Understanding College Choice for Black Students: An Exploratory Study of Academic Achievement, Socioeconomic Differences, and Acquired Cultural Capital

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Abstract

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This exploratory study investigated the relationship between Black students' personal background characteristics, high school type, academic achievement, access to information about colleges/universities, and observed differences in applying to selective colleges/universities and attending historically Black colleges and universities (HBCUs).

This study used a quantitative, non-experimental design utilizing secondary data from the National Center for Education Statistics Education Longitudinal Study of 2002 (ELS:2002). Eight research questions were formulated to understand better how Black/African American students navigate the college choice process and make critical decisions about postsecondary education. Data were analyzed in SPSS v. 25 in Complex Samples using General Linear Model (GLM) and logistic regression.

Findings show that expecting to complete a 4-year college degree, expecting to complete an advanced degree, attending a private school, and having access to a high amount of information about postsecondary education were predictive of students' applying to selective colleges/universities, while a strong academic score lowered the odds of applying to selective

colleges/universities. The findings did not support that socioeconomic status was predictive of applying to a selective college/university for this sample.

Findings further showed that expecting to complete a 4-year college degree, expecting to complete an advanced degree, and having access to a high amount of information about postsecondary education were predictive of students' attending HBCUs, while attending a private school lowered the odds of attending HBCUs. The findings did not support that socioeconomic status, or strong academic scores were predictive of attending HBCUs.

These findings suggest that fostering high expectations in students is fundamental to their postsecondary transition to 4-year colleges/universities. In addition, ensuring that students have consistent access to information about colleges/universities – particularly from trusted adults such as teachers, parents, coaches, and college counselors, is paramount to their college choice process. Finally, educational leaders, practitioners, and others should ensure students have consistent access to a range of information regarding various postsecondary education institution types and options to ensure maximum choice and opportunity for Black students.

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CHAPTER 1

INTRODUCTION: UNDERSTANDING COLLEGE CHOICE FOR BLACK STUDENTS

For many families, it is commonly accepted that college participation is the primary path to status attainment and advancement (Hossler et al., 1999). According to the 2011 National Center for Education Statistics (NCES) Digest of Education Statistics, in 1967, 34% of high school graduates between 18 and 24 enrolled in postsecondary education. In 2016, the percentage was 41% for that same category of students. Further demonstrating an overall uptick, between 2006 and 2016, enrollment in degree-granting postsecondary institutions rose from 17.8 million to 19.8 million – an increase of 12% (Snyder et al., 2019). Additionally, there is increased emphasis on transitioning to college as a regular and routine rite of passage. As Bowen et al. (2005) expressed, "A central purpose of higher education, in every setting, is to prepare talented young people to assume productive roles in their societies – to foster the creation of human capital" (p.2). Connected to this deep value placed on the importance of higher education is the assumption that there should be equitable access and opportunity in participation (Fitzgerald & Delaney, 2002). In addition, there is a narrative in public discourse that access to the most selective colleges should be fair and based on "merit" – with spaces allotted foremost to those with the most aptitude and promise.

The good news is that, in terms of sheer points of entry into the postsecondary education system, there are many opportunities for most students who aspire to attend college. However, some researchers argue that "open-access colleges" – defined as public 4-year colleges and

universities that admit 80% of applicants or greater – have funneled working-class and minority students into the lower rungs of the educational hierarchy (Davies, 1997). Carnevale and Strohl (2013) go as far as to describe postsecondary education as a "dual system of racially separate and unequal institutions (p.7)" marked by an extreme "flight" of White and upper-class families to the nation's most selective (and often best-resourced) colleges and universities. Their data to support this claim is compelling. In examining first-time college-student enrollments reported in the Integrated Postsecondary Education Data System (IPEDS), the researchers found that 82% of White first-time enrollees matriculated in the nation's 468 most selective colleges. By contrast, 72% of Hispanic/Latinx and 68% of Black students matriculated in our nation's 2-year and 4-year open-access schools. Thus, it becomes important to contemplate – does the broadening of higher education access that we have witnessed represent increased or reduced stratification across higher education institutions?

Given the number and types of colleges available, as well as the complex college application process, considerable research has been devoted to examining the student college choice process (Cabrera & La Nasa, 2000; Chapman, 1981; Hossler et al., 1989; Hossler & Stage, 1992; McDonough, 1997). Typically, this process is described in at least three stages with the distinct phases of predisposition, search, and choice. The predisposition stage is marked by college aspiration formation and refers to the plans a student develops for post-high-school education. After college aspirations are formed, the search stage begins and encompasses a student discovering and evaluating colleges and searching for the attributes and values that are most important. The final stage, choice, involves the formation of the choice set (or schools to which the student intends to apply) and the decision of which institution to attend (Hossler & Gallagher, 1987; St. John et al., 1996).

How a student navigates and negotiates this three-stage process is complex. Research suggests that the actual process of choosing a college (e.g., determining the choice set, obtaining guidance and support, etc.) disadvantages some students and benefits others (McDonough, 1997). Cabrera and La Nasa (2001) likened the multi-stage process to Hercules and his 12-step quest for immortality in terms of the often difficult and arduous tasks that underserved students face, and there is evidence to support the argument that Black students from lower socioeconomic backgrounds face tremendous hurdles as they negotiate the process of navigating the college search and application process.

In analyzing the stages of the process and the points where students dropped out of it, Cabrera and La Nasa (2000) found substantial differences in the patterns of the college choice process based on a student's socioeconomic status (SES). The research of Cabrera and La Nasa on socioeconomic status is important to understanding the experience of Black students because these barriers may disproportionally disadvantage impact Black and other underrepresented minority (URM) students. Cabrera and La Nasa's research shows that 71% of the lowest SES students did not obtain the proper qualifications for college enrollment. Of the qualified low SES students, 66% applied to 4-year colleges and universities. Getting students from low SES backgrounds to wade into the applicant pool is critical, as once these students do apply to college, there is a reasonable likelihood of both admission and attendance – though not on par with the rates of students from high SES backgrounds (Bowen et al., 2005).

Engle (2007) also notes that only 47% of first-generation students, a subset of whom are also low SES, enrolled in a postsecondary institution the year after completing high school, compared to 85% of students whose parents held college degrees. Sadly, these trends have been entrenched for decades, with Gladieux (2004) noting that low-income students still attend

college at much lower rates than their higher-income counterparts – with gaps in the late-1990s being as wide as in the early 1970s.

Background

The 1960s and 1970s saw some access and equity improvements in higher education (Astin & Oseguera, 2004; Baker & Veléz, 1996; Fitzgerald & Delaney, 2002). The 1965 Higher Education Act was designed to provide financial assistance for students and critical educational resources to higher education institutions. Subsequent acts and amendments have similarly been adopted to ensure adequate support and funding for students seeking to further their education.

Financial assistance from legislation such as the Higher Education Act has proved crucial, yet disparities still exist. For example, 2013 NCES data show that between 1975 and 2011, the immediate college enrollment rates for high school completers from low-income (bottom 20%) and middle-income families were lower than those for high school completers from high-income (upper 20%) families. In 2011, the college enrollment rate for high school completers from low-income families was 52%, 30 percentage points lower than the rate for completers from high-income families (82%). The immediate college enrollment rate for middle-income families stood at 66% or 16 percentage points below that for high-income families.

Continued access to higher education has both individual and societal benefits. According to recent NCES data, 79% of young adults (defined as 25- to 34-year-olds) who held a bachelor's degree were employed full-time and year-round. This compares to 69% of 25- to 34-year-olds whose highest level of education was a high school diploma or equivalent (The Condition of Education, 2018). In addition to steadier employment opportunities, research points to an association between bachelor's degree attainment and average annual income. NCES data from 2010-2016 shows consistently higher median earnings across educational attainment levels – as

educational attainment increased, so did wages. For example, in 2016, the median income for bachelor's degree holders in the 25- to 34- year-old demographic was $50,000, 57% higher than those holding only high school degrees (The Condition of Education, 2018). Other commonly recognized individual and societal benefits of postsecondary participation include learning and cognitive changes, higher quality-of-life outcomes, and intergenerational benefits (Pascarella & Terenzini, 2005).

Need for Study

Extant literature supports the idea that students apply to and select higher education institutions that align with their interests, talents, and academic abilities. In fact, academic ability is closely correlated with enrollment in our nation's most selective colleges and universities. However, research also points to differences in application and enrollment to selective colleges and universities for high achieving students from low socioeconomic backgrounds and underrepresented minority students (URM). Given these differences, there is something scholars still do not yet understand about how these students navigate the college choice process and the factors that matter the most in the process of considering and selecting a college for some demographics.

Prior research tends to focus on URM students as a collective; however, this research focuses on one specific URM demographic – Black students – to examine and better understand: (a) how the student college choice process functions for Black students; (b) how Black students from varying socioeconomic backgrounds navigate the process; (c) how accessible various types of postsecondary institutions are and to whom they are most accessible; and, (d) the factors that support Black students application to and enrollment in institutions across the range of higher education types.

Purpose of Study

Given the arduous nature of the college choice process, the positive impact of a college education on individuals and society, and the disparities between students from high and low SES backgrounds who successfully enter college, research that illuminates how best to increase the college-going rates of students from a broad range of backgrounds is still needed. Many studies are not fully aligned on the salient influences in the college choice process, making it difficult to determine the gaps in student access to higher education and why enrollment disparities in certain higher educational institution types persist.

Furthermore, while the three-stage college choice process has been widely utilized, much of the research has focused on either stage one (aspiration formation) or stage three (choice). While these stages are critically important to understand, stage two (search) bears the most promise in illuminating why some students navigate the student college choice process differently from others. Stage two is important because it is the point in the college choice process where students can exercise a great deal of agency. Furthermore, stage two is the bridge between dreams (aspirations) and reality (choice). A critical question to consider in stage two is this: are Black students accessing the full range of 4-year postsecondary education options, or are their choices limited? Additionally, given that Black families are not monolithic and span a continuum of lived experiences, it is important to understand how Black students approach the college choice process across varying personal and family characteristics, educational achievement, experiences, and postsecondary educational expectations.

Patricia McDonough's 1997 study of White female students offers insight into how students sort themselves in the college choice process based on family SES and high school type. In her qualitative study involving a cohort of White female students with similar academic

credentials (but varying SES backgrounds), she found that students from higher SES backgrounds – who often had greater institutional, parental, and peer support – were more likely to apply to a broader array of schools, a greater number of selective schools, and geographically diverse schools than were students from lower SES backgrounds. Students from lower SES backgrounds – with similar academic credentials – rarely saw a broad array of postsecondary college options for themselves. While there are many plausible reasons for this, including lack of knowledge of selective schools (beyond the immediately recognizable Ivy-League Schools), lack of confidence in academic abilities, and concerns about expenses and finances, the disparate impact is important to explore and understand.

Three propositions that guided McDonough's research have influenced this study conceptually. The first proposition is the notion that a student's cultural capital will affect the level and quality of college education that the student intends to attain; second, a student's choice of college will make sense in the context of that student's *habitus* (friends, family, and outlook); and third, through a process of bounded rationality, students will limit the number of alternatives considered (McDonough, 1997). Translating this framework into a quantitative study requires a bit of agility, and, accordingly, studies with similar conceptual leanings but utilizing more empirically tested models have also guided this research. Additionally, this study explicitly centers race and potential racialized differences in navigating the college choice process.

This research aimed to examine how Black students navigate the college choice process. With a focus on stages two and three of the college choice process, this exploratory study investigated the relationship between Black students' personal background characteristics, high school type and environment, academic achievement, acquired cultural capital, and observed differences in application to postsecondary institutions with a particular focus on institutional

selectivity. Additionally, given the fundamental role that historically Black colleges and universities (HBCUs) play in higher education in the United States, an additional aspect of this research sought to understand students' enrollment in these postsecondary institutions.

With a deeper understanding of the search stage in place, this dissertation considered stage three of the student college choice process (choice). Black families experience education, mobility, and opportunity in countless ways. Some students begin with extensive capital (social, cultural, and monetary). In contrast, other students begin with fewer advantages but still navigate the path to a full range of colleges and universities – including HBCUs, Ivy League, other highly selective universities, liberal arts colleges, and public colleges/universities. Referring to such differences as "inherited advantage and disadvantage," Jack (2015) contrasts the pre-college experiences and high school context of Black undergraduate students enrolled in highly selective colleges. He illustrates how disparities in social and cultural capital (i.e., the tools, skills, and experiences that students accumulate) impact adjustment to college life. Jack found that low-income Black students who participated in pipeline programs or attended schools with a high college-going culture brought more interactional styles and were better able to cross racial and SES boundaries with their peers. Lacy (2007), in her research on the Black middle class, found a broad spectrum across the middle-class category from core to elite. The elite Black middle class focused heavily on status reproduction and were explicit with their children about what was required to maintain their current lifestyle. This often included highly strategic decision-making around education and future occupations.

