiving a one and those who were not offered grant aid receiving a zero.

Loan Offered

The present study also treats this as a categorical variable with students who were offered a loan receiving a one and those who were not offered a loan receiving a zero.

Cultural Capital

The nascent stages of Bourdieu’s (1986) conceptualization of cultural capital was influenced by varying levels of academic achievement between social classes and the significant role social class played in student achievement. Additional research has concluded that cultural capital influences the emphasis students and families place on postsecondary education (Perna, 2006), with expectations varying related to lack of cultural knowledge about postsecondary education (Lamont & Lareau, 1988).

Accordingly, it is appropriate to consider cultural capital in the college choice models to determine how this important form of capital affects postsecondary enrollment decisions of academically qualified, low income students. For the present study, cultural capital is operationalized as follows:

Parental Involvement with Student in Cultural Activities

Parental involvement in culturally enriching activities has been the focus of previous studies that considered college choice behavior (Engberg & Wolniak 2010; Perna & Titus 2005). Engberg and Allen (2011) also considered the role of parent-student involvement in culturally enriching activities in their study that considered low
income student enrollment at two-year and four-year colleges and universities. Massey et al. (2003) analyzed the role parents play in promulgating cultural knowledge to their children that the authors determined would be effective helping students plot a course through postsecondary education. This continuous factor composite (α=.811) is derived from questions asked of parents in the base year survey. In the original survey, parents were asked to reflect on the last year and answer how often they participated in any of 12 possible activities with their 10th grader. Parents were able to provide one of four possible answers to the frequency of participation for each of the 12 activities including “Never,” “Rarely,” Sometimes,” and “Frequently.” For the present study, five of the 12 questions were used to create the factor that is measure of the parental involvement in cultural activities with the student. Parent answers to questions related to if they were involved with their student in school activities, homework or school projects, attending concerts, plays, or movies outside of school, attending sporting events outside of school, or working on a hobby or playing sports were used to construct this variable.

**Parental Education**

Prior research focused on the role of cultural capital in college choice has considered the importance of parent level of education attained (Ellwood & Kane, 2000; Hossler et al., 1999; Perna & Titus 2005), and has pointed to the influential, predictive power of parental education in the student college choice process (Bozick & Lauff, 2007; Kao & Tienda, 1998). This categorical variable is derived from the parent base year survey and includes three categories for the highest level of education attained by either parent; high school graduate or less, some college, college graduate.
**Parental Encouragement**

Hossler et al. (1999) considered the role of parental encouragement in their study of how social, economic, and education factors influence college choice behavior. Hossler et al. (1999) concluded parents who had more frequent conversations about school and college with their students had a positive influence on postsecondary attainment for their children. Parental encouragement in the present study is a continuous factor composite ($\alpha=.799$) derived from questions asked of students in the first follow up survey. Students were given a list of 10 items from which they could select that considered the type of career, education, and current event issues they discussed with their parents. For the present study, six of the 10 items were used to create the factor that is a measure of the level of educational encouragement students perceived that they have received from their parents. Values range from one (low) to three (high) that relate to the level of parental encouragement and consider parental involvement with the student in selecting courses and programs at school, discussing school activities or events of interest to the student, things the student has studied in class, the student’s grades, plans and preparations for the ACT or SAT tests, and going to college.

**Proximal Network Aspirations**

Parental aspirations for their children’s postsecondary education has been included as a covariate in extensive college choice studies (e.g., Cabrera & La Nasa 2001; Engberg & Allen, 2011; Engberg & Wolniak 2010; Hamrick & Stage 2004). Engberg and Allen (2011) also found that low income students with greater amounts of familial and proximal network aspirations pursued two-year and four-year postsecondary education at greater rates than those who did not enroll in postsecondary education after
high school. Further, students who pursued four-year education had greater amounts of proximal aspirations than those students who enrolled at a two-year institution (Engberg & Allen, 2001). Hamrick and Stage (2004) found that parental expectations for educational attainment strongly influenced students’ educational aspirations and recommended intentional outreach to enhance parental educational expectations of students. This continuous variable is derived from parental, relative and close friend’s aspirations for the student’s education. The variable includes four categories: high school or less, attend college/complete a two-year degree, complete a college degree, complete a graduate degree. For the present study, this variable will consider only category of “complete a college degree” and measure on a scale from one to four, the number in the student’s proximal network who desire for the student to complete a college degree.

**Student Involvement in Extracurricular Activities**

In their study that examined the role of family influence and high school experiences on the postsecondary educational plans of ninth graders, Hossler and Stage (1992) found significant correlation between higher levels of student involvement in high school activities and postsecondary aspirations. Others (e.g., Soares, 2007) have considered how enhanced extracurricular resumes have allayed academic deficiency for wealthy students who pursue selective postsecondary education.

The present study will treat student involvement in extracurricular activities as a continuous variable. In the first student follow up in the ELS: 2002 survey, students were asked to respond yes or no to whether they participated in eleven different extracurricular activities. The options ranged from intramural and interscholastic sports to student
government and school musicals. For the present study, this will be treated as a continuous variable with students given a score ranging from 0 to 11 that will consider how the quantity of extracurricular involvement influences college choice behavior vis-à-vis highly selective postsecondary institutions.

Social Capital

Information exchanged in groups or networks has been proven to be a vibrant aspect of social capital (Coleman, 1988). The free exchange or restricted flow of such information has the power to enhance or delimit postsecondary educational access for those who do not belong to a network where valuable college choice strategies are prevalent. Consequently, the importance of social networks in prior research around college choice has focused on the importance of social networks. Parent to parent, parent to student, and parent to school involvement have been shown to increase the chances of college attendance (Perna & Titus, 2005), and other studies have looked at the crucial role of peer networks in understanding college choice behavior and postsecondary enrollment (Engberg & Wolniak 2010; Perez & McDonough, 2008; Person & Rosenbaum 2006). Social capital in the present study will be operationalized by the following independent variables:

Parent to Parent Involvement

There is strong evidence to suggest that parental involvement with the student, the student’s school, and other parents can positively affect postsecondary enrollment (Coleman, 1988; Engberg & Wolniak, 2010; Perna & Titus, 2005). Specifically, Perna and Titus (2005) concluded that in their interaction with their student, their student’s school, and other parents, parents convey standards that promote postsecondary
enrollment. Engberg and Wolniak (2010a) found significantly less parental interaction at low SES high schools that negatively affected enrollment at two-year institutions from students at those low SES schools, and students at high SES schools benefitted from strong parent to parent relationships that increased the likelihood of the student attending a four-year institution. The present study will measure parent to parent interaction with a continuous variable that considers how well the student’s parents know the parents of their student’s three closest friends. Parents were asked to answer either “yes” or “no” to questions asking if they knew the father and mother of their student’s three closest friends, resulting in a scale of zero to six.

Parent to School Involvement

In their study, Perna and Titus (2005) found that students who attend high schools where there is a large percentage of parents who contact the school about academics are more likely to pursue postsecondary education at a four-year institution, whereas students from schools where the majority of parental interaction with the school is around behavior issues are less likely to enroll at a four-year school than they are to enroll. Engberg and Wolniak (2010) found that schools that exhibited a culture of a high level of parental interaction with the school statistically improved the likelihood of students attending two-year institutions for students at mid-range SES schools. Given the attention of previous studies to measuring this form of social capital in the college choice process, it is appropriate for the present study to include a similar measure in analyzing college choice behavior at selective institutions. This categorical variable was derived from questions asked of parents in the base year survey. Parents were offered five items that considered involvement in their student’s school and asked if they had participated
(yes or no) in each of the five items. Respondents received a one if they participated in any number of the five items, and a zero if they did not participate in any of the items. The items consider parental involvement in the school’s parent-teacher organization (membership, attend meetings, participate in activities), if a parent volunteered at the student’s school, and if the parents belonged to an organization that included parents from their student’s school.

**Peers Attending Four-Year Institutions**

To test for the effects of peer influences on college choice behavior with selective institutions, the present study considers the number of friends an academically qualified, low income student has who intend to enroll at four-year postsecondary institutions. Informed by previous studies that considered peer influences on postsecondary enrollment (e.g., Engberg & Allen, 2011; Perez & McDonough, 2008; Person & Rosenbaum, 2006), peer influence on college choice will be examined in the present study using a continuous covariate that represents the total amount of the student’s friends who planned to pursue four-year postsecondary education. In the first follow up survey, students were asked to identify on a Likert scale the amount of their friends who planned to attend a four year college or university. Response options included none, few, some, most, and all. For the variable in the present study, few/some were combined and most/all were combined to create a continuous scale ranging from one (none) to five (all).

In their study of college choice behavior of low income students, Engberg and Allen (2011) found that students with a higher number of friends who planned to attend a four-year school was associated with a significantly higher likelihood that the student would also enroll at a four-year institution. Perez and McDonough (2008) found chain
migration contacts at postsecondary institutions significantly influenced the college choice behavior of Latino/a students, and Person and Rosenbaum (2006) found similar significant peer influences for Latino/a students who enrolled at two-year institutions.

**College Linking Resources Used by Student**

College linking resources, often operationalized as college viewbooks, websites, counselors, and coaches, have been considered influential in the college choice process (Cabrera & La Nasa, 2001; O’Connor, Hammack & Scott, 2010). Engberg and Wolniak (2010a) found that as students increased their use of different college linking resources, they were more likely to enroll in some amount of postsecondary education rather than forego the opportunity for a college degree. A set of 10 categorical, dichotomous items were used in the original ELS: 2002 survey to determine the extent to which students used various college linking resources throughout the college choice process. Resources considered were teachers, coaches, counselors, friends, siblings, relatives, parents, college admissions officials, college publications/websites, and the school library. Students were asked in the first follow up survey if they had used any of these resources (Yes or no) in the college choice process. Due to a high level of collinearity among the 10 items included in the original survey, the present study considers only the following five items: counselor, coach, friend, college admissions officials, and school library.

**Weights and Missing Data**

Weights

The present study will use the F2F1WT panel weight that was designed for the ELS: 2002 population who responded in the first follow up (2004) when the population were seniors in high school and the second follow up (2006) which was two years after
the population completed high school (Ingels, et al., 2007). Using this panel weight in the present study will enhance the investigation of how human, cultural, social, and economic capital affected differences in the college choice behavior in the sample as high school seniors in 2004, allow for generalization to the larger sample of academically qualified, low income students who enrolled in postsecondary education in 2004, and ultimately for the purposes of the present study, how those decisions were manifested in the selectivity of postsecondary institution attended.

**Missing Data**

In the present study, multiple imputation is employed to address the problem of missing data that can occur in an analysis that involves multiple independent and dependent variables. Multiple imputation can address any missing values in the dataset that would delimit sample size and statistical power. Methods that use maximum likelihood algorithms, such as multiple imputation, to replace missing values are considered among the most effective techniques for addressing the issue of missing data (Shadish, Cook, & Campbell, 2002). Schafer and Graham (2002) acknowledged the effectiveness of multiple imputation in addressing missing values and concluded that it generally provides robust missing data replacement. In this study, missing data was replaced using the multiple imputation available in SPSS v. 18. Data was imputed five times and then averaged to account for missing values.

**Statistical Analysis**

The present study will employ a number of different statistical techniques to answer the proposed research questions. Also, because the ELS study did not use a simple random sample, the complex survey samples module in SPSS v. 18 is utilized to
analyze results. This procedure accounts for complex survey design and the stratified, clustered sample. Design effects were examined to understand how the multi-stage design might affect the multivariate results. All design effects were below two meeting the standard of a well-designed study.

Independent Paired Samples T-Tests were used to understand differences in human, economic, social, and cultural capital between academically qualified, low income students who apply, are admitted, and enroll at highly selective postsecondary institutions and those who do not. Logistic regression is also used in the present study to determine the effects of human, economic, social, and cultural capital on the college choice behavior of academically qualified, low income students at highly selective institutions. Logistic regression is an appropriate technique to use in analyzing a relationship between a categorical dependent variable and one or more continuous and categorical independent variables (Peng, Lee, & Ingersoll, 2002). Given its effectiveness particularly in the study of categorical outcome variables, educational researchers are increasingly using logistic regression and it is seen more frequently as a statistical technique used at presentations at the annual meetings of the Postsecondary Education division of the American Researcher Association (Peng, So, Stage, & St. John, 2002).