Recognizing the vast diversity of backgrounds and experiences for Black families provides a unique opportunity to examine how this demographic navigates student college choice – particularly given the historically negative - and still complicated - relationship Black

Americans have regarding equity, opportunity, and access to resources in the United States. Given these complexities, this research sought to understand how Black students make college choice decisions in the context of their academic and personal background characteristics and with an eye toward what in-group differences (if any) might exist. Centering the experience of Black students and families is intentional. Despite tremendous progress for this racial group over the last 60 years, disparities in access to higher education still exist.

The work of Flint (1992), McDonough (1997), and Tierney (1983) provide the context for exploring the formation of college choice sets and how these sets vary by high school type and environment, personal background characteristics, and academic achievement. Finally, the work of Chapman et al. (2018), Jack (2016), Lacy (2007), Freeman (1997, 1999a, 1999b, 2005), and Freeman and Thomas (2002) offer insight into the unique considerations that Black families face as they navigate the college choice process.

Research Questions

The following questions guided this research:

1. What is the relationship between students' personal background characteristics and application to selective colleges and universities?
2. What is the relationship between students' high school type and application to selective colleges and universities?
3. What is the relationship between students' access to college information sources and application to selective colleges and universities?
4. Controlling for academic achievement, what will explain more of the variance in students' decisions to apply to selective colleges and universities: personal background characteristics, high school type, or access to college information sources?
5. What is the relationship between students' personal background characteristics and attending HBCUs?
6. What is the relationship between students' high school type and attending HBCUs?
7. What is the relationship between students' access to college information sources and attending HBCUs?
8. Controlling for academic achievement, what will explain more of the variance in students' decisions to attend HBCUs: personal background characteristics, high school type, or access to college information sources?

Overview of the Study

Chapter 2 of this dissertation presents a thorough review of the literature. First, the historical context related to Black students and higher education in the United States is established. Second, relevant literature on student college choice is shared, including an

overview of predominant perspectives on the process, followed by a detailed description of the salient factors impacting the process. Additional literature examines social and cultural capital and how these concepts aid us in providing additional explanatory value in the college choice body of research. Next, to better understand cultural capital and habitus, literature on the college choice process in the context of high school type is presented. Finally, as this research seeks to specifically understand the unique considerations faced by Black students during the college choice process, literature specific to this demographic is offered.

Derived from the literature, Chapter 3 puts forth specific research questions posed in this study. Following this is an overview of how these questions will be answered. First, a description of the selected data set for this research, the Education Longitudinal Study of 2002 (ELS:2002), is given. This description includes an overview of the survey design and data collection procedures. Then, a detailed description of the specific analytic approaches applied to the data is provided. Chapter 4 presents the study's findings by each research question. Chapter 5 discusses findings, study limitations, and recommendations for further research.

CHAPTER 2
REVIEW OF THE LITERATURE

Two significant bodies of literature inform this study. After situating this research in a historical context, I offer an overview of the predominant perspectives by college choice theorists in explaining the college choice process. The factors impacting college choice are described in detail, with particular emphasis on educational and status attainment outcomes associated with each factor. The second body of literature presented examines social and cultural capital and how these concepts aid us in providing additional explanatory value in the college choice body of research.

Carnevale and Strohl (2010) note that "In the postindustrial economy, educational attainment, especially postsecondary educational attainment, has replaced the industrial concept of class as a primary marker for social stratification" (p. 71). This trend has certainly continued in the information age, and now increased educational stratification is on deck to be the new game-changer in how one's college credentials are perceived. This study examines opportunity pathways, college choice decisions, and how Black students navigate the college choice process. Research suggests that attending well-resourced and selective colleges has favorable implications for future outcomes, such as a greater likelihood of graduation and on-time graduation, increased likelihood of enrolling in a graduate/professional degree program, and a positive impact on future career opportunities and income (Carnevale & Strohl, 2013; Melguizo, 2010; Radford, 2013).

Given the benefits of attending selective colleges, increased stratification within the higher education system seems highly problematic – particularly when this gap appears to have

less to do with the tangible qualifications of students and more to do with socioeconomic differences (Reardon et al., 2012). “Undermatching” is a term that describes the gap between a student’s academic ability and the college in which the student intends to enroll. Functionally, this means that a student may end up attending a school that is not well suited for their academic capabilities, which can lead to negative outcomes. While there are legitimate reasons a student might undermatch (such as the desire to remain close to home), the critical consideration is if the student was guided and supported in making a well-informed choice.

Research suggests that for high-achieving, low-income students, enrolling at a college that is less selective than their academic preparation qualifies them to attend might jeopardize their on-time college completion or college completion altogether (Radford, 2013). Additionally, Roderick et al. (2011) note that “too often low-income urban students with the qualifications to attend 4-year colleges do not effectively take the steps to apply to and enroll in 4-year colleges. And too often, urban students enroll in 4-year colleges with selectivity levels below the kinds of colleges they are qualified to attend (p. 202).” In terms of overall college enrollment, Carnevale and Rose (2010) state, “our lowest-performing affluent students go to college at a rate higher than the highest performing youth from the least-advantaged families” (p. 157). These disparities must be examined and understood to move towards greater equity in higher education.

Importance of Study

Research has documented clear disproportionality of enrollment in our nation’s most selective schools, and there is a strong indication that underrepresented minority (URM) and low-income student representation in selective schools is declining (Carnevale & Rose, 2003, 2013; Haveman & Sterling, 2006). The research of Carnevale and Rose in 2003 showed gaps in representation at selective schools for both URM and low-income students. The researchers

analyzed two NCES data sets, the National Longitudinal Study of 1988 (NELS:88) and High School and Beyond (HS&B) and found that 74% of students at the top 146 highly selective colleges came from the highest SES quartile. Black and Hispanic/Latinx students were vastly underrepresented, with each ethnic group only constituting six percent of first-year student enrollment at the most selective universities.

A 2013 study by Carnevale and Rose showed that stratification remained pervasive in higher education. Between 1995 and 2009, eight out of 10 new White enrollees matriculated in the 468 most selective schools, while seven of 10 new Black and Hispanic/Latinx students matriculated in one of the nation's 3,250 open-access colleges. In relation to population growth, in 2009, White students represented 62% of the college-age population, yet they represented 75% of the enrollment in the top 468 colleges. In contrast, White student enrollment was only 57% of the enrollment at open-access colleges. This indicates an over-enrollment for White students in top colleges and an under-enrollment in open-access colleges. We see the reverse with Black and Hispanic/Latinx students, who represent 33% of the college-age population yet are only represented in top colleges at the rate of 15%. In contrast, Black and Hispanic/Latinx student representation in open-access colleges is 37%. These data-points suggest that these students are slightly over-enrolled in open-access colleges in relation to their percentage of the traditional college-aged student population. During the timeframe of Carnevale and Rose's 2013 study, seats in open-access schools also decreased, resulting in both crowding and a lower dollar-to-student allocation.

Given shifts in the landscape of higher education and the range of options families face in accessing higher education, it is critically important to consider the implications of educational

stratification and its impact on the equality of opportunity among students of various backgrounds.

Institutional selectivity is viewed as important for three reasons. First, as selectivity increases, so does the likelihood of graduation, and the importance of degree completion rates cannot be understated. For every 300 college graduates, 200 students drop out of postsecondary education (Carnevale & Rose, 2013). To provide for more accountability in higher education, in 2004, Congress passed the Student Right to Know Act (SKR), which requires all higher education institutions that receive federal financial aid to report graduation rates. SKR defines graduation rate as the percentage of the cohort of full-time beginning students who graduate in 150% of the expected time it should take to complete a degree. Historically, a bachelor's degree takes four years to complete; therefore, the marker of graduation within six years is reported under SKR. Highly selective colleges report graduating 82% of students who are initial enrollees within the six-year timeframe. As institutional selectivity declines so do graduation rates, with 49% being the average among open-access institutions (Carnevale & Rose, 2003). Scholars often contextualize this data by arguing that selective schools *should* graduate more students on time as, hypothetically at least, their student pool is well prepared for the rigors of higher education (Carnevale & Rose, 2003; Hess, 2009). Developing talent, however, is the moral and practical imperative of institutions of higher learning. Given that students need different things to realize success (ex., finances, mentoring, tutoring, community/sense of belonging, etc.), colleges and universities must go beyond offering just access and provide equitable resources and support to ensure that students have an opportunity to be successful.

To further examine the relationship between selectivity and graduation rates, Alon and Tienda (2005) utilized multivariate techniques to assess the effect of institutional selectivity on

six-year graduation rates of White, Black, Hispanic/Latinx, and Asian students and found a positive and significant effect of institutional selectivity on six-year college graduation status. It is important to underscore that their research used same-group comparisons to test the hypothesis, thus supporting the notion that selectivity positively impacts graduation rates. However, overall results are mixed as additional studies have demonstrated wide variance in six-year completion rates among institutions with similar admissions standards and admitting students with similar track records and test scores (Hess, 2009). Overall, however, research tends to support the idea that the likelihood of graduation for URM students is higher as institutional selectivity increases (Horn, 2006).

Second, research indicates that top-ranked higher education institutions tend to be more resource-rich, often spending as much as four times more per student than schools categorized as least selective (Carnevale & Rose, 2003). The top 82 schools spend five times as much annually – approximately $27,900 per student – and the top 468 spend twice as much as open-access schools (Carnevale & Rose, 2013). These institutions also tend to prepare students for the rigor of graduate education for those who aspire to reach that level (Bowen & Bok, 1998). Other long-term benefits of attending selective institutions include overall status attainment, wage premiums, and opportunities to build advantageous networks (Davies, 1997; Hearn, 1991; Karen, 2002; Pascarella, 2006; Tinto, 1981). Wage and employment premiums seem to be the most definitive outcome, with data citing $2 million dollars in higher lifetime earnings and greater access to professional and managerial professions (Carnevale & Rose, 2013).

The argument is often made that there is a college for everyone – there are plenty of 'seats' available for those who wish to participate in postsecondary education – and that is well supported by data. In 2010, Carnegie Classification data showed that there are 4,633

postsecondary institutions in the United States, with 115 new undergraduate institutions established, which is a 17% increase since the last reported data in 2005. However, it is interesting to note that many of these new institutions are primarily 'Professional focused' or 'Professional plus arts & sciences' institutions, and they award more than 60% of bachelor's degrees in professional fields. Simultaneously, Carnegie also reported a five percent decrease (40 institutions) in the number of institutions with a more traditional, comprehensive liberal arts curriculum.

Another trend is the number of two-year colleges expanding their scope to award bachelor's degrees. In 2010, 'Primarily Associates' colleges (institutions where a bachelor's degree accounts for fewer than 10% of undergraduate degrees) rose 49% from 109 to 162. At the same time, 'Baccalaureate/Associates Colleges' (institutions where bachelor's degrees represent at least 10 % but less than half of undergraduate degrees) rose 23%, from 120 to 147 institutions. Finally, of the newly classified institutions, 77% are from the private, for-profit sector. In contrast, the growth in public institutions and private, not-for-profit institutions have been minimal, accounting for only four percent and 19% of the newly classified institutions, respectively. However, Carnevale and Strohl (2013) argue that, between 1995 and 2009, the increase in college seats occurred in the most selective tiers (78% enrollment increase) as compared with open-access 4-year colleges (21% growth increase). This increased enrollment at the most selective institutions suggests demand for the "highest quality" education possible. As previously noted, net increases at these institutions disproportionately went to White and affluent students.

So here is the paradox: although research suggest some reason to celebrate access to postsecondary education for low-income, first-generation, and URM students, how do we

reconcile issues such as institutional stratification? It is fundamental to address equity issues at all levels and examine which students are steered toward open-access institutions and which are encouraged to pursue more selective institutions. We must question if the expansion within higher education is something to celebrate or if we are simply creating more stratification within the postsecondary system. To paraphrase one researcher, as the number of places in higher education expands, there will naturally be large increases in the amount of education attained but without any change in relative position in the postsecondary system's hierarchy (Karen, 2002).

Institutions are still ordered by prestige and levels of resources, and an institution's place in this order tends to be inversely related to its level of openness; additionally, institutional stratification seems extremely stable over time (Hearn, 1991). The challenge then is to reconcile the notion that there are plenty of 'seats at the higher education table' with the reality that there still tends to be a real advantage for those who are already the most advantaged within the system (Karen, 2002).

It is generally assumed that the key obstacles to accessing selective institutions by low-income, first-generation, and URM students are rigorous admission criteria, as these schools tend to rely heavily on standardized testing and strong academic preparation (Astin, 2004). However, what if there is a companion explanation for the disproportionality of enrollment at selective institutions? McDonough (1997) and Pérez and McDonough (2008) offer compelling evidence that college-bound students shape and perceive their future educational opportunities based not just on academic achievement but also on the social class background, peer and family networks, and high school perception of acceptable institutions.

Students in McDonough's 1997 qualitative study were similar in terms of aptitude (as defined by SAT scores and GPA), gender (all subjects were female), and race (all subjects were White), but their perceived universe of potential college options varied widely based on socioeconomic status. Regardless of how selective (or non-selective) a school is, if it is not in a student's choice set, it is *not* a contender for potential acceptance or enrollment (St. John et al., 1996).

As with enrollment, differences among URM and other underserved groups are evident in the college planning process. Low-income and first-generation students extend the college planning process phases later than their high-income peers, particularly those whose parents have college degrees. Parents who have obtained college degrees often begin coaching their children on the college planning process early in subtle but effective ways by encouraging them to enroll in rigorous coursework, sharing information about diverse types of colleges, and communicating the importance of getting good grades (Chapman, 1981; Hearn, 1991; McDonough, 1997).

In looking at the college choice process specifically for Black students, Chapman et al. (2018) note that parental behavior aligns with the broader literature: parents set high expectations and provide encouragement and support for their children. However, the authors found that Black parents also cited specific concerns for their students – namely, race, community, and successful outcomes. As Freeman (1999) notes, the distinct concerns related to racial issues and racism when Black students are making important college-going decisions add a layer of complexity for families as they navigate the college choice process.

Historical Context: Black Americans and Higher Education in the U.S.

It is estimated that in 1860 there were four million Black enslaved people in the United States (U.S.). In that timeframe, 92% of Black Americans (enslaved and free) lived in the South, and most enslaved people were legally denied access to education (Roebuck & Murty, 1993). Educational opportunity in the North was also limited. Despite tremendous obstacles, people of African descent in America were determined to create educational opportunities for their community (Freeman, 1999; Gasman et al., 2010). Even before the Civil War, three historically Black colleges and universities operated: Cheney University (1837), Lincoln University (1854), and Wilberforce University (1856). Early efforts by churches – both Black and White – such as the Methodist Episcopal Church, African Methodist Episcopal Church, Baptist, Congregationalist, and other denominations saw the chartering of additional private schools for Black students (Allen & Jewell, 2002; Gasman, 2010; Williamson-Lott, 2008). Non-Black religious organizations established colleges or allowed Black Americans limited access to colleges in the North; however, by the Civil War, only 28 Black Americans had received degrees from U.S. colleges and universities. Additionally, some students were granted apprenticeship training in areas where they could serve their respective communities in fields such as law, medicine, education, and ministry (Roebuck & Murty, 1993).

Because educating those who were enslaved was illegal, organized efforts to educate newly freed Blacks in the South are marked as beginning with Emancipation (Drewry & Doermann. 2001; Fleming, 1984). While the end of the Civil War in 1865 saw a turning point for Black Americans in all aspects of life, including higher education, the newly emancipated were given limited agency in shaping their educational experiences or trajectories. Katembo (2007) notes that in the immediate post-Civil War years, Black colleges were founded in one of three

ways: by legislation, by White philanthropists, or by Black organizations. Furthermore, he notes that the academic focus of these schools tended to narrowly offer subjects such as ministry, education, agriculture, or mechanical arts (Katembo, 2007). Between 1865 and 1895, elementary education was provided to southern Black Americans via the Freedman's Bureau in coordination with northern church/mission groups and, immediately after the war, via the Union Army (Freeman, 2010; Bullock, 1967; Roebuck & Murty, 1993;). During this time, more than 200 Black private educational institutions were founded. Some were Normal schools (i.e., schools that focused on teacher education) and others were colleges and universities. The scope of these institutions was primarily limited to basic education, and they functioned with limited expertise and financial support (Roebuck & Murty, 1993). However, it is important to note that some of the most long-standing HBCUs were founded during this time, including Fisk University, Howard University, and Tougaloo College.

Early Federal Policy & Black-serving HEIs

The Morrill Land-Grant College Act (Morrill Act), signed into law by President Abraham Lincoln in 1862, set aside federal land and called for the creation of colleges for the benefit of mechanical and agricultural education (Drewry & Doermann, 2001). This law forged "a new partnership between the federal government and the states to create the backbone for what is today the public system of higher education in America" (Lee & Keys, 2013). The primary purpose of the First Morrill Act was to provide for the education of the industrial class – with a focus on mechanical and agricultural studies without excluding other areas of study such as classical and scientific subjects (Lee & Keys, 2013). The Morrill Act committed federal financial support to states, requiring that funding be matched dollar-for-dollar. As with other public facilities, Black students in southern states could not access these postsecondary institutions.

Publicly funded Black-serving Higher Education Institutions (HEIs) emerged in 1890 with the passing of the Second Morrill Act (Lee & Keys, 2013; Mbajekwe, 2006). This Act mandated that states practicing segregation establish separate agricultural and mechanical schools for Black students or risk losing federal funding (Gasman, 2008). Thus, the Second Morrill Act saw the chartering of additional public land-grant institutions with the mission of research, instruction, and extension service for Black students. (Lee & Keys, 2013; Roebuck & Murty, 1993). The Act also stipulated that these schools receive dollar-for-dollar funding from their respective states; however, these schools typically received less state funding than the segregated institutions (Gasman, 2008). While the Second Morrill Act represented a step forward in terms of access to postsecondary education for Black students, it simultaneously reinforced legal segregation and, unintentionally, entrenched structural inequality by allowing states to underfund Black-serving land-grant institutions via a waiver system (Lee & Keys, 2013). The 1896 *Plessy v. Ferguson* decision cementing "separate but equal" not only affirmed segregation in schooling; it also focused any proposed scope of public higher education on vocational and industrial education for Black Americans over a classical and liberal arts education (Fleming, 1984).

Additionally, at the turn of the century, an internal tension existed in conceptualizing how Black students should be educated. Booker T. Washington advocated for vocational (agricultural and technical) training (Fleming, 1984). Washington, who was educated at Hampton Institute (now Hampton University) and who served as the first principal of Tuskegee Institute (now Tuskegee University), believed that offering Black Americans practical skills – such as agricultural and trade skills – would provide the race with desperately needed economic prosperity (Cantey et al., 2013; Fleming, 1984;).

By contrast, W.E.B. DuBois believed that a traditional liberal arts education was the appropriate pathway to leadership and self-sufficiency for Black people. Educated at both an HBCU (Fisk) and a Predominantly White Institution (Harvard), DuBois held that a Black intellectual class was necessary to lift and lead Black Americans, and he firmly believed that a liberal arts education was the best path forward (Cantey et al., 2013; Willie-LeBreton, 2003). DuBois further argued that an economic path alone would not be adequate for Black Americans. Drewry and Doermann (2001) note, "He believed that without educational and political rights, black Americans would never gain political and social equality, or be able to take advantage of opportunities to establish economic security (p. 65)."

Brown and Lane (2003) cite the considerable influence of both DuBois and Washington on early HBCU curriculum and find that early curriculum tended to balance both industrial and liberal arts education. Additional HBCU curriculum historians such as Bullock (1967), Fleming (1984), and Roebuck & Murty (1993) further add that funding was disproportionally applied to schools that stressed an agricultural and technical education. J. Williams and Ashley (2004) note that philanthropic White southerners tended to support vocational education for Black students and "believed that blacks should aspire to nothing more than agricultural, domestic, and skilled-labor jobs (p. 84)."

Before 1954 and the *Brown v. Board of Education of Topeka, Kansas* ruling, de jure segregation (i.e., legally mandated segregation) was the law of the land (Allen et al., 2007; Gasman, 2010). The *Brown* case, a decisive victory against de jure segregation, was met with such resistance that a subsequent case (referred to as Brown II) compelled courts to mandate the desegregation of schools expeditiously (Gasman, 2010). Court decisions aside, Massey et al.

(2003) note that Black Americans were still largely excluded from higher education in the U.S. until the civil rights movement of the 1960s.

The mid-1960s presented two pivotal pieces of policy that shifted the higher education landscape for Black Americans and other underrepresented minority students. First, the Civil Rights Act of 1964, signed into law by President Lyndon Johnson on July 2, 1964, prohibited discrimination based on race, color, religion, sex, or national origin. This broad-based legislation was critical in providing legal protections to millions of young adults who were barred from fair and equal treatment in all aspects of life, including K-12 and higher education. Second, in January 1965, President Johnson declared higher education a necessity, not a luxury. The subsequent introduction of the Higher Education Act of 1965, signed into law later that year, was designed to make the vision a reality by strengthening higher education resources and providing financial assistance for students in higher education (http://acsc.lib.udel.edu/exhibits/show/legislation/higher-education-act). While these pieces of legislation were a critical start to broadening access to higher education, it would be years before the goal of school desegregation was realized, and parity and equity still elude many campuses.

Legislation and advocacy enacted in the 1960s brought dramatic shifts in access to public accommodation and higher education. Research by Massey et al. (2003) indicates efforts in higher education – and elite institutions - dramatically shifted the landscape of higher education through the enactment of outreach and affirmative action, thus altering the range of choice options for Black students and other underrepresented minorities through the 1990s, and beyond.

HBCUs: Current Context

As should be evident from the historical context presented above, before the 1960s, historically Black colleges were the primary option for Black Americans to access and attain higher education (Drewry & Doermann. 2001). According to Mbajekwe (2006), in 1928, the number of Black college students was 12,000. This number stood at 74,000 in 1950. This increase directly correlates to the increased establishment of black-serving HEIs during this timeframe. In fact, many scholars credit Black-serving HEIs for shaping educational opportunities for generations of Black Americans. As Mbajekwe (2006) states, "The black college was single-handedly responsible for shaping the educational opportunities available to young blacks. By raising the level of education in the black community, black colleges made vital contributions to the African American political struggle for justice and equality (p. 7)."

The Higher Education Act of 1965 defines a Historically Black Colleges and University (HBCU) as an accredited academic institution established prior to 1964, whose principal mission was, and is, the education of Black students (Roebuck & Murty, 1993). National Center for Education Statistics 2020 data cites that there are currently 101 accredited HBCUs serving nearly 300,000 undergraduate and graduate students. Of these 101 schools, 42 are public, 4-year; 48 are private, 4-year; 10 are public, 2-year (or less); and one is private, 2-year (or less). Currently, these schools are spread across 19 states, the District of Columbia, and the U.S. Virgin Islands. Brown and Lane (2003) remind us that these 101 schools are not monolithic and – like predominantly White institutions (PWIs) – vary by mission, curricular offerings, size, institution type, geography, funding sources, governance structure, and leadership. While HBCUs are often discussed collectively, recognizing the distinct nature of each school is critically important.

The value of HBCUs – both student and societal – has been extensively written about in the literature. Allen et al. (2007) and Katembo (2007) note the impact that HBCUs have had on producing the significant percentages of Black Americans in corporate America. However, since *Brown v. Board*, HBCU enrollment (by percentage) has shifted downward (Palmer and Wood, 2012). A 2005 study by the Thurgood Marshall Scholarship Fund found that in the early 1950s, approximately 90% of Black students attended HBCUs for postsecondary education. By the early 2000s, that figure dropped to approximately 18% (Ashley & J. Williams, 2005).

Enrollment shifts notwithstanding, the impact that HBCUs have had on educating Black students cannot be overemphasized. A 2019 issue brief jointly published by the American Council on Education (ACE) and United Negro College Fund (UNCF) notes that HBCUs account for approximately three percent of public and private IHEs, but they account for 17% of bachelor's degrees awarded to Black students (K.L. Williams & Davis, 2019). Furthermore, when looking at STEM degrees, it is estimated that HBCUs produce nearly one-fourth of Black STEM-discipline baccalaureates (K.L. Williams & Preston, forthcoming). Looking specifically at Black physicians and dentists, J. Williams and Ashley (2004) cite that HBCUs produce 70% of these professionals. Additionally, the research of Nathenson et al. (2019) show that, at the individual level, attending an HBCU leads to high social mobility for students from lower-income backgrounds – with nearly 70% of these students reaching at least middle-income status. These data points clearly illustrate the consistent, vital nature of HBCUs to the overall higher education infrastructure.

Student College Choice

It is in this historical and current context that Black students have been making choices about whether and where to attend college. Student college choice concerns the range of

postsecondary educational decisions, and the stages individuals go through as they move from contemplation to decision. At its most basic definition, college choice must include at least these two primary factors: the decision of students to continue their educations at the postsecondary level and the decision to enroll in a specific postsecondary institution (Hossler & Stage, 1992). Typically, as noted previously, this basic definition of college choice is broken into a three-stage model that includes predisposition, search, and choice.

Through the years, college choice theorists have advanced several perspectives to explain the nuances of the college choice process including, econometric, consumer, sociological status attainment, and combined models. While each of these approaches is briefly defined, much of the literature discussed in this section is rooted in sociological status attainment and combined approaches as this literature is more relevant to higher education policy and practice. As is implied by the term 'combined,' many of the concepts from each perspective are seen interchangeably across model types, and each approach postulates that specific factors determine the outcomes of college choice (Hossler & Stage, 1992).

Econometric studies (or economic studies) are based on human capital and economic demand theory and presume that an individual student will enroll in college if the perceived benefits outweigh the non-college alternatives (Hossler & Stage, 1992; Hu & Hossler, 2000). From this lens, college choice is a simple investment decision predicated on the idea that a student approaches college choice primarily thinking of utility and cost versus benefit or quality (Hossler et al., 1999; McDonough, 1997; Manski & Wise, 1983). The final presumption is that students have near-perfect information and will act rationally to maximize utilities. While this approach to college choice is theoretically possible, it is more likely that students often lack

perfect information surrounding the process and economics alone are not sufficient to understand college choice (Hossler et al., 1999).