The present study uses logistic regression to compute the probabilities of academically qualified, low income students’ application, admittance, and enrollment at highly selective institutions based on a one-unit change in each human, economic, social, and cultural capital variable. The results of the logistic regression will be presented using odds ratios. The odds ratios are derived by exponentiating the regression coefficient for a predictor variable (Peng, et al., 2002). The odds ratio is the change in the odds of the
outcome based on a one unit change in the predictor variable, with all other predictor variables in the model held constant (Peng, et al., 2002). Relationships between the coefficients in a logistic regression and the probabilities or odds-ratios are what make logistic regression a powerful tool in statistical analysis (Hosmer & Lemeshow, 2000). The present study considers three dependent variables; application, admittance, and enrollment at highly selective postsecondary institutions, and as such, there are three regression equations that represent each of the three models used to answer the research questions. Because the equation itself is essentially unchanged, except for the outcome, rather than presenting all three regression equations, I present below the equation for the model that considers application to highly selective institutions. The equations for admittance and enrollment at highly selective institutions are the same with a different probability outcome.

The formula to answer the research questions is:

$$\text{Log (odds)} = \ln \left( \frac{p}{1-p} \right) = B_0 + B_{1x1} + B_{2x2} + B_{3x3} + B_{4x4} + e$$

Where $p$ is the probability of applying to a highly selective postsecondary institution, $x_1$ is a vector of human capital characteristics, $x_2$ is a vector of economic capital characteristics, $x_3$ is a vector of social capital characteristics, and $x_4$ is a vector of cultural capital characteristics and $e$ represents random error. Essentially, by using this formula the present study attempts to compute the changes in probability of academically qualified, low income students applying, being admitted, and enrolling at highly selective colleges and universities for every one unit change in each of the covariates.
Limitations

Consistent with longitudinal studies, the opportunity for missing data is a limitation with which the present study is concerned. Although techniques were used to address issues surrounding missing data and to mitigate the statistical limitations brought about by missing values, readers should nonetheless be cognizant of the challenges of missing data in longitudinal studies when interpreting the results of the present study.

A second limitation is the present study’s focus only on student level effects and the influence of these effects on college choice behavior. A more robust model might have included institutional and community variables that are also found in a student’s habitus. Such an analysis might have offered a more granular perspective from which to consider the many factors that converge to form an individual’s habitus. The present study attempts to mitigate these missing variables by considering some effects beyond the student level in the study’s second model that is more closely aligned with institutional behavior than individual behavior. If institutional and community effects were to be considered more extensively, the present study might have considered a hierarchical linear modeling technique. Prior research has, however, affirmed the significance of student level effects in the college choice process. The present study extends much of that previous analysis by focusing exclusively on college choice behavior in relationship to highly selective postsecondary institutions given the well-documented evidence of the benefits realized by attending a highly selective college or university. Future analysis of college choice behavior related to highly selective institutions might consider extending the analysis of the present study by introducing institutional and community level variables into all three models.
Finally, the present study includes only a biased selection of variables the author has determined effectively represent the concepts of human, economic, social, and cultural capital. ELS: 2002 is a substantial dataset with numerous variables from which future studies might select to also understand the effects of human, economic, social, and cultural capital on college choice behavior. In other words, there are other lenses through which future studies might view the significance of capital on college choice. The present study is limited by the author’s personal bias and influence by previous studies that have used the same or similar variables to model college choice behavior of low income students.

Following a presentation of the results from the present study in Chapter Four, the study will conclude with a discussion and implications for practice and future research in Chapter Five.
CHAPTER FOUR
RESULTS OF DATA ANALYSIS

The results of the data analysis are organized in three sections. The first section presents differences in mean values of demographic characteristics, human, economic, cultural, and social capital for academically qualified, low-income students who applied, were admitted, and eventually enrolled at highly selective postsecondary institutions and those students who did not. Data results will be shown by the three models of the study: applied, admitted, and enrolled. Section two presents results of a logistic regression that was run to determine how demographics, human, economic, cultural, and social capital influenced the likelihood of academically qualified, low-income students applying to, being admitted to, and enrolling at highly selective postsecondary institutions. The final section presents a summary of the findings.

The initial weighted sample for the study included 348,044 low income students who were academically qualified to enroll at four year postsecondary institutions. From this sample, 96,306 (27.6%) applied to a highly selective postsecondary institution. From the sample of 96,306 students who applied to a highly selective institution, 74,951 (77.8% of those who applied and 21.5% of the academically qualified, low income student population) were admitted. Ultimately, 44,860 students who were accepted for admission decided to continuously enroll in a highly selective institution. This represents
59.8% of the admitted students and 12.8% of the initial sample. It is important to note the significant lost opportunity as academically qualified, low income students navigate the highly selective postsecondary education admissions funnel. Of the low income students who were academically qualified to study at four year colleges, more than 250,000 never applied to highly selective schools, more than 21,000 were denied the opportunity, and more than 30,000 never took advantage of the opportunity after it was offered. Consequently, more than 300,000 students leave untold amounts of human, economic, cultural, and social capital unaccessed, foregoing a chance to enhance lifetime earnings and opportunities.

**Independent Pairs Sample T-Tests**

**Applied Model**

To interpret differences in mean values of various forms of capital between academically qualified, low income students who applied, were admitted to, and enrolled at highly selective postsecondary schools and those who did not, Independent Samples T-Tests were performed on the three samples of the study. The results represent average differences in capital portfolios and provide a general understanding of differences in college choice behavior across different capital constructs. Table 5 presents the results of the Independent Samples T-Tests for the applied model and highlights mean value differences across multiple capital constructs between academically qualified, low income students who applied and who did not apply to a highly selective college.

Following is a discussion of the mean differences within the original sample of 348,044 (weighted) academically qualified, low income students who applied to a highly selective postsecondary school.
Demographics

As shown in Table 5, a significantly higher percentage of Asian students (16.3%) applied to a highly selective college versus those who did not apply (4.7%). The opposite trend was found for Hispanic and White students with a significantly smaller proportion of Hispanics (14.6% versus 21.3%) and Whites (49.7% and 60.8%) applying versus not applying to a highly selective school. No significant differences were found for Black students. This finding is consistent with previous studies that considered race in college enrollment patterns (e.g. Engberg & Allen, 2011).

Human Capital

Results demonstrate significant mean value differences in application patterns based on human capital investments in education, particularly as defined by a student’s academic preparation. For example, students who applied to a highly selective school had significantly higher average academic profiles (M=.69, SD=.04) versus those who did not apply (M=.22, SD=.02). Additionally, a significantly higher percentage of students who applied participated in an academic enrichment program (11%) compared to those who did not apply (7%). Although mean value differences were found by academic preparation, no significant differences were found by more indirect human capital investments in education such as whether the student or family saved for college or the importance of career and education to the student.

Economic Capital

Significant differences in application patterns were found by the importance of affordability of postsecondary education and the type of financial assistance offered at the first postsecondary institution attended. A significantly higher proportion of students who applied to a highly selective school were offered a grant (83%) or loan (68%) at the
first postsecondary institution attended versus those who did not apply (69% offered a grant, 53% offered a loan). However, students who did not apply to a highly selective college placed a significantly higher level of importance on the affordability of postsecondary education \( (M=2.64, \text{SD}= .01) \) versus those students who did apply \( (M=2.58, \text{SD}= .02) \). This finding has important institutional pricing policy implications to be discussed more fully in the following chapter and is consistent with previous research related to the effects of tuition increases on enrollment behavior (e.g., Ellwood & Kane, 2000). Although significant mean value differences were found by type of financial aid received, no significant differences were found based on the availability of financial aid.

**Cultural Capital**

Significant mean differences were found between students who applied and did not apply based on parent education and encouragement. Of the students who did not apply, 36% had parents who only had a high school education compared to 28% of students who did apply to a highly selective institution. Conversely, of the students who did not apply, 13.4% had parents who possessed at least a BA degree, compared to 20.2% who applied who had parents with at least a BA degree. Students who applied also received significantly higher average levels of encouragement and engagement from their parents than those who did not apply \( (M=2.30, \text{SD}= .02 \text{ versus } M=2.16, \text{SD}= .01) \), and had significantly more people in their proximal network who had high aspirations for the student’s educational endeavors \( (M=2.97, \text{SD}= .07 \text{ versus } M=2.42, \text{SD}= .05) \). Students who applied also participated in significantly more extracurricular programs \( (M=2.94, \text{SD}= .10 \text{ compared to } M=1.91, \text{SD}= .07) \). No significant mean differences were found across parental involvement in cultural activities with their
student. These results are illustrative of cultural capital power and the presence of non-academic measures in a student’s college choice behavior, and are consistent with previous research that considered cultural capital in college enrollment (e.g., Cabrera & LaNasa, 2001; Perna & Titus, 2005).

**Social Capital**

   Significant mean differences were found between students who applied and did not apply based on parental involvement with their student’s school and the number of the student’s friends with aspirations to attend four year postsecondary schools. Students who applied had greater amounts of parental involvement in their school compared to students who did not apply ($M=27, SD=0.1$ versus $M=21, SD=0.1$), and a greater number of friends who aspired to four year postsecondary education ($M=3.79, SD=0.04$ versus $M=3.22, SD=0.04$). No significant mean value differences were found according to parental relationships with the parents of the students three closest friends.

**College Linking Resources**

   Significant mean differences were found between students who applied and students who did not apply across all college linking resources in the present study. A significantly higher percentage (74.6%) of students who applied to a highly selective college used a college representative in the college choice process versus those who did not (55.5%). Similarly, a significant difference was found in relation to the use of counselors, with nearly 90% of those who applied having used a counselor in the college choice process compared to only about 80% of those who did not apply. This particular finding underscores the importance of providing academically qualified, low income students with access to college choice content experts to provide assistance at the initial
stages of the college choice process. The use of a coach, friend, or school library were just as significant. Of the students who applied, 13% used a coach in the college choice process compared to 7% who did not, 59% of applicants used a friend versus only 52% for those who did not apply, and 17% of those who applied used the school library compared to only 13% for those who did not apply.

The results of the Independent Samples T-Test for the applied model suggest that there are significant mean value differences by variables in each of the capital constructs (human, economic, cultural, and social) between academically qualified, low income students who apply and do not apply to highly selective colleges. Although more demonstrable mean value differences were found in some capital constructs over others, these findings suggest that no form of capital can be ignored in creating policy and programs that would encourage academically qualified, low income students to apply to a highly selective postsecondary school.

Table 5. Mean differences in applied model  (Weighted N=348,044)

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*p.05, **p<.01, ***p<.001
Admitted Model

Findings for the admitted model, as presented in Table 6, show continued mean value differences across all capital constructs between academically qualified, low income students who were admitted to highly selective colleges and those who were not. Among the most salient findings and differences from the applied model were that no statistically significant mean differences were found across demographic variables and in the use of college linking resources. The results of the mean value differences for the 74,951 (weighted) academically qualified, low income students who were admitted to a highly selective postsecondary school from the sample of 96,306 applicants (weighted) can inform an understanding of how the various capital constructs are present in the decisions of admissions officials at highly selective colleges.

Demographics

No statistical mean value differences were found across demographic characteristics between students who were admitted and those who were not admitted to a highly selective institution.

Human Capital

The mean difference in a student’s academic profile value continued to be significant for students who were admitted to highly selective postsecondary schools and students who were not. Similar to the results of the applied model, the most statistically significant mean capital value difference was found in the student’s academic profile. For instance, the average academic profile of students admitted to a highly selective institution was significant higher ($M=.82, SD=.05$) versus those students who were not admitted ($M=.22, SD=.04$). There were no statistical differences between students who
were admitted and those who were not by savings efforts for college, importance of
career and education, and participation in academic enhancement programs. A notable
difference between the applied model and the admitted model is in the lack of significant
differences in academic enhancement programs. Although there were significant mean
value differences by participation in academic enhancement programs at the application
stage, there were not statistical differences by participation in such programs at the
admitted stage.