The influence of the economic theoretical framework can most directly be seen in the use of parent income and education level as crucial factors in college choice research. One obvious flaw with economic models is that students and their families do not always behave rationally, particularly given the high pressure associated with college admission. It is often the case that families are balancing competing priorities in the decision-making process. In short, more nuanced factors are at play than those considered in econometric studies that are influential in a student's decision-making.

Consumer models of college choice assume a marketing perspective and, like econometric models, tend to approach college choice from the lens of cost/benefit and risk analysis and assume that consumers – depending on their preferences – will have different price sensitivities in their decision-making (Hossler & Stage, 1992; Hu & Hossler, 2000; McDonough, 1994). One consumer model developed by Kotler and Fox (1985) outlined a four-stage consumer model, which included: need arousal (making the initial decision to investigate colleges), information gathering, decision evaluation (narrowing down choices), and decision execution (choosing one institution over another). Consumer models are seldom seen as stand-alone models in education literature, but they have influenced aspects of combined models.

Sociological models, also called sociological status-attainment models, are derivatives of status attainment research and focus on aspirations for college attendance (Hossler & Stage, 1992; St. John et al., 1996). Sociologists focus on how personal, social, academic, and financial factors influence the development and distribution of status in society (Sewell & Shah, 1968; St.

John et al., 1996). Given these roots in sociology, the status attainment process is concerned with the role a range of factors play in allocating individual positions or occupations of varying degrees of prestige or status (Sewell & Shah, 1968; Stage & Hossler, 1989).

The early research of Sewell and Shah (1968), which examined social class and aspiration formation and assumed that students from higher class backgrounds would have higher educational aspirations, was influential in the development of status attainment theory. Their research also examined parental encouragement, aspirations, and socioeconomic status as important antecedents of educational outcomes. Status attainment theory directly applies to education literature in that it is utilized to examine how traditional-age college students actualize their postsecondary aspirations. Sociological status attainment models are most concerned with how socialization processes, family conditions, interactions with peers, and school environments help shape a student's college choices (Hossler et al., 1999). It should be noted that status attainment research is more helpful in illuminating the educational process of aggregated groups of students who are grouped by ethnicity, social class, and ability; as contrasted with the work of college choice theorists, who focus on the individual student experience as they navigate the process of college consideration and choice (McDonough, 1994).

Combined college choice models give the researcher the advantage of considering relevant variables from both the sociological and economic perspectives – retaining the behavioral values associated with economics and the sociological aspects related to aspiration formation. The key distinction between combined models and those of status attainment or economics is that the combined model attempts to describe economic and social forces so that it becomes possible to find opportunities for intervention in the student college choice process (Hossler et al., 1989).

Examples of combined three-stage models include Jackson, (1982); Hanson and Litten (1982); and Hossler and Gallagher (1987), while other researchers have proposed models between five and seven stages. The significant difference between these models lies in how relatively similar concepts are explicated and how the causal model is structured (Hossler et al., 1989). The most prevalent college choice model cited in higher education literature is the Hossler and Gallagher model, which draws heavily from sociological status attainment and economic traditions. This three-stage model of predisposition, search, and choice is outlined in detail below.

The first phase of the Hossler and Gallagher Combined College Choice Model, predisposition, is defined as the point at which familial, societal, and economic factors spark a student's desire to continue formal education after high school and is marked by the development of occupational and educational aspirations (Cabrera & La Nasa, 2000; Flint, 1992; Stage & Hossler, 1989). Research indicates that most students formalize their educational plans between seventh and tenth grade (Cabrera & La Nasa, 2000; Hossler & Stage, 1992; Hossler et al., 1999). By ninth grade, students begin to cite concrete reasons for attending college (such as a desire to obtain employment) and have started to turn aspirations into a decision to attend a college. Status attainment research has contributed significantly to the predisposition phase of the model through the depth of prior work related to college aspiration formation (St. John et al., 1996).

The process of considering types of postsecondary institutions to apply to is the emphasis of the second phase, the search phase. This stage involves the accumulation and assimilation of information necessary for a student to develop a "short-list" of institutions under serious consideration (Cabrera & La Nasa, 2000; Flint, 1992; Hossler & Stage, 1992). At this stage, parents continue to play a critical role through their support and encouragement of the student.

Additionally, students begin to engage with institutions actively and process information through web searches, college visits, and dialogue with peers. It is also in the search stage where students cite concrete institutional characteristics that are of consideration in their search process, leading to the important formation of college choice sets.

The specific formation of a college choice set is often overlooked in the research literature, but the research of Flint (1992) and Tierney (1983) has done much to provide some context in this arena. Flint, building on the work of Tierney, identified the five most cited institutional characteristics that students seek, which provide a baseline for college set formation as: 1) selectivity, which can be described as the degree of difficulty a student will face in seeking admission to an institution; 2) highest degree offering, which relates to future career aspirations and is connected to institutional prestige; 3) proximity, which can function as a measure of familiarity for institutions that are close or reputation for institutions that are far away; 4) enrollment size, which relates to the social atmosphere (intimacy/anonymity), diversity, and opportunities; and 5) tuition, which impacts a family's perception of affordability and is a significant factor for a student in making the final choice of which college to attend.

The final stage in the college choice process is that of choice, where the student applies to and selects from the available institutions to which they are admitted. It is where a student transitions from college set formation to apply to specific institutions. A sociological lens considers how a high school senior's socioeconomic characteristics and academic preparation predispose enrollment in a certain type of college and aspiration for a certain level of postsecondary education (Cabrera & La Nasa, 2000).

Expansions of the Hossler and Gallagher model include a revised framework by Radford (2013), who expands the model to six stages: predisposition, preparation, exploration, application, admissions, and matriculation. Additionally, Radford limits the scope of the search phase (and renames it 'exploration') to include active information gathering regarding the college admissions process, the financial aid process, and specific college options. The most significant expansions to the model are found in the choice stage. It is here where Radford separates application, admission, and matriculation into three distinct phases in the process. Radford's division of the application and admission stages is most useful, as the type of questions students may have during these stages will vary. As the researcher points out, issues of financing and cost may weigh much heavier on a student at the admission stage than at the application stage. Given the depth of research and conceptual thinking related to student college choice, a detailed outlining of the salient components that have been identified in the process and are described below.

Factors influencing the College Choice Process

Many factors contribute to students' decisions about where to apply and attend college. This section considers eight of the most significant. These are:

- Parental Aspirations, Encouragement, Support, and Involvement
- Socioeconomic Status (SES)
- Financial Preparation and Savings
- Race and Ethnicity
- Gender
- Student Educational Aspirations
- School Quality and Academic Track

- Student Academic Achievement

Parental Aspirations, Encouragement, Support, and Involvement

Extensive literature establishes the importance of parental encouragement and aspirations for a student as pivotal in all stages of the college choice process. The influence is viewed as so strong that it is often cited as a predictor of postsecondary educational attainment (Cabrera & La Nasa, 2000; Falsey & Heyns, 1984; Kim, 2005; Sewell & Shah, 1978; Stage & Hossler, 1989). Research also affirms the influential role of parents in the college choice process and acknowledges that parents have a heavy influence on college plans (Flint, 1992; Hossler et al., 1999; Perna & Titus, 2005).

Parental roles can be subdivided into three components: influence, encouragement, and support (Hossler et al., 1999). Influence is the most nuanced of these components and sends cues to students regarding important decisions such as institutional cost, proximity to family, and quality/reputation. These cues direct students to affirm the decision to attend college early in life and can set the course of a student's academic trajectory in high school. Accordingly, research indicates that influence is most salient before high school. Once a student is solidly underway on the educational path, parental influence becomes less important (Hossler et al., 1989).

Parental encouragement includes factors such as attitude, consistency, and congruence. Attitude and consistency ensure that parents are constant supporters of students and that decisions are met positively. Congruence encompasses how a family aligns around decisions that are being made – e.g., how do parents' ideas of the 'right' college match up with the student's definition of the 'right' college? Unlike influence, parental encouragement remains important at all stages in a student's college choice process (Hossler et al., 1999).

Parental support is defined as the outward, tangible steps that a parent demonstrates in preparation for their child to attend college. Parental support includes components such as having a college savings plan in place; helping with filling out financial aid forms; and aiding with finalizing college applications. Parental support is critical in the latter stages of the college choice process; though it is also possible that beginning some of these steps early (e.g., establishing a college savings plan) are important (Hossler et al., 1989).

Finally, parental involvement – often conceptualized as a combination of parent-student involvement, parent-school involvement, and parent-parent involvement – is also often tied to student achievement and educational opportunities (Tierney & Auerbach, 2005). Perna and Titus (2005) conceptualized parental involvement as a form of social capital, which provides "access to resources that could aid in college enrollment" (p. 487). Highly involved parents participate fully in all aspects of their student's education, including attending parent-teacher conferences, open houses, and school volunteer opportunities. Not only does participation indicate support for both the student and the school, involved parents often become influential with the school's leadership and can potentially shape important policies related to academics and school culture (Stewart, 2008). Parental involvement is also considered to be particularly important for low-income, first-generation students, and students of color and is often an integral component of pre-college programs (such as TRIO Programs and GEAR UP) as these programs often provide additional structural support for both parents and students as they navigate the path towards postsecondary education.

Socioeconomic Status

Research demonstrates that socioeconomic status is strongly associated with postsecondary education attendance and impacts all phases of the college choice process (Chapman, 1981; Hossler et al., 1989). Socioeconomic status (SES) is commonly conceptualized as a combination of father's education, mother's education, and income. Although its impact is widely accepted, the way SES impacts families through the college choice process is not always fully understood. For instance, one would assume that SES would exert more influence in the 'choice' phase of the process when final decisions are made, deposits are placed, and financial realities kick in. However, according to Hurtado et al. (1997), SES exerts a heavier influence on the 'search' phase of the process. Utilizing the NELS:88 data set, Hurtado and colleagues found that socioeconomic status negatively impacted lower SES White students, as they tended to apply to fewer and less competitive schools than their higher SES counterparts. Hispanic/Latinx students seemed most negatively impacted by socioeconomic differences, with 75% of lower-income Latinx students indicating that they had only applied to one college or that they did not intend to apply to college at all (Hurtado et al., 1997).

In addition to students from higher SES families being more likely to enroll in 4-year colleges at greater rates, research shows that these students benefit from parental and strategic guidance toward more selective colleges.

Espenshade and Radford (2009) state:

> "Throughout the search phase, high SES parents are more likely to pay for test preparation courses, take trips to visit colleges the summer before their children's senior year, know how and when to interact with school guidance counselors about the college choice process, and hire an independent counselor to assist in selecting schools and preparing applications (p. 19)."

Not surprisingly, these students tend to apply to and enroll in a wider array of institution types, and particularly highly selective institutions (Chapman, 1981; Hurtado et al., 1997). Thus, socioeconomic status can be directly seen at play in all stages of the student college choice process but most acutely in the 'search' phase.

Research also notes a positive relationship between the level of parental education and a student's predisposition to attend college (Hossler & Stage, 1987; Manski & Wise, 1983; Stage & Hossler, 1989). Students whose parents attended college began the college planning process earlier, giving them an advantage in both information-gathering and preparation. When considering parental education and race, more differences become apparent. For Black students, mother's level of education exerted an especially strong influence and was twice as powerful as what was detected for White counterparts – with mother's level of education being strongly, positively associated with student predisposition to attend college (Jackson, 1990).

Research consistently notes that parental education level has impacted students' early college planning. Litten (1982) indicated that students whose parents had some level of college education tended to identify the colleges they would apply to no later than the fall of senior year, while first-generation students did not. Additionally, non-first-generation students tended to rely less on school resources (such as guidance counseling) for college information.

McDonough (1994) found that high SES students expend extensive monetary resources to increase their attractiveness as college applicants. According to McDonough, these students and parents typically felt entitled to admission to more elite universities; utilized the resources of private college counselors more readily; were more knowledgeable of college costs; and were less constrained by geographic barriers in searching for the best fit institution. High SES students also tended to have more schools in their choice set and held consistently high aspirations for themselves – even students with only slightly above average academic backgrounds. McDonough notes that, in contrast, students from low SES schools and more modest family means tended to limit the range of institutions considered and consistently narrowed their prospects when contemplating college options.

Financial Preparation and Saving

Research suggests that a student's socioeconomic background also impacts another factor in the college choice process – that of financial preparation and savings. In very practical terms, socioeconomic background and, specifically, family income, play a significant role in a family's ability to save and tangibly invest in postsecondary education (Hossler & Vesper, 1993; St. John et al., 1996). Hossler and Vesper (1993) propose that parental savings for postsecondary education is influenced by a combined function of ability to save, parental motivation to save, parental aspirations for their child, and the perceived ability of their child to benefit from higher education. They found that information and knowledge about college costs were also a significant factor in saving, regardless of other background characteristics. This is promising in that lower-income families have some incentive to begin preparing financially for their child's education if college cost information can be shared and reinforced consistently and meaningfully. This, coupled with colleges and universities demonstrating and communicating an

institutional commitment to affordability for lower-income families, could positively impact enrollment, matriculation, and graduation.