**Economic Capital**

A statistically significant mean value difference was found based on whether the
student was offered a loan at the first postsecondary institution attended. A significantly
higher percentage of students who were admitted to a highly selective postsecondary
school were offered a loan (72.2%) compared to those students who were not admitted
(54.5%). Because the admitted model is related to institutional decisions, whereas the
applied model is related to individual decisions, this finding raises a thought-provoking
question about the importance of the type of financial aid offered (institutional in the
form of grant aid, or governmental in the form of loan) to low income students in
relationship to postsecondary institutional decisions around student admittance. No
significant mean value differences were found by importance of college affordability,
availability of financial aid, and whether the student was offered grant aid. A notable
difference in relation to economic capital between the applied and admitted models is that
significant differences were found by importance of college affordability and grant aid
offered in the applied model, but not in the admitted model.
**Cultural Capital**

Significant mean differences were found in values associated with level of parent education, parental encouragement, and participation in extracurricular activities between students who were admitted to a highly selective school and students who were not. A significantly higher percentage of students who were admitted to highly selective colleges came from families with parents who had at least a BA degree compared to those students who were not admitted (22.6% versus 12%). Mean value differences were also found by student participation in extracurricular activities with students who were admitted having participated on average in more extracurricular activities ($M=3.05, SE=.11$) than students who were not admitted ($M=2.56, SE=.21$). Admitted students also possessed significantly greater levels of parental encouragement than those students who were not admitted ($M=2.32, SE=.03$ versus $M=2.22, SE=.04$). No significant mean value differences were found across involvement in cultural activities with parents, or the postsecondary aspirations for the student from the student’s proximal network. Notably different from the applied model is the lack of significance in mean value differences between students who were admitted and those who were not by educational aspirations for the student from the student’s proximal network.

**Social Capital**

Students who were admitted to a highly selective college had a significantly higher average number of friends with four year postsecondary plans compared to those students who were not admitted ($M=3.85, SE=.04$ versus $M=3.59, SE=.10$). Students who were admitted were also associated with parents who were significantly more involved in their students’ secondary school ($M=.275, SE=.01$) versus students who were
not admitted ($M=.231, SE=.03$). No significant value differences were found according to parent relationships with the parents of their student’s three closest friends. These mean value differences in admittance patterns by the social capital variables mirror the significant findings by these variables in the applied model.

**College Linking Resources**

In stark contrast to the applied model, no significant mean value differences were found by use of college linking resources between students who were admitted to highly selective postsecondary schools and those who were not.

Table 6. Mean differences in admitted model (Weighted N= 96,306)

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These results suggest that, in addition to the importance of academic preparation, important, significant differences continue to be present by cultural and social capital constructs as academically qualified, low income students progress through the college choice process with highly selective schools.

Enrolled Model

Results for the final model are associated with the last stage of the college choice process in which 44,860 (weighted) academically qualified, low income students enrolled at a highly selective postsecondary school from the sample of 74,951 (weighted) who were admitted. The results as presented in Table 7, indicate differences by race and

<table>
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*p < .05, **p < .01, ***p < .001
across different forms of human, cultural and social capital between students who enroll and who do not enroll in highly selective postsecondary institutions. The results show no significant mean differences in enrollment patterns by use of college linking resources. An important finding in the enrolled model is the significant mean difference in the importance of college affordability between students who enroll and students who do not enroll, suggesting that even for a population of students defined as low income, within that population, students who place greater importance on the affordability of postsecondary education enroll at a lower percentage rate even after being admitted.

**Demographics**

Significant mean differences in enrollment patterns were found only for Asian students. A higher percentage of Asian students enrolled at highly selective colleges compared to those who did not enroll (20.5% versus 12.1%). No significant mean differences were found among Blacks, Hispanics, Whites, and students from a race that was not Asian, Black, Hispanic, or White. Although there were no significant mean differences by race in the admitted model, differences were found in the applied model for students from Asian, Hispanic, and White races.

**Human Capital**

The importance of academic preparation was significant again in the enrolled model with students enrolling in a highly selective institution demonstrating significantly higher mean academic profiles ($M=.99, SD=.06$) compared to those who did not enroll ($M=.58, SD=.06$). Savings efforts for college, importance placed on career and education, and participation in academic enhancement programs were not statistically
significant. These results are similar to the admitted model where the only variable in the human capital construct that was significant was level of academic preparedness.

**Economic Capital**

A significantly higher percentage of students who were offered a loan enrolled at a highly selective college than did not enroll (74.5% versus 68.6%). Students who placed a greater value on the importance of college affordability were less likely to enroll even after being admitted ($M=2.62$, $SE=.04$) than students who did enroll ($M=2.53$, $SE=.03$). No significant mean differences were found by availability of financial aid or grant aid offered. An important finding in the economic capital construct is the significance of college affordability in the applied and enrolled models, but not in the admitted models. This finding is a valuable contribution to the consideration of college choice decisions that are student-centric (apply and enroll) and those that are institution-centric (admit).

**Cultural Capital**

Students who did not enroll at highly selective colleges were associated with parents who had only achieved some college education, but not a BA degree, versus those who did enroll (32.6% versus 27.7%). No significant mean value differences were found between students who enrolled and students who did not by parental education level of high school diploma or BA degree. Although counterintuitive, significant mean differences in the amount of parent and student cultural activity involvement were found between students who enrolled ($M=2.73$, $SE=.05$) and those who did not ($M=2.87$, $SE=.06$), with students who did not enroll having participated in greater levels of cultural engagement with their parents. This is the first time in each of the models that significant mean value differences were found for this variable. Also counterintuitive were the
significant mean differences in the level of parental encouragement between students who enrolled ($M=2.29, SE=.04$) and students who did not enroll ($M=2.37, SE=.04$).

Although no significant mean differences were found by participation in extracurricular programs or by the college aspirations for the student from the student’s proximal network, two variables in the cultural capital construct were significant across all three models; parents who have some college but not a BA degree, and student discussions about school with a parent. Discussing school with a parent was associated with positive college choice behavior in each model except enrolled; parents who had some college education but not a BA degree was associated with negative college choice behavior (did not apply, was not admitted, did not enroll) in all three models.

**Social Capital**

Significant mean differences were found between students who enrolled and students who did not enroll based on the level of engagement with the parents of the student’s friends, with higher levels of engagement associated with not enrolling ($M=.768, SE=.02$) than with enrolling ($M=.701, SE=.02$). This counterintuitive finding leads to speculation about the role of social capital in parent networks, the type of information being shared in those networks, and the role of parents in the college choice process of academically qualified, low income students. Consistent with findings in the previous two models, significant differences were found in enrollment patterns based on the number of the student’s friends who were planning to attend a four year institution, with larger values associated with enrollment ($M=3.98, SE=.05$) compared to no enrollment ($M=3.67, SE=.07$). These findings raise important questions about the potential delimiting affect of parental involvement and the positive influence of peers in
the college choice process for academically qualified, low income students, as well as
the influence of college affordability on parental outlook related to this human capital
investment in their child.

**College Linking Resources**

Similar to the results of the admitted model, no significant mean value differences
were found by use of college linking resources between students who enrolled and did
not enroll at a highly selective college. The only significant mean value differences in
the college choice process by use of college linking resources were found in the applied
model.

Table 7. Mean differences in enrolled model (Weighted N= 74,951)

<table>
<thead>
<tr>
<th></th>
<th>ENROLLED</th>
<th></th>
<th>NOT ENROLLED</th>
<th></th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SE</td>
<td>Mean</td>
<td>SE</td>
<td></td>
</tr>
<tr>
<td><strong>DEMOGRAPHICS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>.632</td>
<td>.041</td>
<td>.663</td>
<td>.047</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>.368</td>
<td>.041</td>
<td>.337</td>
<td>.047</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>.205</td>
<td>.029</td>
<td>.121</td>
<td>.027</td>
<td>**</td>
</tr>
<tr>
<td>Black</td>
<td>.122</td>
<td>.029</td>
<td>.141</td>
<td>.034</td>
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<tr>
<td>Hispanic</td>
<td>.134</td>
<td>.030</td>
<td>.179</td>
<td>.040</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>.492</td>
<td>.044</td>
<td>.441</td>
<td>.053</td>
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</tr>
<tr>
<td>Other Race</td>
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<td>.020</td>
<td>.117</td>
<td>.042</td>
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<tr>
<td><strong>HUMAN CAPITAL</strong></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Academic Profile Score</td>
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<td>.583</td>
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<td>Saved for College</td>
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<td>.405</td>
<td>.045</td>
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<tr>
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<td>2.898</td>
<td>.017</td>
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<tr>
<td>Academic Enhancement programs</td>
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<td>.026</td>
<td>.125</td>
<td>.035</td>
<td></td>
</tr>
<tr>
<td><strong>ECONOMIC CAPITAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Affordability</td>
<td>2.531</td>
<td>.042</td>
<td>2.622</td>
<td>.041</td>
<td>**</td>
</tr>
<tr>
<td>Availability of financial aid</td>
<td>2.685</td>
<td>.052</td>
<td>2.679</td>
<td>.063</td>
<td></td>
</tr>
<tr>
<td>Grant aid offered</td>
<td>.870</td>
<td>.026</td>
<td>.817</td>
<td>.037</td>
<td></td>
</tr>
<tr>
<td>Loan offered</td>
<td>.745</td>
<td>.037</td>
<td>.686</td>
<td>.063</td>
<td>*</td>
</tr>
</tbody>
</table>
Results of the Independent T-Test analysis found significant mean value differences in college choice behavior across all three models of the present study. Race was significant in the applied and enrolled models, but only for Asian students in the enrolled model. Differences in human capital investments operationalized by level of academic preparation were uncovered across all three models with students who applied, were admitted, and enrolled at highly selective colleges associated with greater levels of academic preparedness. Mean value differences in economic capital were significant in
the applied and enrolled model, particularly related to the importance of college affordability and if a loan was offered. Significant economic capital value differences were found in the admitted model only around if a loan was offered. The economic capital variables were associated with positive college choice behavior in the admitted model, but in the applied and enrolled models these variables were associated with positive and negative college choice behavior. Cultural capital value differences were associated with positive college choice behavior in the applied and admitted models, with the exception of parental education levels of some college, but no BA degree, which was associated with negative college choice behavior across all three models. However, in the enrolled model, all significant differences in cultural capital values were associated with negative college choice behavior. Social capital value differences as operationalized in peer networks were significant across all three models, with variances in peer social capital associated with positive college choice behavior. Finally, only in the applied model were significant differences found in the use of college linking resources, however these differences were associated with positive college choice behavior.

The statistically different mean value differences in college choice behavior throughout the three models across demographics and the different forms of human, economic, cultural, and social capital warranted further investigation through logistic regression analysis. Results from the logistic regression analysis are presented next and in Tables 8, 9, and 10.

**Logistic Regression Analysis**

Logistic regression analysis was completed to better understand the influence of demographics, human, economic, cultural, and social capital on the likelihood of
academically qualified, low income students applying, being admitted to, and
eventually enrolling at highly selective postsecondary institutions. First, the decision to
apply to a highly selective postsecondary institution was regressed on the applied model
for the entire sample of academically qualified, low income students. Next, the decision
to admit at a selective postsecondary institution was regressed on the admitted model
only for those students in the initial sample who had applied. Finally, the decision to
matriculate at a highly selective postsecondary institution was regressed on the enrolled
model only for those students who had been admitted. In the enrolled model, the type of
financial aid offered at the first postsecondary institution attended was added as a
covariate.

The results of the logistic regression analysis are presented according to each of
the three models to better understand the influence these various forms of capital have in
each of the different phases of the college choice process. Results for the applied model
are presented in Table 8, the admitted model in Table 9 and the enrolled model in Table
10. The results of the logistic regression analysis provided important information about
how the various forms of capital influenced behavior at certain phases of the college
choice process and not others, and how certain forms of capital predict behavior across
all phases of the college choice process.

Applied Model

In the applied model, academically qualified, low income students’ decisions to
apply to a highly selective postsecondary institution were regressed on the different
demographic, human, economic, cultural, and social capital constructs. The pseudo r-
square values confirm the model predicts an acceptable amount of the variance in
application behavior (Cox and Snell = .247, Nagelkerke = .356) and the results therefore merit further consideration. The most significant predictors of application to a highly selective postsecondary institution were race, academic profile, peer and proximal networks and use of college linking resources. Economic and cultural capital constructs were not significant predictors of application to a highly selective postsecondary institution. Academically qualified, low income student application to a selective postsecondary institution was largely influenced, therefore, by the student’s race, academic preparation, and availability of resources in their respective social network.

**Demographics**

Academically qualified, low income Asian and Black students were significantly more likely to apply to a highly selective postsecondary institution than academically qualified, low income White students controlling for all other variables in the model. Asian students were more than three and a half times as likely to apply and Black students were more than two and half times as likely to apply. These results are consistent with previous research that concluded Asians and Blacks have higher educational aspirations than Whites and tend to submit greater numbers of applications to postsecondary schools (e.g. Berkner & Chavez, 1997; Hurtado, et al., 1997; Perna, 2000). Being Hispanic or of a race that was not Asian, Black or Hispanic did not significantly influence application behavior.

**Human Capital**

Consistent with previous research (e.g., Ellwood & Kane, 2000), enhanced academic preparation was associated with a greater likelihood of applying to a selective postsecondary institution. A student’s academic preparation had the most significant
influence, increasing by nearly five times the odds that a student would apply to a highly selective postsecondary institution. All other variables in the human capital construct (savings efforts for college, importance placed on career and education, and participation in academic enhancement programs) had no significant influence on an academically qualified, low income student’s application to a highly selective college.

**Economic Capital**

The logistic regression analysis yielded no significant findings around the influence of any of the variables that comprised the economic capital construct during the application phase.

**Cultural Capital**

The number of people in the student’s proximal network that had postsecondary aspirations for the student had a significant effect on the likelihood of application. With each additional person in the student’s proximal network who had postsecondary aspirations for the student, the student’s odds of applying to a highly selective college increased by 15%. Level of parental education, involvement in cultural activities, participation in extracurricular programs, and parental encouragement did not significantly increase the odds that an academically qualified, low income student would apply to a highly selective college.

**Social Capital**

Although the findings suggest parental engagement did not predict student application to a highly selective postsecondary institution, the same is not true for peers. Significant effects were found for the number of the student’s friends who planned to attend a four year institution. Each additional friend with four year college aspirations increased the odds that an academically qualified, low income student would apply to a
highly selective college by nearly one and a half times. Parental involvement with the student’s school and parental relationships with the parents of the student’s closest friends did not significantly increase the odds that an academically qualified, low income student would apply to a highly selective college.

**College Linking Resources**

Significant effects were uncovered in the use of counselors, coaches, and college representatives to gain information about the college choice process. Academically qualified, low income students who used coaches and college representatives in the college choice process were nearly two times more likely to apply to a highly selective postsecondary institution than students who did not use these resources, and students who sought information from a school counselor were more than two times as likely to submit an application as students who did not use a counselor. These findings underscore the importance of these college linking resources given the significance of their influence in the first stage of the college choice process. For example, although the directionality of this effect is uncertain, it can also be speculated that it is unlikely a student would have decided to submit an application to a school without first having sought information about that school. Using a friend or the school library to acquire information during the college choice process did not significantly increase the odds that an academically qualified, low income student would apply to a highly selective college.

Table 8. Imputed logistic regression results predicting application to highly selective postsecondary institutions among academically qualified, low income students (Weighted N= 348,044)

<table>
<thead>
<tr>
<th>DEMOGRAPHICS</th>
<th>B</th>
<th>Std. Error</th>
<th>Exp (B)</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>-.217</td>
<td>.179</td>
<td>.805****</td>
</tr>
<tr>
<td>Asian</td>
<td>1.298</td>
<td>.249</td>
<td>3.663***</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Exp (B)</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>------</td>
<td>------------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>DEMOGRAPHICS</strong></td>
<td></td>
<td></td>
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<tr>
<td>Black</td>
<td>.925</td>
<td>.263</td>
<td>2.521**</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-.117</td>
<td>.244</td>
<td>.889</td>
</tr>
<tr>
<td>Other Race</td>
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<td>.356</td>
<td>1.757</td>
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<tr>
<td><strong>HUMAN CAPITAL</strong></td>
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<td></td>
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</tr>
<tr>
<td>Academic Profile Score</td>
<td>1.549</td>
<td>.171</td>
<td>4.705***</td>
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<tr>
<td>Saved for College</td>
<td>-.215</td>
<td>.186</td>
<td>.806</td>
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<tr>
<td>Importance placed on career/education</td>
<td>.277</td>
<td>.396</td>
<td>1.319</td>
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<tr>
<td>Academic enhancement programs</td>
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<td>.332</td>
<td>1.410</td>
</tr>
<tr>
<td><strong>ECONOMIC CAPITAL</strong></td>
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<td></td>
</tr>
<tr>
<td>College Affordability</td>
<td>-.154</td>
<td>.201</td>
<td>.858</td>
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<tr>
<td>Availability of financial aid</td>
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<td>.156</td>
<td>1.057</td>
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<tr>
<td><strong>CULTURAL CAPITAL</strong></td>
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<td></td>
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<tr>
<td>College aspirations of proximal network</td>
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<td>.064</td>
<td>1.155*</td>
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<tr>
<td>Parent some college</td>
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<td>1.087</td>
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<tr>
<td>Parent BA</td>
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<td>.223</td>
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<td>Parent involved in cultural activities w/ student</td>
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<td>Parental encouragement</td>
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<td>.194</td>
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<td>Participation in extracurricular activities</td>
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<td>1.073</td>
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<td><strong>SOCIAL CAPITAL</strong></td>
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<tr>
<td>Parent to parent involvement</td>
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<td>.330</td>
<td>1.449</td>
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<tr>
<td>Parent to school involvement</td>
<td>.123</td>
<td>.319</td>
<td>1.130</td>
</tr>
<tr>
<td># of friends w/ 4-year plans</td>
<td>.380</td>
<td>.097</td>
<td>1.462***</td>
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<td><strong>SOCIAL CAPITAL-COLLEGE LINKING</strong></td>
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<tr>
<td>Counselor</td>
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<td>.261</td>
<td>2.312**</td>
</tr>
<tr>
<td>Coach</td>
<td>.614</td>
<td>.267</td>
<td>1.848*</td>
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<td>Friend</td>
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<td>College representative</td>
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<td>School library</td>
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<td>.219</td>
<td>1.242</td>
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<td><strong>PSUEDO R2</strong></td>
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<td></td>
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<tr>
<td>Cox and Snell</td>
<td>.247</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nagelkere</td>
<td>.356</td>
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</tr>
</tbody>
</table>

*p.05, **p<.01, ***p<.001
Admitted Model

In the admitted model, an institution’s decision to admit an academically qualified, low income student was regressed on the different demographic, human, economic, cultural, and social capital constructs of the present study. Psuedo r-squared values suggest an adequate model that effectively predicts the variances in academically qualified, low income student admittance to highly selective colleges (Cox and Snell = .254, Nagelkerke = .389). The most significant predictors of admittance to a selective postsecondary institution were race, human capital, and college linking resources. Specifically, the odds of being admitted increased if the student was Black or of another race that was not Black, Hispanic, Asian, or White, and if the student was better prepared academically, and the odds decreased if the student used a coach in the college choice process. Economic, social capital, and cultural capital were not significant predictors of admittance to a highly selective postsecondary institution.

Demographics

Black students were more than four times as likely and students of another race that was not Black, Hispanic, Asian, or White were more than five times as likely as their White student counterparts to be admitted to a highly selective postsecondary institution. For Black students, this finding is similar to the finding in the applied model where Black students applied to postsecondary institutions at a rate that was two and half times greater than their White counterparts. However, students of a race other than Black, Hispanic, Asian, or White were statistically more likely to be admitted than their White counterparts, even though statistically, they were not more likely to apply to highly selective postsecondary institutions than their White counterparts. Being Asian or
Hispanic students did not improve the odds of being admitted to a highly selective college.

**Human Capital**

Similar to its significance in the applied model, academic preparation significantly influenced the likelihood of being admitted to a highly selective postsecondary institution. A one unit change in a student’s academic profile was associated with an increase of 14 times in the likelihood of a student being admitted to a highly selective postsecondary institution. All other variables in the human capital construct (savings efforts for college, importance placed on career and education, and participation in academic enhancement programs) had no significant influence on an academically qualified, low income student’s admittance to a highly selective college.

**Economic and Cultural Capital**

The logistic regression analysis yielded no significant findings around the influence of any of the variables that comprised the economic and cultural capital constructs during the admittance phase.

**Social Capital**

The logistic regression analysis also yielded no significant findings around the influence of any of the peer and parent network variables in the social capital construct during the admittance phase.

**College Linking Resources**

Among the most intriguing results of the admitted model was the significant effect the use of a coach during the college choice process had on admittance to a highly selective college. Academically qualified, low income students who used a coach were
65% less likely to be admitted than their counterparts who did not use a coach as a resource in their consideration of postsecondary education. This is in contrast to the applied model where the use of a coach as a resource was associated with a nearly two times increase in the likelihood of an academically qualified, low income student applying to a highly selective college. Moreover, using a counselor or college representative was associated with a significant increase in the odds of applying to a highly selective college, but these resources did not have a significant influence in the admitted model. The use of friends and the school library to gather information about colleges during the college choice process did not significantly improve the likelihood that an academically qualified, low income student would be admitted to a highly selective college.

Table 9. Imputed logistic regression results predicting admittance to highly selective postsecondary institutions among academically qualified, low income students (Weighted N= 96,306)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Exp (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEMOGRAPHICS</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
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<td>.359</td>
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<td>Asian</td>
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<tr>
<td>Black</td>
<td>1.467</td>
<td>.518</td>
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<tr>
<td>Hispanic</td>
<td>.704</td>
<td>.484</td>
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<td>Other Race</td>
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<td>.822</td>
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<tr>
<td><strong>HUMAN CAPITAL</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Academic Profile Score</td>
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<td>14.091***</td>
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<tr>
<td>Saved for College</td>
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<td>.525</td>
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<td>Importance placed on career/education</td>
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<td>.712</td>
<td>.698</td>
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<tr>
<td>Academic Enhancement programs</td>
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<td>.692</td>
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<td><strong>ECONOMIC CAPITAL</strong></td>
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</tr>
<tr>
<td>College Affordability</td>
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<td>.333</td>
<td>.591</td>
</tr>
<tr>
<td>Availability of financial aid</td>
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<td>.254</td>
<td>1.194</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Exp (B)</td>
</tr>
<tr>
<td>--------------------------</td>
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<td>---------</td>
</tr>
<tr>
<td><strong>CULTURAL CAPITAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College aspirations of</td>
<td>.119</td>
<td>.121</td>
<td>1.126</td>
</tr>
<tr>
<td>proximal network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent some college</td>
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<td>.337</td>
<td>.995</td>
</tr>
<tr>
<td>Parent BA</td>
<td>.687</td>
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<td>1.988</td>
</tr>
<tr>
<td>Parent involved cultural</td>
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<td>.281</td>
<td>1.295</td>
</tr>
<tr>
<td>activities w/student</td>
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<tr>
<td>Parental encouragement</td>
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<tr>
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<tr>
<td>**SOCIAL CAPITAL-</td>
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</tr>
<tr>
<td>COLLEGE LINKING**</td>
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<td>Friend</td>
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<td>.898</td>
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<td>.391</td>
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<tr>
<td>School library</td>
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<td>.478</td>
<td>1.333</td>
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<tr>
<td>Cox and Snell</td>
<td>.254</td>
<td></td>
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<tr>
<td>Nagelkerke</td>
<td>.389</td>
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*p.05, **p<.01, ***p<.001

Enrolled Model

In the enrolled model, a student’s decision to enroll at a highly selective postsecondary institution was regressed on the different demographic, human, economic, cultural, and social capital constructs also used in the applied and admitted model. However, recognizing the significance of financial assistance in the postsecondary educational decisions of low income students (e.g., Baum, 2001; Berkner & Chavez, 1997; Hearn, 2001; Hossler et al., 1999), the enrolled model included two covariates not
included in the applied or admitted models designed to determine if the type of financial assistance offered at the first postsecondary institution attended influenced the enrollment decision. Accordingly, covariates examining the influence of grant aid and loan offered at the first postsecondary institution attended are included in this model. The pseudo r-square values for the enrolled model indicate this model predicted the least amount of variance in the dependent variable (Cox and Snell = .174, Nagelkerke = .236) among the three models of the present study. The most significant predictors of enrollment at a highly selective postsecondary institution were race, human capital, and social capital. Specifically, the odds of an academically qualified, low income student enrolling at a highly selective postsecondary institution increased if the student was better prepared academically or if the student had friends who planned to attend a four year institution; and the odds decreased if the student was of another race that was not Black, Hispanic, Asian, or White. Economic capital, college linking resources, and cultural capital were not significant predictors of enrollment at a highly selective postsecondary institution. An academically qualified, low income student’s decision to enroll at a selective postsecondary institution was largely predicted, therefore, by the student’s race, academic preparation, and peer network.