Saving and preparation aside, a more recent line of inquiry has focused on the 'willingness' of families to pay for postsecondary education. Hu and Hossler (2000) specifically considered middle-income families and their preference for private institutions and found that family income had no significant effect on student preference for postsecondary institution type and that availability of resources and willingness to pay were two different issues. Additionally, families were generally more open to high tuition, high aid models in the private school context than in the public institution context. Interestingly, expense and income were not the primary drivers in these enrollment decisions. The most salient, positive influences on enrollment at a private postsecondary school included mother's education (particularly postgraduate education) and strong secondary education preparation.

Race and Ethnicity

A 2009 American Council on Education report noted that college enrollment rates have improved for all ethnic groups from the period of 1996 to 2006; however, in looking more closely at the data and where these gains were made, the report noted that the private for-profit sector netted the largest increases for students of color. The report estimates that the rate of Black student enrollment in for-profit schools, which are generally considered 'open enrollment' schools, increased 412% from 1996 to 2006, which is nearly double the percent change for White students; more than 100 percentage points higher than the rate of increase in enrollment for Hispanic/Latinx Students; and more than 200 percentage points higher than the rate of growth for Asian American students.

In terms of overall college enrollment rates, White students had both the highest enrollment rates and the largest gains, while Black and Hispanic/Latinx students made smaller gains (American Council on Education, 2009). The distinction between the type of school a student enrolls in is important. As previously noted, Carnevale and Rose (2003, 2013) state that selective colleges/universities often spend four-five times more per pupil than less selective colleges. As of 2013, the additional per-pupil subsidy is estimated to be over $25,000, which equates to smaller classes, additional academic support, and advising services.

Perna (2000) summarized existing literature on the role of race in college choice and noted several important trends. First, when controlling for financial aid, Black applicants were less likely to enroll in college than White peers. Second, Black students were also less likely to enroll in highly selective colleges and universities than their White peers. Third, Black students were less likely than White students to attend their first-choice colleges. Most important to this study, the process that students underwent tended to vary by race and ethnicity (Perna, 2000).

Building on some of Perna's findings, Freeman (2007) conducted focus group sessions with Black students in grades 10 through 12 at various school types including inner-city, suburban, magnet, and private/independent schools to gain insight into the reasons why these students might opt out of postsecondary education. Citing a range of barriers, including economic and psychological, Freeman noted several important themes. First, students attending inner-city schools were focused heavily on finances, citing the need to make money immediately after high school, not seeing the long-term economic value of obtaining a college degree, or the fact that they simply did not have the funds to attend college.

The second theme noted was related to aspiration formation. Students indicated that college was rarely presented as an option by a significant adult such as a parent or teacher. Related to this second theme was an overall sense of hopelessness expressed by students surrounding the lack of inspiration and negative influences present in their respective schools. The final theme that emerged from Freeman's research was the sense of intimidation that students felt when considering colleges. Students who were enrolled in high schools that had large minority populations reported feelings of everything from "turned off" to "not comfortable" after visiting a PWI.

Research that considers steps in the college choice process often notes differences in the process based on race/ethnicity. In comparing Black students with White students, early research by Litten (1982) indicated that Black students tended to start the college choice process later, conducted it over an extended period, and completed the process later than White students. Black students also considered more schools than did their White counterparts and relied less on parental support in the process (Litten, 1982). Recent literature, however, points to more a nuanced and intersectional approach for these students, one that shows differentiation based on SES and accumulated capital a student might possess via elite high schools or high-touch pre-college experiences (Jack, 2015).

Sex

In looking at 10-year trends, a 2015 National Center for Education Statistics (NCES) report cited female enrollment in higher education at 56%. They noted, however, that male enrollment rates outpaced female enrollment rates between 2005 and 2015, with the rate of female enrollment rising by 12% and the rate of male student enrollment rising by 17%. For

Black students, the gap between male and female enrollment rates is larger. Citing Census statistics, Smith and Fleming (2006) note that the first-time Black male enrollment number was 179,000 compared with Black female enrollment at 265,000. Additionally, by degree conferral, women also outpace men. NCES (2019) data show that across all racial/ethnic groups, female students earned the most certificates, associate degrees, and bachelor's degrees. Broken down by race/ethnicity, women earned 64% of baccalaureate degrees awarded to Black students. In fact, there was no single racial/ethnic group where women did not outpace men in terms of baccalaureate degree conferral.

With this data in mind, the research literature has historically been mixed in how to explain the role of gender in the college choice process. Stage and Hossler suggest that there are differences in how parents influence male versus female students. Female students tended to think about going to college more, but male students received more family support. In terms of direct effects, father's level of education was strongly and positively correlated with outcomes for males. In particular, the researchers noted a strong association with activities such as talking about college plans and saving for postsecondary education, and this impact was seen most during the predisposition stage of the process. However, when it comes to actual enrollment, mother's education was the most pervasive predictor (Hossler & Stage, 1992).

For Black students, the qualitative work of Smith and Fleming (2006) noted stark gender differences, with parents believing 4-year college attendance to be the best and logical next step for their daughters while only seeing it as one of several plausible options for their sons. The authors posit this might be because parents feared dependence over all else for their daughters and believe a college trajectory will best mitigate dependence. For sons, parents were more concerned with actions that could lead their son toward any negative or unsafe interaction. Early

research by Litten (1982), however, states that the impact of gender is minimal throughout the entire college choice process. Both women and men started the information gathering process at the same time, but women began the application process earlier and were more likely to seek early action in college admission at highly selective institutions.

Student Educational Aspirations

Educational aspirations remain an important predictor of eventual education and occupational success (Kao & Thompson, 2003). Some researchers suggest that high aspirations are an accurate sign that students are more likely to enroll in college. In contrast, others argue that an accurate measure of educational aspiration does not necessarily lead to enrollment. As Kao and Tienda (1998) explain, a key point of contention on the role of aspirations goes back to the origins of status-attainment research, with the central question being whether aspirations are a cognitive state (e.g., a desire to strive for success) or simply rational assessments of the costs and benefits of action (e.g., material resources are the driver of behavior).

High educational aspirations are noted as important in the research literature and are related to eventual educational attainment and occupational success. However, some researchers have also stated that, for minority youth, aspirations alone are insufficient for achievement and later attainment (Solorzano, 1992). Utilizing the NELS:88 data set, Solorzano found that Black students stated higher aspirations than their White peers at nearly all income levels; however, there is still data pointing to gaps in actual attainment. Allen et al. (1991) note that Black students have similar educational aspirations as their White counterparts but are less likely to attain their aspirations. This certainly is borne out across the literature as there remains a contrast

between those expressing a desire for postsecondary educational attainment and actual enrollment, and racial disparities remain evident.

School Quality and Academic Track

High school quality is often examined in the context of public, Catholic, and independent/private schools. Research by Coleman et al. (1981) brought widespread controversy in their claims that Catholic schools provided better outcomes for students than public schools. Through a series of rebuttal articles, these claims were only partially supported when large, national data sets were utilized (Alexander & Pallas, 1983; Falsey & Heyns, 1984; Morgan, 1983). However, there remains some merit to the notion that, in terms of postsecondary enrollment, school quality and academic track matter – particularly as it relates to students having higher expectations for educational attainment (Morgan, 1983). Additionally, research suggests that these gains may be greatest for Black and Hispanic/Latinx students – particularly those in urban environments or where public schools are not as effective (Neal, 1998).

Research further suggests that organizational structure and cultural differences between public, private/independent, and Catholic schools affect college planning and postsecondary enrollment for students (Datnow & Cooper, 1997; Falsey & Heyns, 1984; McDonough, 1997). One key distinction between public and private schools is the internal structure, size, and organizational mission. Small enrollment numbers at independent/private schools, combined with targeted attention on college counseling and planning, lead to greater opportunities for staff to fully support students as they search for colleges and make the best possible postsecondary matches. In terms of sheer numbers alone, independent/private schools have an average

counselor ratio of 1.6 counselors for every 10 students, contrasted with public schools where the average ratio is 1.3 for every 100 students (Falsey & Heyns, 1984).

In looking at the college choice process for Black students, Freeman (1997) discussed the importance of strong elementary and secondary school environments. For first-generation students, the school system plays a critical role in their postsecondary success. Describing a process of channeling or environmental forces that influence a student's college planning, Freeman posits that teachers and counselors have significant impact on the student college choice process and asserts that having 'identifiable adults' is a critical factor in this process. As articulated by one student (who attended an independent/private school) in her study:

> "You know, I had teachers who, like, were strong. They motivated you to do your work and helped you a lot. I think some schools in the Black community, they don't have enough money that will teach the kids; so, you know, the teachers don't want to teach it, then it is not good material, and the students don't want to learn. So, I think it is like you got to get your money together, put it in the schools where it counts, you know, and help these kids (Freeman, p. 542)."

It would be inaccurate and simplistic to state that all private/independent schools are better than public schools. There are many wonderful public schools, and there are private/independent schools that are lacking. However, research by Morgan (1983) and McDonough (1997) suggests that school type (e.g., public/private, urban/suburban) makes a difference in the predisposition and search phases of the college choice process with outcomes for independent school students and those on a college-prep academic track in high school being strongest. It should be stated, however, that the research on public and private schools is often revisited regarding academic outcomes and postsecondary trajectories (Cain & Goldberger,

1983). This is often due to concerns about small sample sizes from within these schools that lead to concerns surrounding the generalizability of findings.

Student Academic Achievement

Academic achievement is a crucial factor in postsecondary attainment; however, research does not agree on how important achievement and ability are throughout the college choice process. Furthermore, achievement and ability are often tied to other key factors in a student's high school experience, such as peer associations, parental school involvement, and school environment (Stewart, 2008). Utilizing the NELS:88 data set and examining individual and school structural effects, Stewart determined that school attachment and commitment had a positive effect on a student's commitment to school and GPA. Additionally, positive peer associations were correlated with academic achievement.

How academic achievement shapes postsecondary outcomes can be seen at several critical junctures in the college choice process. Academic ability and aptitude play a significant role overall in a student's decision to enroll in college, although research is inconsistent about whether ability or SES have a stronger influence (Hossler et al.,1989). Additionally, academic ability tends to play a role in how a student shapes his or her college choice sets. It is thought that students seek an institution where their perceived academic abilities align with others on campus, which directs them toward applying to a particular college. Colleges, in turn, will often publish median class rankings, GPAs, and test scores as a signal to high-ability students (Chapman, 1981).

Manski and Wise (1983) explored the relationship between academic achievement, application, and enrollment in 4-year institutions through their work with the 1972 National

Longitudinal Study data set. By utilizing probability estimates, they determined that for lower achieving students, the probability of admission is much higher than the probability of application. Most students who are considered lower performing will simply 'opt out' of the college application process altogether. If those students did apply, their likelihood of admission to some form of higher education was higher than expected.

In comparing single-parent versus dual-parent households, Battle (1998) notes that there is no statistically significant difference between the two kinds of households for families at the mean SES level. However, SES explains more of the variance in academic achievement for Black students at both the highest and lowest SES levels. For instance, in the case of families at the lowest end of the SES spectrum, students from single-parent families scored higher on achievement tests than did students with two parents in the household. At the highest end SES levels, students from dual-income families significantly outscored their counterparts. The researchers found the results at the highest SES level aligned with prior research, given the relationship between high SES families, parental involvement, and academic achievement.

Black Students and College Choice

While the literature has long pointed to disparities in postsecondary access between URM students broadly speaking, research has not always disaggregated URM students for race/ethnicity-specific research. Scholars, however, are increasingly acknowledging that the college choice process is not a 'one-size-fits-all approach' for URM students. Acknowledging that race matters in all aspects of life – including the college choice process – has opened new directions for scholars to explicitly center race as a potential differentiator in how Black students and families approach the college choice process.

In looking at the role of parental involvement in the college choice process, Chapman et al. (2018) found that Black parents began speaking with and exposing their children to higher education in the early elementary school years. Parents were also explicit in calling out social and financial mobility as a key reason to attend college. Additionally, in helping their children navigate the process, the researchers found that parental perceptions of race and racism were factors in how they approached the college choice process.

When race is held constant, additional personal background characteristics were brought to the forefront. For instance, the researchers found differences in how parents approached the process based on being a first-generation college bound family versus second- and third-generation families. Chapman et al., (2018) further noted that, when considering college prestige, second- and third-generation parents "privileged college reputation over cost as part of their overall investment in the child's future success and were willing to pay for a top-tier institution (p. 43)." This is not altogether surprising given that families who have had access to higher education for multiple generations might also have increased financial capacity to afford a 'top-tier' college.

Kassie Freeman has long argued that theoretical models often fail to show outcomes for Black students as there is a lack of understanding of Black Americans' unique culture and history in the United States (Freeman, 1999). Lacy (2007), with the introduction of social class/SES distinctions within this racial group, further illustrates the complexities of viewing Black student college choice as a monolithic decision-making process. What remains to be seen is how the intersections of race, SES, and accumulated capital play out in all phases of the college choice process.