**Demographics**

Students of a race that was not Black, Hispanic, Asian, or White were 72% less likely than their White student counterparts to enroll at a highly selective postsecondary institution. Although an academically qualified, low income student of a race other than Black, Hispanic, Asian, or White was nearly five and a half times more likely to be admitted to a highly selective college than an academically qualified, low income White
student, being of a race other than Black, Hispanic, Asian, or White significantly decreased the likelihood of enrollment. Moreover, even though Black students were statistically more likely to be admitted to a selective institution than their White counterparts, statistically, there was no significant difference in enrollment patterns between Black and White students. These findings raise questions about the statistical differences that exist in admittance rates between academically qualified, low income Black and White students, and the subsequent lack of significance in enrollment patterns between these student groups at highly selective colleges, and how race can be a significant positive influence at one stage of the college choice process and a significant negative influence in the following stage.

**Human Capital**

Consistent with the applied and admitted models, a student’s academic preparation significantly influenced the likelihood of enrolling at a highly selective postsecondary institution. A one unit change in academic profile was associated with an increase of two and a half times in the likelihood of enrolling at a highly selective postsecondary institution. This result, considered with the findings from the applied and admitted models related to the significance of academic preparation, signals the importance of human capital development in academically qualified, low income students. Savings efforts for college, importance of career and education, and participation in academic enhancement programs did not significantly increase the likelihood that an academically qualified, low income student would enroll at a highly selective college.
Economic and Cultural Capital

None of the variables used in the economic and cultural capital constructs significantly improved the likelihood that an academically qualified, low income student would enroll at a highly selective college.

Social Capital

The influence of social capital in a student’s peer network is underscored in the logistic regression findings for the enrolled model. Each additional friend in the student’s peer network that planned to enroll at a four year college increased the student’s likelihood of enrolling at a highly selective college nearly two times. These peer effects are consistent with previous research (e.g., Engberg & Allen, 2011) that found a higher number of friends intending to enroll at four year schools was associated with an increased likelihood that a student would also enroll at a four year school.

College Linking Resources

Use of the college linking resources as operationalized in the present study did not significantly improve the likelihood that an academically qualified, low income student would enroll at a highly selective college.

Table 10. Imputed logistic regression results predicting enrollment at highly selective postsecondary institutions among academically qualified, low income students (Weighted N= 74,951)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Exp (B)</th>
</tr>
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<tr>
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<tr>
<td>Male</td>
<td>.316</td>
<td>.287</td>
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<td>-.175</td>
<td>.406</td>
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<tr>
<td>Other Race</td>
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<td>.618</td>
<td>.276*</td>
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<td>Academic Profile Score</td>
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<td>.279</td>
<td>2.447**</td>
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<td>Saved for College</td>
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<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
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<tr>
<td><strong>HUMAN CAPITAL</strong></td>
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<td>Importance placed on</td>
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<tr>
<td>College Affordability</td>
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<td>Loan offered</td>
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<td><strong>CAPITAL</strong></td>
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<td></td>
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<td>College aspirations</td>
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<td>.969</td>
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<td>of proximal network</td>
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<tr>
<td>Parent some college</td>
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<td>.392</td>
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<td>.291</td>
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<td></td>
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<tr>
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<td>Parental encouragement</td>
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<td>Participation in</td>
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<td>extracurricular</td>
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<tr>
<td>activities</td>
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<tr>
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<td>Parent to parent</td>
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<td></td>
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</tr>
<tr>
<td>Parent to school</td>
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<td>1.473</td>
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<tr>
<td>involvement</td>
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<tr>
<td># of friends w/ 4-year</td>
<td>.617</td>
<td>.190</td>
<td>1.853**</td>
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<tr>
<td><strong>SOCIAL CAPITAL -</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>COLLEGE LINKING</strong></td>
<td></td>
<td></td>
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<tr>
<td>Counselor</td>
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</tr>
<tr>
<td>Coach</td>
<td>-.501</td>
<td>.473</td>
<td>.606</td>
</tr>
<tr>
<td>Friend</td>
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<td>.307</td>
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<td>School library</td>
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<td>.236</td>
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*p<.05, **p<.01, ***p<.001
Summary

Applied Model

The applied model produced the greatest number of differences in mean capital values and the greatest number of capital influences on college choice behavior. Significant predictive value and mean value differences between students who applied and who did not apply were found by race, academic preparation, proximal and peer networks, and college linking resources. If the proximal network variable is examined more closely, the results from the applied model might suggest that human capital and social capital (both peer networks and college linking resources) have the most significant influence in the application phase of the college choice process.

For example, the present study considers the number of people in the student’s proximal network who aspire for the student to complete a college degree as a cultural capital construct. Included in this proximal network for the present study are the student’s parents, relatives, and friends. Although the present study did not evaluate the strength of the relationship within the proximal network, recognizing that a student’s friends were included in the composition of this variable and acknowledging that the number of the student’s friends who had four year college plans was also a significant variable in terms of its predictive value and mean value differences in the applied model, it seems plausible that these findings are illustrative of the strength of the student’s peer network in determining if an academically qualified, low income student applies to a highly selective college or university.

Significant mean value differences and the predictive power of human and social capital were also uncovered subsequently in the admitted and enrolled models.
Admitted Model

The findings in the admitted model, although containing noticeably fewer instances of mean capital value differences and fewer significant predictors of college choice behavior than the applied model, nonetheless yield important evidence that demonstrates the influence of human and social capital in the college choice process. Important to the analysis of these results is that the decision to admit is institution centric. A student can undertake necessary and impactful preparations to be in a position to be admitted to a highly selective postsecondary institution, but ultimately the decision resides with the institution. As such, mean value differences associated with being admitted to a highly selective college by participation in extracurricular activities, parental encouragement and interaction with the student’s secondary school, and the number of the student’s friends planning to attend four year colleges signal how present social capital is in the decisions of admissions officials at highly selective colleges. An important finding of the admitted model was how certain college linking resources that positively influenced an academically qualified, low income student’s decision to apply to a highly selective college were no longer significant in the admitted model, and one college linking resource (coach) had a negative influence on admissions decisions. This finding will be explored further in the following chapter as it relates to previous studies that have suggested that being a student-athlete has a positive influence on being admitted to a highly selective college or university.

Enrolled Model

Although significant mean value differences across all forms of capital were found between students who enrolled at highly selective colleges and those who did not,
the findings in the enrolled model also reflect significant variances in human and social capital values and the powerful influence of these forms of capital in the decisions of academically qualified, low income students to enroll at highly selective colleges. However, these mean value differences were counterintuitive in that larger amounts of certain cultural and social capital were associated with not enrolling at a highly selective college. Only greater amounts of the social capital variable that reflected the number of the student’s friends who planned to enroll at a four year school was associated with enrollment at a highly selective college. This form of social capital also significantly predicted if an academically qualified, low income student would enroll at a highly selective college.

The significance of economic capital was also uncovered in the enrolled model in a finding that suggested students who were more concerned with college affordability were associated with not enrolling at highly selective colleges. Finally, as was found in all three models, significant mean value differences and predictive value was found in a student’s academic profile, with stronger academic profiles being associated with enrollment at a highly selective college and a student’s academic preparation significantly increasing the odds that a student would enroll.

In the final chapter, I will summarize how these findings confirmed the hypothesis of the present study and the hypotheses of literature reviewed for the present study, discuss the implications of these findings for practice and policy, and conclude with an articulation of future studies.
CHAPTER FIVE
DISCUSSION

The present study was designed to examine how various forms of capital influence the college choice behavior of academically qualified, low income students at highly selective colleges. The investigation considered how demographics, human, economic, social, and cultural capital predicted the schools to which academically qualified, low income students applied, were admitted, and eventually enrolled, and if there were mean differences in the capital values possessed by students who applied, were admitted, and enrolled at highly selective colleges and those who did not. Building an understanding of whether something other than a student’s academic ability influenced the college choice process was a primary focus of the study.

In order to determine the influence of various forms of capital in the college choice decisions of academically qualified, low income students, the study was centered around six research questions designed to determine differences in amounts of capital among these students throughout the college choice process, and how these capital influence application, admittance, and enrollment at highly selective colleges.

Undergirding the research questions were different theories and literature that considered how human, economic, cultural, and social capital influence college choice behavior. The nucleus of the study is Perna’s (2006) conceptual model of access and
college choice that integrated previous economic and sociological theory about postsecondary education decisions. Perna suggested a student’s decision about postsecondary education involved not only a consideration of the return on an investment in postsecondary education, but also how the student’s consideration was contextualized by social, economic, and policy variables, along with that individual’s habitus (Perna, 2006). Perna considered a student’s habitus as it related to postsecondary education as a reflection of the “individual’s demographic characteristics, particularly gender, race/ethnicity, and SES, as well as cultural and social capital” (Perna, 2006, p. 117). Although Perna’s (2006) model was multi-layered and considered multiple contexts in the college choice process, the present study was focused only at the student level and therefore considered only layer one of Perna’s (2006) model.

The study was also informed by the financial nexus model advanced by Paulsen and St. John that considered various factors that influenced college enrollment across social classes (Paulsen & St. John, 2002). The financial nexus model acknowledged the contextual nature of college choice, particularly family characteristics and environmental experiences, and has utility in examining cross group comparisons of diverse populations (Paulsen & St. John, 2002).

The capital deficiency theory promulgated by Massey et al. (2003), that utilized ideas from economic and sociological theories, informed the present study’s consideration of how resource differences influenced the college choice decisions of the study’s sample. The capital deficiency theory considered how resource differences affected academic achievement, particularly resources related to financial, human, social, and cultural capital.
The present study also considered the fit hypothesis, which suggested a student’s postsecondary success rate would increase if the student attended a school that had a test-profile that matched the student’s standardized test score (Bowen & Bok, 1998). Although focused on postsecondary access and not necessarily postsecondary success, the present study was informed by the fit hypothesis in order to understand how various capital constructs influenced if academically qualified, low income students were gaining access to schools that had test-profiles that matched the student’s academic ability.

Finally, the research questions of the present study were designed to elicit data aligned with each of the three phases of the Hossler and Gallagher (1987) model of college choice. The Hossler and Gallagher (1987) model posited that there are three discrete phases in the college choice process; predisposition, search, and choice.

The discussion that follows will consider these theoretical assumptions in review of the study’s major findings. The findings will be presented according to each of the models of the study; applied, admitted, and enrolled. The chapter concludes with a presentation of policy considerations based on the study’s findings, and suggestions for future research.

**Strength of Hypothesis and Conceptual Model**

I hypothesized that academically qualified, low income students who apply, are admitted, and eventually enroll at highly selective colleges and universities have different levels of human, cultural, social, and economic capital than those academically qualified, low income students who do not follow similar college choice behavior, and that enhanced amounts of these forms of capital increase the likelihood that academically
qualified, low income students will apply, be admitted and enroll at highly selective
postsecondary schools. I proposed that an academically qualified, low income student’s
habitus would influence college choice decisions in such a way that academic ability
would be mitigated by factors often beyond students’ control and not related to merit.
My opinion, therefore, was that opportunities for academically qualified, low income
students were not available at highly selective colleges and universities for reasons
beyond academic merit. The results of the study prove that elements of my hypothesis
are confirmed and other elements require additional research.

Significant mean capital value differences were present across all three models of
the study between students who applied, were admitted, and enrolled at highly selective
colleges and universities and those who did not. Differences in college choice behavior
among academically qualified, low income students were found across race, level of
academic preparation, participation in extracurricular programs, importance and type of
postsecondary financing, level of parental education, level of parental engagement with
the student and the student’s school, college aspirations and plans of the student’s peers
and proximal network, and the use of college linking resources. These results confirmed
my hypothesis that differences in human, economic, cultural, and social capital exist
between academically qualified, low income students who apply, are admitted, or enroll
in highly selective colleges and universities

Summary of Findings

Applied Model

Overall, the applied model produced numerous significant results demonstrating
mean value differences and predictive effects across different capital constructs. These
results confirm the influences of ascribed characteristics, such as race, that are outside of a student’s control. This finding is consistent with the theories that informed the study, in particular, Perna’s (2006) conceptual model that emphasized the influence of gender, race, and ethnicity in the college choice process. Perna’s (2006) model also highlighted the importance of social capital, particularly in the forms of information about college and access to assistance in learning about how to pursue postsecondary education. In the present study, significant predictive value and mean value differences between students who applied and who did not apply were also found by academic preparation, proximal and peer networks, and college linking resources. These findings are also consistent with the work of Paulsen and St. John (2002) that concluded decisions about postsecondary education are made in consideration of the views of others in the student’s social class.

Findings in the applied model confirmed that demographic characteristics were significant in an academically qualified, low income student’s decision to apply to a highly selective college. Independent Samples T-Test results showed that greater numbers of Hispanic and White students did not apply to highly selective institutions, and that greater numbers of Asian and Black students applied versus did not apply. Moreover, logistic regression results found Asian and Black students were more likely to apply to a highly selective college than their White counterparts. Academically qualified, low income Asian and Black students appear to be better positioned than academically qualified, low income Hispanic and White students to take advantage of the multiple capital benefits of attending a highly selective college by first submitting an application for enrollment. However, this finding should be balanced with the fact that of the total
The study population, nearly 50% of the students who applied were White, compared to only about 15% who were Hispanic and 13% who were Black. Although the statistical influence of race in application behavior suggests an opportunity toward enhancing diversity at highly selective colleges, it also demonstrates that among racial minority groups, Hispanics are lagging in their pursuit of highly selective postsecondary education. This trend should require urgent attention given the increasing number of Hispanic citizens in the United States (U.S. Census Bureau, 2011). Moreover, this finding provides evidence that seems to suggest that Hispanics do not have an advantage over White students at the initial stage of the college choice process.

The present study also uncovered the significance of human capital in variables associated with academic enrichment and academic participation. For instance, although a greater percentage of students who applied to highly selective colleges participated in academic enrichment programs, this participation did not increase the likelihood of these students submitting an application. Although these academic enrichment programs are not specifically designed to increase access to highly selective postsecondary education, I expected that participation in one of the programs might have enhanced a student’s academic qualifications in such a way that the students would have attained the credentials required to enroll at a highly selective college, significantly increasing their likelihood of submitting an application for admission. The importance of these academic enrichment programs as they relate to access to highly selective colleges should not be overlooked, however, given the finding that a greater percentage of students who did participate in one of the programs elected to apply to a highly selective college versus not apply.
The importance of human capital investments in the form of academic preparation was also found in the significant mean value differences between students who applied and who did not apply, with stronger academic profiles associated with students who did apply. Academic preparation also influenced if an academically qualified, low income student applied to a highly selective college, with a one unit change in the student’s academic profile associated with a nearly five times increase in the likelihood that the student would apply to a highly selective institution. This is a theme that is carried out in the admitted and enrolled models both in mean value differences and predictive strength. Perna (2006) placed human capital investments at the center of her conceptual model and emphasized the important nature of academic preparation in the college choice process. Numerous other studies also confirmed the significant effect academic preparation has in the college choice process (Adelman 1999; Cabrera & La Nasa 2001; Engberg & Wolniak 2010; Perna 2000, 2004; Perna & Titus 2005; St. John 1991). The significance of academic preparation in the present study is also consistent with the finding of Engberg and Allen (2011) that concluded academic preparation significantly predicted the college choice decisions of low income students. The finding in the Engberg and Allen (2011) study considered a larger sample of low income students and their college choice patterns related to two year and four year schools and it was, therefore, not surprising to see the results of that study align with previous research related to the importance of academic preparation. However, the sample for the present study was limited to only students academically qualified to enroll at highly selective colleges. As such, it is worth noting that within a sample of academically talented and well-prepared students, academic credentials remain
significantly influential in determining college choice behavior in relationship to highly selective colleges.

Although significant mean value differences in economic capital were found between students who applied and those who did not by the importance of college affordability and type of financial aid offered at the first postsecondary institution attended, the economic capital variables did not have significant predictive value in determining if an academically qualified, low income student applied to a highly selective college. Previous studies alluded to the significance of economic capital in determining college enrollment, particularly for low income students (e.g., Baum, 2001; Ellwood & Kane, 2000; Heller, 1999; Perna, 2006). I anticipated that when choosing to submit an application, cost and assistance in offsetting cost would be significant variables for academically qualified, low income students, particularly as it relates to the cost of highly selective postsecondary education. This lack of significance might be explained by the significance of the use of college linking resources during the college search process. For instance, greater percentages of students who applied to highly selective colleges used counselors and college representatives to gather information about postsecondary education. It is plausible that in using these resources, the costs of highly selective postsecondary education and the opportunities for grants and scholarships to allay those costs were addressed thoroughly and therefore assuaged those concerns for academically qualified students. Moreover, because these students were academically qualified to study at highly selective colleges, it is likely they were the focus of enhanced communication from college officials and their own high school teachers and counselors.
and therefore understood the scholarships, grants, and financial assistance available to offset tuition.

Additionally, findings in the applied model revealed significant differences in cultural capital between students who applied and those who did not, as well as significant predictive value in cultural capital. Hossler and Stage (1992) found students in the ninth grade who participated in more extracurricular activities held higher educational aspirations, and Soares (2007) considered how extracurricular involvement allayed academic deficiencies for wealthy students at elite colleges. The present study, however, found that participation in extracurricular activities did not influence if an academically qualified, low income student submitted an application to a highly selective college. A number of possible explanations might be considered in this regard, from lack of opportunities due to enrollment at an under-resourced high school, insufficient time for extracurricular participation due to time spent on coursework, and the need to retain employment to assist financially in supporting the family.

However, students who held a strong network of family and friends with high aspirations for the student’s postsecondary education were more likely to submit an application to a highly selective college. This finding supports previous research that emphasized the importance of support and encouragement related to postsecondary education from the student’s proximal network (Cabrera & LaNasa, 2001; Engberg and Allen, 2011; Engberg & Wolniak, 2010). Conversely, although mean value differences were found between students who applied and those who did not by level of parental encouragement, parental encouragement did not significantly predict if a student submitted an application. This lack of significance might be attributable to the role
parents play during the various stages of the college choice process. In other words, academically qualified, low income students might rely more on their proximal network or college linking resources in determining the colleges to which they would submit an application, and less upon their parents in this stage of the process. This consideration is supported by additional findings in the applied model around social capital in the student’s peer network.

The present study uncovered significant mean value differences in social capital in the form of a student’s peer network and parent engagement with the student’s school. Only the number of the student’s friends who planned to enroll at a four year school influenced if an academically qualified, low income student applied to a highly selective college. The mean value differences and predictive value of social capital in the present study is consistent with previous studies that considered social capital and college choice (e.g., Engberg & Wolniak 2010; Perez & McDonough, 2008; Perna & Titus, 2005; Person & Rosenbaum 2006). These findings have particular resonance with Perna and Titus (2005) who found that parental interaction with their student, their student’s school, and other parents, conveyed standards that promote postsecondary enrollment. However, the results of the present study also seem to suggest that parental encouragement and involvement is less influential in the initial stages of the college choice process than is the involvement and encouragement of the student’s peer and proximal networks. The lack of influence around parental encouragement and involvement might be attributed to the lack of knowledge that parents of academically accomplished, low income students have around highly selective postsecondary education. Accordingly, these students seek out
information from their friends or identified experts to determine the schools to which they will apply for postsecondary enrollment.

Significant mean value differences were found in the use of all college linking resources included in the present study, i.e., Counselor, Coach, Friend, College Representative, and School Library, with the most significant mean value difference found in the use of a school counselor as a resource during the college choice process. Logistic regression results also showed that the use of a counselor, coach, or college representative during the college choice process was significantly predictive of application behavior, with students who used these resources significantly more likely to apply to a highly selective college than students who did not. Importantly, as it relates to the predictive value of these resources, the most significant effect was found for counselors, with students who used a school counselor in the college choice process being nearly two and half times more likely to apply to a highly selective college than students who did not use a counselor. This finding is consistent with the role Perna (2006) assigned to social capital in her conceptual model that highlighted the importance of receiving advice and assistance in the college choice process. The finding is also aligned with the work of Engberg and Wolniak (2010) that found the use of college linking resources in the college choice process was associated with pursuing some amount of postsecondary education versus not enrolling at all. Previous studies that considered the use of college linking resources and the importance of securing counsel throughout the college choice process focused on larger student populations, and not a sample consisting exclusively of academically accomplished, low income students. As such, the findings of the present study highlights the importance of initiatives that make
college linking resources more readily available in the very initial stages of an academically qualified, low income student’s college search process relative to highly selective colleges.

Important to the hypothesis of the present study, the results indicate influences and characteristics either outside of the student’s control (race, parental education) or not as vibrantly within reach for low income students (college linking resources, college aspirations within the proximal network) that are significantly influential in an academically qualified, low income student’s decision to apply to a highly selective college.

Admitted Model

The admitted model revealed results that demonstrate the continued significance of human and social capital in the second stage of the college choice process. Beyond a student’s race, a student’s human capital investment operationalized in terms of academic preparation, along with access to social capital found in college linking resources, specifically social capital found in coaches, significantly influenced if an academically qualified, low income student was admitted to a highly selective college.

Academically qualified, low income Black students and students of another race that was not Black, Hispanic, Asian, or White were significantly more likely than their White student counterparts to be admitted to a highly selective postsecondary institution. This could be related to two United States Supreme Court decisions that were issued in 2003. In *Grutter v. Bollinger*, the Supreme Court affirmed that colleges and universities could take race into consideration when selecting an incoming class. In *Gratz v. Bollinger*, the Supreme Court affirmed the value of diversity among a postsecondary
institution student body. These decisions were rendered when the sample in the present study were high school juniors and likely in advance of application and admittance to a postsecondary institution. It is appropriate, therefore, to consider how these 2003 Supreme Court decisions affected institutional decisions about student admittance in 2004. This finding also seems to point to the efforts of highly selective college admissions officials to diversity their campuses, at least in so far as it relates to their consideration of academically qualified students from underrepresented races. Importantly, as it relates to the admissions funnel for highly selective colleges, these findings show that academically qualified, low income Black students have a significantly greater likelihood than their White counterparts of applying and being admitted to highly selective colleges. This finding appears to affirm the decisions of the Supreme Court in 2003 that allowed for race to be considered in postsecondary admissions decisions in order to uphold the value of diversity at American colleges and universities.