Research has consistently shown strong academic and social adjustment for Black students attending HBCUs (Fleming, 2004). Johnson (2018) found three overarching factors that contributed to students' decisions to attend HBCUs, including personal connections (e.g., family/legacy ties), desire to be in a predominantly Black environment, and cultural exploration. In her qualitative study, Williams (2018) found that alumni influence was the most significant factor leading to HBCU application and enrollment. Additionally, Williams and Palmer (2019) found that recent racial climate issues at PWIs – particularly from 2015 to the present – have led to a resurgence of Black students choosing HBCUs over PWIs. Citing emotional labor and racial battle fatigue throughout middle and high school, Black students have verbalized their prioritization of community, campus climate, and affirming cultures above other factors in their college search process (Johnson, 2018; Williams & Palmer, 2019). Finally, in looking specifically at high achieving Black students, Fleming (2004) notes, "In black colleges, high achievers can more often look forward to higher self-esteem and enjoy the better performance consistent with their abilities (p. 48)."

It should be evident from the overall description of student college choice and the factors presented above that the process is dynamic and complex. In some regards, it does this work a disservice to isolate the factors presented above, as several of these factors closely relate to each other. For instance, the work of Chapman (1981) reminds us that SES is linked to educational aspirations and expectations, which connect to college choice. Race and ethnicity, in turn, tend to correlate with SES. School quality and academic track are also often highly related to race/ethnicity and SES.

It should also be noted that several factors in the college choice process were not included in the discussion above. These include peer support/encouragement and encouragement

from high school counselors/teachers. While these factors are important, in this study, they are encapsulated within the context of school culture and climate.

Social and Cultural Capital

In 1986, French sociologist Pierre Bourdieu published *The Forms of Capital* and described three forms of capital – economic, social, and cultural capital. Two of these (social and cultural capital) have been adopted and deeply integrated into educational equity and status attainment literature. Social capital and cultural capital are resources that may be utilized to enhance profitability, promote productivity, and facilitate upward mobility (Perna, 2000). While sociological concepts of cultural and social capital originated as early as 1920, its theoretical development is most frequently credited to Bourdieu's mid-1980 publication and then to American sociologist James Coleman and his research from late-1980 to 2000.

Social capital relates to social obligations or connections that can be accessed and converted in certain situations. Bourdieu (1986) defines social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (p. 248). Social capital is relationship-based; it is activated by resources based on group membership, relationships, networks of influence, and support.

Building on Bourdieu's three sources of human capital and the interactions between them, Coleman (1988) focused on the role of social capital and how it translates into human capital. Coleman considers social capital a construct that comes through in relations among people who facilitate action. He further detailed three forms of social capital that are useful in the context of educational attainment: obligations and expectations, information channels, and social

norms. Utilizing High School and Beyond (HS&B) data for his research, he found that social capital within the family and outside (through the adult community connected with the school) was a factor in reducing the likelihood of dropping out of school.

Coleman found that within the family context, norms, expectations, and adult attention had significant impact on the likelihood of dropping out of high school between spring of the sophomore year and spring of the senior year. In the school context, Coleman also examined school control (public, religious private, and private/independent) to explore social capital and its impact on dropping out of school. While dropout rates were not significantly different between independent and public schools, they were lower for Catholic schools, which Coleman argued were due to intergenerational closure – or a school's ability to provide a village of support for students and ensure success for more students in the community.

While Bourdieu and Coleman are two of the most influential researchers related to social and cultural capital, an important distinction should be made: Coleman's concept of social capital focuses primarily on network closure and resources within the family and community. In contrast, Bourdieu's perspective focuses on differential access to institutional resources. Additionally, Bourdieu largely views social capital as a tool for reinforcing the dominance of the elite social class (Dika & Singh, 2002; Kim & Schneider, 2005).

Lareau (1987) took a different approach to examining cultural capital. Through her qualitative work in two communities - one that was ethnically diverse and primarily working-class and the other mostly White and primarily upper-middle-class - she detected significant differences in attendance at school events such as parent-teacher conferences, open houses, and classroom volunteer requests. Lareau reported that the skew of participation was overwhelmingly

in the direction of parents from the upper-middle-class community (often by a three-to-one ratio).

Additionally, Lareau observed differences in the quality of interaction between parents and teachers at both schools. At Prescott School, located in the upper-middle-class community, the interactions tended to be more frequent, centered on academics, and informal. Parents carefully tracked their child's academic progress and often asked for additional work and resources to keep their students challenged. By contrast, Colton School's parents, who tended to be from working-class backgrounds, rarely initiated contact with teachers, and, when they did, their questions were non-academic and more related to day-to-day logistical questions such as schedules, field trips, and lunch. Despite the desire of working-class parents to actively participate and engage in their children's educational experiences, there were barriers that were difficult for them to overcome. Ultimately, Lareau's work supported Bourdieu's idea that social class position and class culture can emerge as forms of cultural capital in school settings (Lareau, 1987).

Kim and Schneider (2005) used social capital theory in examining the transition from high school to postsecondary education. To explore activities families undertake that may unintentionally disadvantage students, the researchers proposed a new way of thinking about parent-student interactions and goals that support the enacting of social capital. They presented the concept of *aligned ambition* and defined it as matching parent and student goals. In this construction, "Functionally specific actions by parents are examined. When actions taken by parents are critically associated with the realization of their adolescents' aspirations, we define them as aligned actions (p. 1183)." Kim and Schneider maintain that aspirations should be concrete as well as linked to real world knowledge, information, and resources. Using

multinomial logistic regression to estimate the odds of matriculation at postsecondary institutions, the researchers found that alignment between student and parent on postsecondary goals was a strong predictor of students enrolling in selective institutions.

Looking specifically at the role of parental involvement, Perna and Titus (2005) sought to test parental involvement as a form of social capital with particular interest on differences between Black and White students. Using multilevel multinomial analysis, they demonstrated that parental involvement is related to college enrollment when controlling for race, sex, and economic factors. However, both Black and Hispanic/Latinx students demonstrated smaller shares of enrollment than White and Asian students. While the chances of enrolling in a 4-year college or university generally increase with parent student discussions, Perna and Titus found that this effect was not as strong for Black students. However, the researchers did find support for Coleman's theory of conceptualizing parent involvement as social capital.

Dika and Singh (2002) synthesized social and cultural capital literature applications from the late 1990 through 2001 and were largely critical of the wholesale adoption of cultural capital as conceptualized by Coleman. They also detected a trend in research that heavily focused on minority and underrepresented groups as a potential framework to understand disproportionality in educational outcomes. These studies tended to rely heavily on one of two analytic tools – ordinary least squares (OLS) and logistic regression.

A reliance on Coleman's framework – family structure, parent-child discussion, parent-school involvement, and parental expectations – continued through the 1990s, and his framework is referenced as influencing the design of the National Education Longitudinal Study of 1988

(NELS:88). It is certainly the case that the NELS:88 data set was routinely used to validate indicators of social capital as expressed through educational outcomes and attainment.

Like social capital, cultural capital has become a fundamental concept to consider in college choice research as it helps to illuminate why distinct groups of students experience the universe of college options in vastly diverse ways. Cultural capital is defined as knowledge, skills, education, and advantages that a person has which give them higher status in society (Bourdieu 1986). Bourdieu further describes cultural capital as having three forms: an embodied state, which relates to long-lasting dispositions of the mind and body; an objectified state, in the form of cultural goods such as books, dictionaries and art; and an institutionalized state, which can be encapsulated by such things as institutional prestige and academic qualifications.

DiMaggio (1982) contrasted Bourdieu's theory of reproduction (1977) and Weber's theory of status culture (1968) and notes that cultural capital had a significant impact on high school grades nearly approaching the contribution of measured ability. However, he also had cautionary words against utilizing single measures of cultural capital (for example, only defining cultural capital in the context of the arts) as it seems limited in its predictive value. His findings also do not necessarily extend to other important outcomes of cultural capital such as educational attainment or occupational attainment. By building on the work of Weber, DiMaggio did offer that cultural mobility could be a topic of research and not simply cultural reproduction.

Roksa and Potter (2011) also tested the cultural mobility approach (as opposed to cultural reproduction) in their work by examining the role that parenting plays in the academic achievement. By conceptualizing social background as a combination of current parental class location and class origin, new class structures were created to examine children's academic

performance. The researchers found that upwardly mobile mothers were much more successful in acquiring and mobilizing resources and specific parenting practices to close the gap between their families and stable middle-class families. This, unfortunately, was not the case for new mothers who identified as working-class, and those children tended to lose ground to stable middle-class children as pertains to academic performance.

To recap, the literature related to social and cultural capital has fallen into one of three questions: a) Is social capital positively linked to educational attainment? b) Is social capital positively linked to educational achievement? and c) Is social capital positively linked to education-related psychosocial capital? While many applications of social and cultural capital in the education literature are applied to the K-12 context, several explicitly examine and consider the transition from high school to postsecondary education. While it is not often stated, Portes (1988) reminds us that social capital must be examined in its totality and should not always be viewed as a positive construct. Portes notes, "Social ties can bring about greater control over wayward behavior and provide privileged access to resources; they can also restrict individual freedom and bar outsiders from gaining access to the same resources though those particularistic preferences" (p. 21).

Summary

The student college choice process is one that is complex yet holds much promise for current and future research on the factors important to Black students as they search for and select their respective institutions. Even as overall college-going rates improve – and increasingly so for Black women – some students disproportionately under enroll in our nation's most selective schools. Additionally, there is compelling evidence that much of the recent access to higher education can be attributed to the emergence of new 2- and 4-year institutions – many

of which are for profit or are ‘professional education’ focused colleges. Finally, for some Black students, HBCUs remain a preferred option in the college choice process, which adds an additional layer of interest in how students in this demographic make the important choice of which school to attend.

Additionally, the literature has illuminated that the actual process of college selection is one that can be fraught with difficulties for students from lower SES and first-generation backgrounds, as well as URM students. It is also clear that students from lower SES backgrounds as well as URM students begin the college choice process late – often as late as twelfth grade – while their high SES and White counterparts typically begin closer to ninth grade. When comparing high SES and low SES students with similar academic records, low SES students tend to limit their choice set in terms of proximity, selectivity, and the number of overall colleges chosen to make application.

Social and cultural capital research is helpful in providing a broader context for differential experiences in educational opportunity and attainment. This body of literature also sheds light on specific elements of the choice process such as aspiration formation and parental involvement.

This dissertation places specific emphasis on Black students as they navigate the college choice process. While literature suggests that college-going aspirations are high for Black students, it is also suggested that these students lag behind their White counterparts in the search phase, which is the point when students consider what institutions to apply to and begin to develop their college choice set.

CHAPTER 3
METHODOLOGY

Chapter 3 outlines the quantitative research methodology used in this exploratory study on college choice for Black students. Utilizing the ELS:2002 data set, the study employs descriptive and inferential statistical methods to illuminate the unique nature of the college choice process for Black students.

Restatement of Purpose

Increased stratification within higher education is evident based on prior literature. Data indicates that those who come from higher-SES backgrounds and well-resourced secondary schools tend to apply to selective schools at higher rates than do students from lower-SES backgrounds and less well-resourced schools. Research findings are mixed on the characteristics of Black students who choose HBCUs. Additionally, some of the literature indicates that Black students are more likely than their White counterparts to enroll in schools that do not match their academic abilities (i.e., undermatch). Accordingly, further research must be conducted to parse out unique patterns for Black students from a range of socioeconomic backgrounds, high school types, and with varying access to information about colleges and universities – including those who attend historically Black colleges and universities (HBCUs). Is college selectivity the primary driver for high-SES Black students or do they explore a fuller range of options that balance selectivity, campus climate, and other factors? Additionally, what matters most to Black families when exploring college options? Will SES be the key determinant of college choice, or will other factors prove more influential?

This exploratory study investigated the relationship between Black students' personal background characteristics, high school type and environment, academic achievement, cultural capital, and observed differences in application to postsecondary institutions with a particular focus on institutional selectivity. Furthermore, given the unique role that historically Black colleges and universities play in higher education in the United States, an additional aspect of this research sought to understand enrollment in these postsecondary institutions.

This chapter describes the study's design, data that were utilized, research questions, and hypotheses. This dissertation builds on the work of prior college choice researchers within the context of Black students in the U.S. and their college choice process. Given the wide range of experiences and resources within the Black community, it was important to examine how students navigated application and acceptance to a full range of postsecondary institutions as well as observe differences for Black students across a range of SES, high school types, and cultural capital statuses.

Human Subjects and IES Approval

An application was submitted to the Institute for Education Sciences (IES) for access to the Education Longitudinal Study of 2002 (ELS:2002) restricted data set. IES serves as the research and evaluation arm for the U.S. Department of Education and this division manages site licensing for all restricted-use data. IES works closely with the National Center for Education Statistics (NCES) on the overall implementation and reporting of data. One component of the restricted-licensing process included a plan for data storage and security. The data were stored in a secure room – with limited-key access – at the Center for Social Science Computation and Research (CSSCR) at the University of Washington. Data were stored on a computer without internet access. A security plan remains on file with CSSCR and IES.