Beyond a student’s race, and consistent with Perna’s (2006) conceptual model, a student’s human capital investment operationalized in terms of academic preparation, significantly increased a student’s likelihood that a highly selective college or university would offer admission. Each one unit increase in the student’s academic profile resulted in that student being more than 14 times more likely to be offered admission to a highly selective college. This finding is not necessarily surprising in that the present study was not considering differences in admittance rates between academically qualified low income and high income students at highly selective colleges, or between academically qualified and non-academically qualified students at highly selective colleges. Although
this finding counters previous literature (i.e., Golden, 2006) and my hypothesis that admissions decisions at highly selective colleges are made without appropriate attention given to academic merit, the significance of academic preparation in the admitted model supports the ideals of American higher education as a system that can create opportunity based on ability and not ascribed traits.

Even though cultural and economic capital constructs were not significant predictors of being admitted to a highly selective institution, mean value differences were found between students who were admitted and those who were not by different variables within these forms of capital. Students who were admitted participated in more extracurricular activities, received more parental encouragement, and had parents who held at least a BA degree. These findings are consistent with the results of Soares’ (2007) study that examined the likelihood of being admitted to a tier one or tier two college. Although Soares’ (2007) sample, selectivity classification, and level of parental education differ than those of the present study, he did find differences in being admitted to a top tier postsecondary school based on level of parental education and participation in student government, with students whose parents held an advanced degree and students who were officers in student government more likely to be admitted. It should be noted, therefore, that although participation in extracurricular activities did not have predictive significance in the applied or admitted stages, greater percentages of students who did participate in extracurricular activities applied and were admitted to highly selective colleges than those students who did not. As such, this finding suggests that enhancing opportunities for academically accomplished, low income students to participate in
extracurricular activities might lead to submitting applications and being admitted to colleges better aligned with the student’s academic credentials.

Although the applied model revealed significant differences and predictive value in social capital, those differences and influences were largely missing in the admitted model. Mean value differences existed between students who were admitted and those who were not by amount of parental contact with the student’s school and the number of the student’s friends with postsecondary aspirations. Higher mean values for parental contact and peer aspirations were found for students admitted to a highly selective college, but they did not significantly influence if a student was admitted in the logit model. However, students who used a coach as a resource in the college choice process were 65% less likely to be offered admission. The finding in the logistic regression around the negative influence of coaches in the admitted model invites further investigation as it raises questions around the influence of athletics in postsecondary admissions, but is inconsistent with previous research that considered the influence of athletics in the admissions decisions at America’s elite colleges and universities (e.g., Soares, 2007). If it might be concluded that a student who used a coach in the college choice process participated in interscholastic athletics in secondary school and was considering participation in intercollegiate athletics at a highly selective college, then it might be concluded from the findings of the present study that unlike previous research (e.g., Soares, 2007), highly selective colleges do not look favorably upon applications from academically qualified, low income students who planned to participate in intercollegiate athletics. This conclusion assumes that when using a coach in the college choice process that the student was using an athletics coach and that the student self-
identified intentions of participating in intercollegiate athletics; all assumptions and conclusions that are open to challenge and require further analysis. Even though this finding supports the idea that students should enter highly selective colleges on their academic merits and not based on some other non-scholastic talent or skill set, it also raises the question of whether an application for admission from an academically qualified, low income student who planned to participate in intercollegiate athletics is marginalized by highly selective college admissions officials.

Additionally, the significant mean value differences and predictive value of academic preparation in relationship to academically qualified, low income student admittance to highly selective colleges warrants further examination in consideration of previous literature that found students are gaining admittance to the nation’s highly selective colleges and universities based upon something other than academic ability (e.g. Golden, 2006; Schmidt, 2007). Although the results of the present study can be viewed only in consideration of academically qualified, low income students who had applied to a highly selective postsecondary institution, the strength of academic ability in relationship to securing admittance to a highly selective college seems to suggest a meritorious system. Moreover, it seems to suggest if low income, academically qualified students submit an application to a highly selective postsecondary institution there is evidence to suggest there is a strong likelihood the student will be admitted. In the present study, 78% of those academically qualified, low income students who applied to a highly selective college or university were admitted. These data do not allay, however, the concern related to the 22% of academically qualified, low income students who were
academically qualified to enroll at a selective school, applied for admission, but were not admitted.

Interpreted through an institutional decision making lens, these results suggest a student’s race, academic qualifications, and possibly the student’s athletic interests, were most influential in determining admission to a highly selective college. Analyzed with the intent of understanding differences between students who were admitted and those who were not, the results suggest that beyond academic qualifications, students who participated in more extracurricular offerings, had better educated parents, had parents who were more engaged with the student and the student’s school, and who had more friends planning to enroll at four year schools were being admitted more than students who did not possess these same capital. These findings support Perna’s (2006) conceptual model, and the literature that informed Perna’s conceptual (e.g., Ellwood & Kane, 2000; Hossler & Stage, 1992; Perna & Titus, 2005) that underscored the positive effects greater levels of parental education, parental engagement with the student and the student’s school, and student participation in extracurricular activities have on postsecondary educational aspirations and choice.

Unlike similar studies, because the present study follows the sample of academically qualified, low income students through the admissions funnel in relation to highly selective colleges, the findings allow for an analysis of the changing influence of various forms of capital at different stages of the funnel. As such, the results of the applied and admitted models demonstrate that academically qualified students who participated in extracurricular activities, had more friends with plans to attend a four year college, and had parents engaged in the student’s academic work and at the student’s
school submitted applications and were accepted to highly selective colleges at greater rates than those students who did not possess these same values. However, except for the negative influence of a coach, differences and influence by use of college linking resources were not present in the admitted model, which is in contrast to the significant positive influence of these resources in the applied stage. This type of analysis allows for a more well-informed understanding of the variables that lead to the final outcome variable that ultimately determines progress in enhancing access to highly selective postsecondary education for academically qualified, low income students: whether or not these students enroll after having applied and been admitted.

**Enrolled Model**

Although logistic regression results for the enrolled model revealed that human and social capital were the most predictive forms of capital, significant mean value differences in all capital constructs were uncovered between enrollees and non-enrollees.

Consistent with previous research, race had a negative influence on enrollment at highly selective colleges with students from a race other than Black, Hispanic, Asian or White being more than 70% less likely to enroll at a highly selective college. Even though more Asian students enrolled versus did not enroll at highly selective colleges, no other differences were found by race between students who enrolled and those who did not. Among the more interesting findings around race in the three models was the lack of influence being Black had in the enrolled model, after significantly predicting application and admission. This finding suggests that although low income Black students apply and are admitted to highly selective colleges at greater rates than their White counterparts, there is no difference in the enrollment rates between Black and White students.
Additionally, the percentage of Black students in the present study who were admitted to highly selective colleges but chose not to enroll (43% of admitted did not enroll) raises concerns that are aligned with Bowen and Bok’s (1998) fit hypothesis about the eventual academic and financial success of Black students who enroll at colleges and universities that are undermatched with the student’s own academic ability. Specifically, Bowen and Bok (1998) found that the more selective the college attended by a Black student, the more satisfied Black students were with their college experience, the more likely Black students were to graduate, and the more likely Black graduates were to have increased financial earnings.

Additional significant findings were also found in the enrolled model by student academic preparation, with a one unit change in the student’s academic profile being associated with a nearly two and half times increase in the likelihood of enrollment. This finding supports Perna’s (2006) decision to place human capital and the importance of academic preparation at the center of her conceptual model. In consideration of previous research that concluded educational goals and aspirations are developed as early as the seventh grade (Terenzini, et al., 2001), this finding highlights the challenges educators and policy makers must overcome in allaying human, economic, cultural, and social capital deficiencies that delimit the educational aspirations for low income students leading to inadequate attention to academic preparation. Although the present study found that participation in academic enrichment programs did not significantly influence if an academically qualified low income student applied, was admitted, or enrolled at a highly selective college, the findings around the influence of academic profile suggest much greater attention be given to the academic preparation of low income students.
However, findings in the enrolled model also suggest that the effects of academic preparation are diminished and that the college choice decisions of academically qualified, low income students are granular and involve more than just academic performance.

For instance, more parent and student involvement in cultural activities and parental interaction around school were associated with students who did not enroll at a highly selective college. On balance, it would be understandable to consider that more engagement with cultural offerings and a student’s educational interests, and a vast peer network, would be associated with enhanced postsecondary aspirations. However, I posit that applying Coleman’s (1988) theory of social capital to these results could reveal that the information shared in the cultural and peer networks of academically qualified, low income students and their parents, and in the discussions low income students had with their parents about school, were not eliciting accurate or complete information about the benefits of highly selective postsecondary education and therefore devalued highly selective colleges in relationship to cost. Although the present study measured parent to student and parent to parent engagement in quantity and not quality, it is nonetheless a measure of the amount of interaction with the student and other parents and from here conclusions can be drawn about information exchanged based on the number of interactions or amount of engagement. A different study could more accurately make conclusions about the influence of college choice behavior by type of interaction or engagement.

This particular hypothesis has certain credibility when evaluating the mean differences in economic capital as defined by the importance of college affordability.
Students who did not enroll placed a higher average level of importance on the affordability of postsecondary education than students who did enroll. This finding is consistent with previous research that identified student income stratification among postsecondary school enrollment based on institutional price (Baum & Payea, 2010), and how increased tuition has a negative effect on enrollment, particularly for low income students (Ellwood & Kane, 2000). It is possible, therefore, to interpret these variances in enrollment by college affordability as evidence that inaccurate or incomplete information in social networks could lead to decisions among academically qualified, low income students not to pursue highly selective postsecondary education in view of the return on the economic investment. Accordingly, for these students at the stage of the college choice process when a decision about making an investment needs to be made (enroll or not enroll), the decision reflects the student’s or the parent’s economic capital (cost)-benefit analysis of highly selective postsecondary education.

Moreover, findings around the mean value differences in enrollment patterns by the type of financial aid offered is illustrative of the importance of college affordability. In the present study, more students who were offered a loan enrolled versus did not enroll at a highly selective college. Although the present study is unable to determine the amount of the loan offered, which could significantly sway college choice decisions, the finding that more students who are offered a loan did enroll seems to counter previous research that suggested low income students are less likely to assume loans to finance their postsecondary education (e.g., Baum, 2001). In addition to the significance of these cultural and economic capital variables, significant social capital findings were also revealed in the enrolled model.
For example, mean value differences in parental engagement uncovered lower average levels of parent-parent contact among enrollees versus those who did not enroll. I postulate again this somewhat counterintuitive finding is related to parental involvement in the college enrollment decision and information parents received within their social network regarding the return on such a significant financial investment. I submit this is largely a byproduct of inaccurate or incomplete information being exchanged in the social and cultural networks of these parents as presented in Coleman’s theory of social capital (Coleman, 1988). The finding might also be attributed to the significance of college affordability, given the significant mean value differences that were found by the importance of college affordability, with higher average levels of importance on college affordability found among students who did not enroll. This could suggest that parents were concerned about the cost of the investment and sought less expensive alternatives to highly selective colleges.

Additionally, the findings in the enrolled model related to the significant peer effects, along with the significance of peer effects in the applied model, raise questions about prior research that concluded students attending academically competitive secondary schools are at a disadvantage related to admission to an elite college or university (Espenshade, Hale, & Chung, 2005). Espenshade, et al. (2005) concluded it is better to be the best student at a less academically competitive high school than it is to be a very good student at an academically competitive high school as it relates to gaining admission to top colleges and universities. The finding of the present study related to the influence of peer effects, balanced with the findings of Espenshade et al. (2005) suggests a possible conundrum for academically qualified, low income students. For instance, it
could be postulated that a greater number of students aspiring to a four year postsecondary school attend academically competitive secondary schools, thus increasing the likelihood that a student’s peer network would include students with four year aspirations. However, attendance at academically competitive secondary schools has been proven to reduce the likelihood of being admitted to a highly selective postsecondary institution (Espenshade, et al., 2005). Although the number of students in a school with four year postsecondary aspirations is only one possible measure of overall school quality, and the strength of this peer network on highly selective postsecondary college enrollment may differ for academically qualified, low income students by level of school quality, it seems important, nonetheless, to attempt a better understanding of whether academically accomplished, low income student access to highly selective colleges is better served based on the academic rigor of the high school attended and the postsecondary aspirations of the students in the school.

These findings, combined with the data that showed that only 44,860 (weighted) academically qualified, low income students enrolled at a highly selective college or university out of the 74,951 (weighted) students who were admitted, offer important considerations related to Bowen and Bok’s (1998) fit hypothesis. For example, if enrolling at an institution of greater selectivity is associated with higher success rates (graduation), there is reason to be concerned about the more than 30,000 (weighted) academically qualified, low income students who were accepted for admission to a highly selective institution but elected not to enroll.
Implications for Policy

The present study revealed a number of important findings that could be used to inform future policy considerations. Even though human and social capital differences were most prominent throughout the findings, the differences in college choice behavior across all three models of the present study involving all of the capital constructs suggest these policy implications could be wide ranging and considerate of a student’s habitus throughout this process. Importantly, these findings are relevant to the national dialogue around inequality in the United States and differences in educational achievement by income, as well as current initiatives being proposed by the Obama administration to make college more accessible and affordable. Although much of this national conversation is appropriately placed around income inequality, the findings of the present study suggest a need for intervention at the institutional and governmental levels to address educational inequality. For example, consideration should be given to the 43% of Black students who were admitted to a highly selective college but chose not to enroll, and to Hispanic students lagging in their pursuit of highly selective postsecondary education.

In addition to considerations of access to highly selective colleges by race that were uncovered in the present study, the significant influence of college linking resources in the applied model of the present study suggests that policies and programs should be developed that provide academically qualified, low income students with a diverse set of resources to assist in gaining information about postsecondary education during the college choice process. Specifically, the significance of school counselors and college representatives points to the importance of these resources at the initial stages of an
academically qualified, low income student’s search for a highly selective college. It is my hope that highly selective colleges can be more intentional in developing strategies that send college representatives to high schools and regions of the country with low income populations to advise academically talented students about their postsecondary options. In this regard, the Obama administration’s recent initiative to link federal funding to colleges and universities with opportunities for low income students is a positive development (Obama, 2012).

Additionally, these findings point to the need to continue offering and funding professional development opportunities for school counselors to assist in providing the resources they require to adequately advise academically qualified, low income students about opportunities at highly selective colleges. Previous research (Engberg & Allen, 2011; Engberg & Wolniak, 2010, McDonough, 1997) concluded that high schools with high percentages of low income students are often not resourced to provide the level of college counseling needed to enhance postsecondary opportunities. The findings of the present study around the influence of school counselors offer further evidence that expenditures in enhancement of school counselor ability is warranted.

Academic preparation is a key determinant in providing access to highly selective colleges to academically qualified, low income students. As such, state, federal, and institutional policies and programs should be developed, continued, and funded that can ameliorate economic, cultural, and social capital in order to provide the appropriate academic training low income students require to become eligible to enroll at highly selective colleges. In this regard, I would call for development of a national program that incentivizes college and university students and faculty, particularly those at highly
selective colleges and universities to develop partnerships with poorly resourced high schools in low income communities to provide tutoring, mentoring, and advising to enhance academic preparation of students in those schools. Moreover, I would call for an “Education Corps” program or a postdoctorate fellowship program that would send students from the nation’s highly selective colleges and universities into the poorest high schools in low income communities across the country to provide, teaching, tutoring, mentoring, and college counseling services in exchange for college loan forgiveness and a living stipend.

The results of the present study also highlight the need for policies and programs that encourage greater interaction among academically qualified, low income students with peers who have aspirations to study at four year postsecondary institutions. More efforts are needed to ensure that academically qualified, low income students are engaged with other academically qualified students in curricular and co-curricular settings. Although it is likely that students are grouped by academic ability for curricular purposes, the same might not necessarily be true for non-classroom learning experiences. Ideally, students who are identified as having the academic ability to compete at highly selective colleges could be enrolled in after school co-curricular learning opportunities with students from their own and neighboring schools in order to develop stronger networks of peers with ambitious postsecondary aspirations. Transportation and funding to cover expenses associated with these opportunities would be important considerations given the demands on parental employment schedules and lack of financial resources among these students.
Although magnet and charter schools are an attempt at enrolling a student population with similar interests and ability, more needs to be done within school and earlier in the educational process. For instance, federally-funded in-school honors academies could be developed in poorly resourced high schools in low income communities for students who have neither the ability nor the opportunity to choose a charter or magnet school. Additionally, given the evidence that suggests academic aspirations are developed as early as the seventh grade (Terenzini, et al., 2001), more intentionality needs to be given in policy considerations around developing academic tutoring, mentoring, and enhancement programs in middle and junior high schools that are aligned with high school academic excellence which in turn are associated with academic expectations of highly selective postsecondary education. Such “5 to 16” programs that blend curricular and co-curricular learning experiences and support groups for academically talented, low income students could expose these students at earlier stages of the academic journey to resources that could provide information and encouragement leading up to and throughout the college choice process.

The results of the study can also be used to better understand and inform the role of highly selective colleges in facilitating opportunity for academically qualified, low income students. The decision to admit a student to a college or university is uniquely institutional. A student can undertake necessary and impactful preparations to be in a position to be admitted to a highly selective postsecondary institution, but ultimately, the decision resides with the institution. As such, the implications of these results on policy and future research should consider the capital constructs that predict an institution’s decision to admit an academically qualified, low income student, and how a student can
take advantage of these capital to be better positioned to be admitted, while also focusing on how institutions can assuage the effects of these capital in admissions decisions for students lacking these capital. The results of the present study offer encouraging evidence that academic qualifications are among the most important factors that determine if an academically qualified, low income student is admitted to a highly selective college. However, highly selective colleges should be mindful of the significant influence of social capital in the application and enrollment phases, and the importance of economic and cultural capital throughout the entire college choice process. As such, these highly selective institutions might move beyond communicating directly with one student, and look to sponsor college planning sessions for groups of academically qualified students and parents in economically depressed regions of the country at under-resources high schools. Additionally, unlike previous research that found parental involvement to be a positive factor in college choice (e.g., Perna & Titus, 2005), findings in the present study showed higher average levels of parental discussions were found among those students who did not enroll compared to those who enrolled. Accordingly, highly selective colleges have an opportunity to develop communication and programming intended specifically with parents in order to communicate the benefits of highly selective postsecondary education and mitigate concerns about the costs associated with a degree from a highly selective college. On this point, although economic capital did not significantly influence college choice behavior among the sample in the study, within the sample, those who placed a greater priority on college affordability were less likely to apply and enroll at highly selective colleges. As such, highly selective colleges must be sensitive to pricing strategies and be much more effective in communicating to
academically qualified, low income students that opportunities exist to offset costs with financial assistance and scholarships.

**Implications for Future Research**

The present study considers capital portfolio differences among academically qualified, low income students, and how various forms of capital influence the college choice behavior with highly selective colleges among this student group. The study does not, however, consider these differences and influences between academically qualified high income and low income students. In order to better understand differences in college choice behavior with highly selective colleges between low income and high income students, a similar study can be undertaken with a sample of academically qualified, high income students. The results could inform an understanding if different capital constructs are more or less influential for high income versus low income students and determine if highly selective colleges are influenced by these forms of capital in their admissions decisions. A study designed in this way could also look at the “melt” or number of academically qualified, high income students who do not move to the next phase of the college choice process to compare percentages of academically qualified, high income students who do not apply, are not accepted, and do not enroll at highly selective colleges with the same percentages for academically qualified, low income students. The results could also be used to determine if highly selective colleges are privileging wealthy students with robust capital portfolios in admissions decisions by considering other forms of capital beyond academic credentials at the expense of similarly qualified, low income students.
The present study also does not make any conclusions about where academically qualified, low income students do enroll, if not at highly selective colleges, after having been admitted to a highly selective institution. Additional data that considered where academically qualified, low income students enrolled, if not at a highly selective college, and what their eventual success rate and career or graduate school options were could inform a more insightful understanding if all opportunity is lost or only adjusted if an academically qualified, low income student does not enroll at a highly selective college.

Additionally, the focus of the present study was at the student level in order to understand how a student’s capital portfolio influenced college choice behavior. To better understand if it is more advantageous for an academically qualified, low income student to be the best student at a high school with less academic rigor than it is to be a very good student at a high school with more academic rigor, as it relates to enrollment at a highly selective college, a study that considers school level variables is warranted. The findings of such a study could inform a dialogue around the policy implications of public funding of charter schools and the importance of magnet schools to low income students with strong academic credentials in order to develop networks of peers who share similar postsecondary aspirations.

Finally, because for low income students these various forms of capital are so interrelated, future research should examine how one form of capital might influence another with the goal of targeting the specific capital construct that most significantly influences academic preparation. Being able to target one form of capital that could be dominant in its influence over academic preparation and educational aspirations would
permit focused interventions in that particular construct in order to positively influence a student’s academic profile, which has been proven to have a significant influence in determining if an academically qualified, low income student enrolls at a highly selective college.

**Conclusion**

If Americans are clearly mistaken in believing they live in the world’s most mobile society, and if American higher education is contributing to this stunted mobility by limiting educational opportunity for low income students (Economist, 2005), then results of this study can be useful in better understanding how educational policies can be drafted in order to maximize certain capital and assuage deficiencies in other capital in order to gain access to highly selective postsecondary education for low income students who have the academic credentials to compete at the nation’s elite colleges and universities.

In the run up to the 2012 presidential election in the United States, an appropriate amount of attention has been directed at income inequality in America. Political discourse has centered around the 1% of Americans who hold the majority of wealth in the country, and the 99% who feel marginalized by policies that seem to only benefit the 1%. Pundits and researchers alike acknowledge studies that have shown level of educational attainment to be among the key factors that determine if an individual has prospered over the last three to four decades and progressed through the economic recession that began in the United States around 2008. As such, we must first acknowledge that educational attainment differences are the derivation of income inequality. The results of the present study indicate that for academically qualified, low
income students, educational attainment levels, at least insofar as level of postsecondary institutional selectivity is concerned, are related to numerous factors beyond academic qualifications. It is, therefore, appropriate, to consider how various cultural and social capital differences have spurred differences in human capital (in the form of academic achievement), which have in turn lead to differences in economic capital, to understand how policies can be formed that build social and cultural capital in order to enhance educational attainment to produce a more balanced economic milieu in the United States.

Considered a bit differently, in the present study, there were 348,044 low income students who were academically qualified to study at the United States’ highly selective colleges and universities. Only 44,860 or approximately 13% actually enrolled. Only 13% of a low income student population academically qualified to garner the documented benefits of attending a highly selective college and significantly enhance their own social, cultural, and economic capital portfolios took advantage of that opportunity. Has this lost opportunity lead to future income inequality that could be mitigated with policy interventions that enhance access to postsecondary education? More importantly, as a nation, do we even care about the other 87%?
REFERENCE LIST


VITA

Dan Allen was born and raised in Joliet, Illinois. Before attending Loyola University Chicago, he attended Loras College, Dubuque, Iowa, where he earned a Bachelor of Arts in English Literature in 1990 and a Master of Arts in Physical Education in 1991.

Dan is currently an Associate Dean at the Harris School of Public Policy at the University of Chicago. Prior to his work at the Harris School, he worked for nearly 20 years in secondary school and higher education admissions and advancement, having served two postsecondary institutions as Vice President. He lives in Joliet with his wife and three children.