Approval to conduct this research was granted by the University of Washington's Human Subject's Division under expedited/minimal risk review. As a component of the Institutional Review Board (IRB) process, the researcher outlined provisions to ensure that confidentiality of the participants would be maintained. Additionally, precautions were taken to mitigate harm to the original study participants. Given that this is secondary data, IRB determined that this was a minimal risk study given that data were securely stored and managed as outlined in the security plan.

ELS:2002 Data Set & Sampling Procedures

This study analyzed data that were collected for the Education Longitudinal Study of 2002 (ELS:2002). The National Center for Education Statistics (NCES) launched ELS:2002 as the fourth in a series of school-based longitudinal studies. The purpose of all four studies is to explore the important transition that young adults in the United States undergo from secondary schooling to postsecondary education and into the workforce. The NCES research began with an initial study in 1972, with subsequent follow up studies in 1980 and 1988. While ELS:2002 builds on the work of prior studies, its survey content is reflective of generational educational opportunities and challenges.

ELS:2002 data were selected for this study for several reasons. One clear benefit of ELS:2002 is the ability to identify trends based on prior studies and explore cross-cohort comparisons (such as overall college-going rates, minority participation in higher education, shifts in institution type and control, etc.) due to the 50 years of NCES work in this arena. The base year and first follow up questionnaires focused on students' understanding of the college choice process as well as support mechanisms (via parents and other adults in a student's network) as students navigated the process. Another reason to use ELS:2002 data is that they

have been used in many similar studies that investigate college choice and college selectivity, and ELS:2002 is widely acknowledged for its comprehensiveness and mapping to important questions related to educational policy and practice. Finally, the data are readily available and easily accessible (most data are publicly available) and can be downloaded via the Education Data Analysis Tool (EDAT). EDAT also has the bonus of supporting comparisons between similar variables so that subtle distinctions can be detected, and appropriate variables selected. Restricted parts of the data are also available by license from NCES. A restricted application was obtained for this research due to the confidential nature of key variables related to this study.

ELS:2002 schools were selected from a universe file of 25,000 public and private schools with 10th-grade students from across the United States (NCES, 2008) by utilizing a nationwide probability sample of 752 schools (580 public and 172 Catholic/parochial and other private/independent schools) in the spring of the 2001-2002 school year. Once the schools were selected, approximately 24 individual 10th-grade students were randomly selected within each school. Non-public schools, such as Catholic/parochial schools, as well as other private/independent schools were sampled at a higher rate, thus, ensuring that the sample in those schools would be large enough to generalize to the population of students who were sophomores in 2002. The oversampling of these schools is particularly important to permit reliable inferences, as small sample sizes of these groups had been a point of critique in prior studies (Cain & Goldberger, 1983; Coleman et al., 1982). Asian students were also sampled at a higher rate than White, Black, and Hispanic/Latinx students to ensure the sample was large enough to support comparisons with these groups (NCES, 2008).

Of the 17,590 eligible selected sophomores, 15,360 (87%) completed the base year questionnaire. Additionally, 15,360 parents were selected to complete the base year

questionnaire, with 14,540 completing the instrument achieving a 95% (unweighted) return rate. Teachers, (14,080), administrators (740), and librarians (720) were also included in the study. Individual students were followed for more than 10 years, with follow ups occurring in 2004 (by questionnaire), 2006 (by computer-assisted telephone interview), and 2012 (by computer-assisted telephone interview). Transcript information was also collected directly from high schools for participants in the senior cohort approximately six months after high school graduation.

Of particular interest to this research were the data collected from base year through 2006. At a high level, the data included demographic, academic, school type, and information related to in and out of school postsecondary preparation. Data also included information on broader academic and social aspects of the school environment in which the students were enrolled. Peer and parental influences were also examined.

In the base year (2002), the collected components included a student baseline survey, cognitive tests in reading and mathematics, surveys of parents, surveys of English and mathematics teachers, and a survey completed by a school administrator. Other base year information collected included a school facilities check-list and a media center/library questionnaire. Students were queried about school experiences and activities, future plans, family, opinions about money and work, and postsecondary expectations and aspirations.

For the first follow up (2004), collectors sampled within the same schools in randomized fashion akin to the base year sampling. This was done to account for sample shrinkage. Repopulating the sample in this manner effectively created two highly overlapping cohorts in the study (i.e., 13,250 members of the sample were in both sophomore and senior year cohorts). Due

to student out-migration, the number of schools increased by 450 (to a total of 1200). Collected components included a student follow up survey (or dropout survey or early completion survey, as appropriate), assessment in mathematics, and a school administrator survey. Student survey data captured information on students' school activities and experiences, educational achievement, and persistence, how students elected to spend their time, and postsecondary planning and activity. Additionally, a high school transcript was collected post-graduation for students who were in the grade 12 cohort.

The second follow up (2006) was a web-based instrument that respondents could either guide themselves through or complete with telephone-guided assistance. Collected components for this follow-up included data regarding college search, expectations, and choice processes prior to college enrollment, along with information about subsequent pathways in and out of several types of postsecondary institutions.

The third and final data collection occurred between summer of 2012 and winter of 2013. At this collection period, 13,250 eligible sample members were queried by either web or telephone interview. This collection wave focused on the transition from college into career and adult life.

To make useful comparisons relative to this study's goals, the ELS data only included students who completed either the base year survey in 2002 or the first-follow up survey in 2004 (i.e., when the data were freshened). Of interest for this dissertation was students who identified as Black and who were a part of the grade 12 cohort (i.e., the freshened sample). Additionally, students in this study all applied to at least one 4-year college or university.

Weighting, Imputation, and Design Effects

ELS 2002 is a complex sample design where there is an unequal probability of selection, which is distinct from studies that employ a simple random sampling design. To compensate for unequal selection probability, ELS developed a weighting scheme to support cross-cohort comparisons. A sampling weight is "A multiplicative factor equal to the reciprocal of the probability of a respondent being selected for the study, with adjustment for nonresponse. The sum of the weights provides an estimate of the number of persons in the population represented by a respondent in the sample (Seastrom, p. O-19)."

To compensate for non-responses, some missing or inconsistent values were imputed before release for secondary use and analysis. Two cohort flags were also available in this data set, one indicating that a student was a member of the spring 2002 10th grade cohort and one indicating that a student was a member of the spring 2004 12th grade cohort. Because this research examines the transition for student from 12th grade into college, the G12COHORT flag was selected. In examining the relationship between the cohort flag and the available panel weights, F3F1TRSCWT was selected. This weight applied to those who completed base year or first year follow up questionnaires (fully or partially) and who had transcript data available. This weight was also selected as it covers those who participated in the third follow up survey, where an outcome variable related to HBCU attendance was selected.

Data from ELS:2002 were sampled by complex design, which differs from a simple random sample in several ways. Gall et al. (1996) defines a simple random sample as "a group of individuals drawn by a procedure in which all the individuals in the defined population have an equal and independent chance of being selected as a member of the sample (p. 223)." In contrast,

ELS:2002 used a two-stage sample selection process. Schools were first selected by a process of probability (in proportion to size) and participating schools then provided 10th grade enrollment lists. From those enrollment lists, approximately 24 students were randomly selected per school. Data collected in this manner violate the assumptions of simple random sampling (SRS) and require adjustments for stratification, clustering, and multiple stages.

The data were analyzed in IBM SPSS v25's Complex Samples, which is a specialized add-on module available in SPSS. This module supports the analysis of complex data and allows for the application of weights. Additionally, SPSS Complex Samples estimates variances of statistics utilizing Taylor series variance estimation procedure, which takes the first-order Taylor series approximation of the nonlinear statistic and then substitutes the linear representation into the appropriate variance formula based on sample design (NCES, DLDT Glossary). Analyzing ELS:2002 data in this manner reduces the risk of Type 1 error (i.e., rejecting the null hypothesis). It should be noted that SPSS Complex Samples, like most other programs that handle complex data, does not produce standard deviations. By design, complex data variation is measured by quantities, not point estimates. Because a standard deviation is a point estimate, statistical packages for complex samples do not provide this statistic.

Most importantly for this study, SPSS Complex Samples supports subpopulation analysis where only the cases in a subpopulation are used to compute the point estimates (e.g., means and regression coefficients) while still retaining the sampling design information from the entire sample for the computation of variance estimates, standard errors, degrees of freedom, significance tests, confidence intervals, and design effects.

Variable Selection & Description

Utilizing secondary data such as the ELS:2002 data set provides researchers with access to nationally representative data without the bearing the time, financial, and logistical costs associated with data collection. However, before utilizing secondary data, extra care must be taken to give forethought to variable selection and data analysis planning. This section describes the variables that were used for this study and connects these variables to the literature outlined in Chapter 2.

Personal Background Characteristics

Prior literature defines socioeconomic status as a combination of father's education and occupational status, mother's education and occupational status, and family income. A composite variable from the first follow up (F1SES2QR) was selected to approximate socioeconomic status. Racial and ethnic demographic data were collected during the base year and first follow up of the ELS survey. A composite variable (F1RACE) was selected with the following seven defined racial categories: American Indian/Alaskan Native, non-Hispanic; Asian/Pacific Islander, non-Hispanic; Black or African American, non-Hispanic; Hispanic, no race specified; Hispanic, race specified; more than one race, non-Hispanic; White, non-Hispanic. Only those who identified as Black were part of the analysis. Finally, respondents were asked to indicate their sex (F1SEX), with the options in the survey being male or female.

High School Type and Environment

Jack (2015) and McDonough (1997) suggest that high school type and a school's college-going culture/environment impact students' postsecondary trajectories. School type and environment variables are related to the concept of organizational habitus and demonstrate alignment between the expectations expressed by a parent and student and the opportunities that are available in the school context. High school type – referred to as control in the ELS:2002 data set - denoted if a student attended a public, Catholic/parochial, or other private/independent school. The school control variable (BYSCTRL) came directly from the student file and was replicated across each student belonging to that school. Due to the small number of students attending private (other) schools, this variable was later combined with the Catholic/parochial variable for analysis.

Academic Achievement

Academic achievement was measured by two variables – GPA in grade 9-12 academic course and a norm-referenced math score from a test administered to students in the 12^{th} grade. Additionally, a variable (F1RAGP) providing student grade point averages for academic courses only was also selected. Both academic scores were standardized to Z scores and then summed to create a new variable as a measure academic performance. This variable was used as a covariate in the multivariate analyses for this study.

Cultural Capital

Cultural capital has been conceptualized many ways in prior literature. McDonough (1997) proposed that a student's cultural capital will affect the level and quality of college education that a student seeks. She further posited that a student's choice of college will make

sense in the context of that student's friends, family, outlook, or *habitus*. Jack (2014) describes the distinctions between low SES students who attend resource-rich secondary schools and those who do not as students who "cross cultural and social boundaries for secondary school due to policy or government programs, independent agencies, or diversity initiatives at private schools" (p. 455)." Defined as the Privileged Poor, Jack argues that these students will generally report more favorable interactions in their college transition due to the acquisition on the dominant culture's cultural capital in secondary school. Finally, Freeman (2005), who focused specifically on Black youth, examined the type of capital Black students acquire in the context of 'identifiable adults' who play a supportive role in helping students reach their academic and socioemotional potential.

For the purposes of this research, cultural capital is defined by looking at both the support provided by a student's close network for information (e.g., parents, other relatives, and school counselors) and a student's access to 'official' college information sources (e.g., college representative, college publications/websites, and libraries). A composite variable from the first follow up was selected. Because this variable had the potential to highly correlate internally, it was restructured and collapsed from 11 categories to 3: low information sources, moderate information sources, and high information sources.

Dependent Variables

Data on school type and selectivity were provided in the second and third follow up survey data. A composite variable (F2PSAPSL) from the second follow up was utilized to determine the level of institutional selectivity for first attended postsecondary institution. The outcome variable for institutional selectivity was created from a second follow up composite variable and is based on the IPEDS institutional level and Carnegie institutional selectivity measure. There were six original selectivity categories: 1. Highly selective 4-year institution (corresponds to 25th percentile ACT-equivalent scores of greater than 21); 2. Moderately selective 4-year institution (corresponds to 25th percentile ACT-equivalent scores of 18 to 21); 3. Inclusive, 4-year institution (corresponds to 25th percentile ACT-equivalent scores of less than 18); 4. Other 4-year institution; 5. Two-year institution; and 6. Less-than-2-year institution. Institutions identified as 4-year schools via IPEDS data with unknown Carnegie selectivity are classified as "other four-year institutions."

Categories five and six were eliminated as the scope of this research did not relate to 2-year institutions. Additionally, category four was eliminated as the selectivity was unknown. Categories two and three were combined and coded to 0 for 'not selective.' The remaining category was designated as 1 for selective. The ELS:2002 survey design provided limited information regarding students who applied to HBCUs and other Minority Serving Institutions (MSIs) in early collection waves. One composite variable related to HBCU attendance was available (F3EVRHBCU) from the third follow up and this composite variable was dichotomized and coded to 0 for did not attend an HBCU and 1 attended an HBCU.

Table 1: List of Variables for the Study

Variable	Description
Dependent Variables	
Selective University (applied)	0=Not Selective, 4-year 1=Selective, 4-year
HBCU (attended)	0=No 1=Yes
Independent Variables	
Sex (female)	0=No 1=Yes
SES	1=Lowest Quartile 2=Second Quartile 3=Third Quartile 4=Highest Quartile
Student's Education Expectations (Grade 12)	1=High School Degree or Less 2=Some College 3=Complete 4-Year Degree 4=Graduate School/Advanced Degree
School Type	1 = Public School 2 = Private School
School Urbanicity	1=Urban 2=Suburban 3=Rural
College Information Sources	1=Low Number of Information Sources 2=Moderate Number of Information Sources 3=High Number of Information Sources

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

Research Questions

This exploratory study observed patterns in Black students' college choice processes and in-group differences based on personal background characteristics such as sex, socioeconomic status, and students' educational expectations. This study also examined college choice patterns based on high school type and access to college information.

Given the literature, purpose, and study design presented in prior sections, the following eight research questions guided this study:

1. What is the relationship between students' personal background characteristics and application to selective colleges and universities?
2. What is the relationship between students' high school type and application to selective colleges and universities?
3. What is the relationship between students' access to college information sources and application to selective colleges and universities?
4. Controlling for academic achievement, what will explain more of the variance in students' decisions to apply to selective colleges and universities: personal background characteristics, high school type, or access to college information sources?
5. What is the relationship between students' personal background characteristics and attending Historically Black Colleges and Universities (HBCUs)?
6. What is the relationship between students' high school type and attending HBCUs?
7. What is the relationship between students' access to college information sources and attending HBCUs?
8. Controlling for academic achievement, what will explain more of the variance in students' decisions to attend HBCUs: personal background characteristics, high school type, or access to college information sources?

Study Design

This study employed a correlational research design. Correlational research is used to explore the relationship between two or more variables of interest. Gall et al. (1996) cite several advantages of correlational research. The authors note that correlational research allows researchers to explore multiple variables of interest – either singly or in combination – that at one time impact a behavioral pattern. Correlational research also allows researchers to see the degree of a relationship between variables. While correlational designs are frequently used in educational research, it is important to note a significant drawback – unlike experimental designs, correlational research cannot establish a cause-and-effect relationship between variables as an unknown third (or intervening) variable may be involved. For this reason, correlational research designs are typically considered exploratory in nature (Gall et al., 1996).

Analysis Strategy

The dependent variable (selectivity) for research questions one through four is dichotomous. Data were analyzed in SPSS v. 25 Complex Samples. As a first step, Pearson's Chi-Square test of independence was run to examine the relationship between the independent and dependent variables. To estimate of the magnitude of the relationship between variables, a Cramer's V coefficient was also included in the analysis.

Research question one examined the relationship between students' personal background characteristics and application to selective colleges and universities. The selected composite variable SES was provided in a quartile-coded format. The categorical variable was then dummy coded, and an Analysis of Variance (ANOVA) was conducted to examine the difference between means. Contrast tests were then conducted to identify which differences between pairs of means

were significant. The dichotomous independent variable, sex, was dummy coded and an independent sample t-test was run to examine the difference between means in relationship to the outcome variable (selectivity). The categorical independent variable student expectations was collapsed to combine categories with small response rates (high school/GED or equivalent with less than high school) for more statistical power, leaving a total of four categories. This collapsed variable was then dummy coded, and an ANOVA was run to examine the difference between means. Contrast tests were then conducted to identify which differences between pairs of means were significant.

Research question two examined the relationship between students' high school type and application to selective colleges and universities. The independent variable, school control, was first collapsed to combine Catholic/parochial and other private schools due to the small number of cases in both categories. The collapsed variable was then dummy coded, and an independent samples t-test was conducted to examine the difference between means against the outcome variable selectivity.

Research question three examined the relationship between students' acquired capital, which, in this study, was conceptualized as access to college information sources. The independent variable, college information sources, was collapsed from 13 categories to three meaningful categories (low, moderate, high). The collapsed variable was then dummy coded, and an ANOVA was run to examine the differences between means against the outcome variable selectivity. Contrast tests were then conducted to identify which differences between pairs of means were significant.

Research question four examined how well the independent variables predicted application to a selective college. Given that the dependent variable is dichotomous, logistic

regression was selected as the analytic technique. Regression coefficients are particularly useful with a dummy coded dependent variable as it possible to detect the increase or decrease in the probability of an event occurring (Pampel, 2000). In this instance, logistic regression was utilized to detect the effect of a unit change in the independent variable on the odds of applying to a selective college or university.

Heeringa et al. (2010) note that when data are collected under a complex sample design the usual application of maximum likelihood estimate procedures is not possible. Sampling weights must be applied to estimate finite population values. Additionally, stratification and clustering, which are inherent in complex sample designs, violate the assumption of independent observations. To adjust for these design differences, a pseudo-maximum likelihood estimation is used to estimate the model parameters. Additionally, sampling variances and covariances of the parameter estimates are adjusted by Taylor series linearization, where estimation methods are calculated using strata and clusters (Heeringa et al., 2010).

Research questions five through eight related to the dichotomous dependent variable attending an HBCU. Research question five examined the relationship between students' personal background characteristics and attending an HBCU. The composite variable SES selected was previously quartile coded. The categorical variable was then dummy coded, and an ANOVA was run to examine difference between means. Contrast tests were then conducted to identify which differences between means were significant. The dichotomous independent variable, sex, was dummy coded and a T-test was run to then examine the difference between means in relationship to the outcome variable. The categorical independent variable (student expectations) was first recoded to combine two categories with small response rates (high school/GED or equivalent with less than high school) for more statistical power. The recoded

variable was then used to create dummy coded variables and an ANOVA was run to examine difference between means. Contrast tests were then conducted to identify which differences between pairs of means were significant.

Research question six examined the relationship between students' high school type and attending an HBCU. The independent variable, school control, was first recoded to combine Catholic/parochial and other private schools due to the small number of cases in both categories. The recoded variable was then used to create dummy coded variables and an ANOVA was run to examine the differences between means against the dependent variable HBCU. Contrast tests were then conducted to identify which differences between pairs of means were significant.

Research question seven examined the relationship between students' acquired capital – conceptualized as access to college information sources in this study – and attending an HBCU. The independent variable, college information sources, was collapsed from 13 to three meaningful categories (low, moderate, high). The recoded variable was then used to create dummy coded variables and an ANOVA was run to examine the differences between means against the dependent variable HBCU. Contrast tests were then conducted to identify which differences between pairs of means were significant.

Research question eight examined how well the independent variables predicted the outcome variable, attending an HBCU. Given that the dependent variable is dichotomous, logistic regression was used to detect the effect of a unit change in the independent variable on the odds of attending an HBCU.

CHAPTER 4
RESULTS

This exploratory study investigated the relationship between Black students' personal background characteristics, high school type and environment, academic achievement, acquired cultural capital, and observed differences in application to postsecondary institutions with a focus on institutional selectivity. Additionally, given the significant role that HBCUs play in higher education in the United States, an additional aspect of this research sought to understand enrollment in these postsecondary institutions. The following results from the ELS:2002 data include descriptive information for the sample, an analysis of application patterns for the sample, reporting of the odds ratio of students' application to selective colleges, and reporting of the odds ratio of students' enrollment in an HBCU. Data were analyzed in SPSS v25's Complex Sample Procedures, which supports the application of weights and linearizes the data via Taylor series.

As discussed in Chapter 3, ELS:2002 data were drawn with a two-stage sampling design. When analyzing stratified data, weights must be applied. The weight F3F1TSCWT was applied as it best matched the following criteria: students who responded to both the first and third follow up questionnaires and who also had high school transcript available. The ELS:2002 third follow up documentation provided guidance as to the number of unweighted cases that should be expected with the application of a given weight. For the grade 12 cohort with F3F1TSCWT the expected unweighted *N* was 10,270 cases. When checked, the working file had less than 1% case loss for most variables (i.e., 10,230 cases were detected against the male/female variable, which is a loss of 40 cases).

Descriptive Data

This dissertation presents results from ELS:2002 data specific to Black students in the grade 12 cohort. When looking at the Black student sample, which is the focus of this study, the unweighted *N* of the subpopulation was 1,160. Table 2 displays the demographic characteristics of the ELS: 2002 Black student sample.

TABLE 2: ELS:2002 Demographic Characteristics & Black Student Sample (N=1,160)

Characteristic	Percentage
Sex	
Female	54%
Male	46%
SES	
Lowest Quartile	32%
Second Quartile	28%
Third Quartile	24%
Highest Quartile	16%
High School Type	
Public	97%
Private	3%
Urbanicity	
Urban	46%
Suburban	43%
Rural	11%

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

In looking at the academic profiles of students in the Black sample, the mean GPA in academic courses was 2.20 and the SAT composite score (or ACT equivalent) was 827. This differs from the broader sample where the GPA estimate was 2.67 and SAT composite (or ACT equivalent) was 1002. It is important to note that over one-third (34%) of the Black students in

the sample did not take either the SAT or ACT. This only slightly differs from the overall ELS:2002 population, as nearly 30% of students in the overall sample did not take the SAT. This is not entirely surprising as fewer than 20% of students overall reported having access to an SAT or ACT prep course at school and only 11% indicated that they planned to enroll in a commercial SAT or ACT prep course.

Consistent with prior literature Black students had extremely high educational expectations for themselves with close to 70% of students expecting to obtain at least a 4-year degree. Additionally, most Black students in this sample applied to at least one college or university. Black students also applied to a slightly higher average number of schools than did the full sample: 3.1 versus 2.6 schools, with the range being between one to 11. By contrast, however, they tended to apply to fewer selective schools, with 38% of the overall population reporting having applied to a selective university and only 30% of the Black students applying to a selective college/university. Finally, as SES by quartile increased applications to selective schools rose, with 46% of students in the highest quartile applying to selective universities as compared with only 22% of students in the lowest quartile applying to selective colleges/universities.

As an initial step, a Pearson's Chi-Square was utilized to assess the relationship between the outcome and independent variables. To estimate of the magnitude (or effect size) of the relationship between variables, a Cramer's V coefficient was also included in the analysis. The effect size of the Cramer's V coefficient is measured between 0, which indicates no relationship, and 1, which indicates a perfect relationship. Muijs (2011) offers the following as a guide for assessing the strength of association as follows: < 0.1 weak, < 0.3 modest, < 0.5 moderate, < 0.8 strong, and $\geq .8$ very strong (p. 111).

Table 3 reports the Pearson's Chi-Square and strength of association between the outcome variable selectivity and the independent variables of interest for the full grade 12 cohort, with Appendix A reporting the within group percentages. The variables SES, high school type, urbanicity, expectations, and information sources were statistically significant indicating an association with the outcome variable. Independent variables SES and expectations showed a modest effect size; high school type showed a weak-moderate effect size; and urbanicity and information sources displayed a weak effect size.

Table 3: Pearson Chi-Square: Grade 12 Cohort & Selectivity

Characteristics	*df*	*Pearson* X^2	*Cramer's V*
Sex	1	2.345	.015
SES	3	1106.592**	.329
High School Type	1	362.293**	.188
Urbanicity	2	131.565**	.113
Expectations	3	1332.296**	.372
Information Sources	2	175.181**	.149

*$p \leq .05$ *$p \leq .01$**

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

Table 4 reports the Pearson's Chi-Square and strength of association between the outcome variable selectivity and the independent variables of interest for the grade 12 Black sample, with Appendix B reporting the within group percentages. The variables Sex, SES, high school type, urbanicity, expectations, and information sources were statistically significant indicating an association with the outcome variable. The independent variable expectations showed a modest effect size, with all other variable showing a weak effect size.

Table 4: Pearson Chi-Square: Black Student Sample & Selectivity

Characteristics	*df*	*Pearson* X^2	*Cramer's V*
Sex	1	4.645*	.062
SES	3	66.093**	.232
High School Type	1	60.795**	.223
Urbanicity	2	9.470*	.088
Expectations	3	118.432**	.323
Information Sources	2	10.568*	.110

*$p \leq .05$ *$p \leq .01$**

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

Table 5 reports the Pearson's Chi-Square and strength of association between the outcome variable HBCU and the independent variables of interest for the full grade 12 cohort, with Appendix C reporting the within group percentages. The variables SES, high school type, urbanicity, and information sources were statistically significant indicating an association with the outcome variable. However, the effect size was weak for all independent variables.

Table 5: Pearson Chi-Square: Grade 12 Cohort & HBCU

Characteristics	*df*	*Pearson* X^2	*Cramer's V*
Sex	1	.021	.001
SES	3	19.961*	.043
High School Type	1	33.925**	.060
Urbanicity	2	63.492**	.082
Expectations	3	5.442	.025
Information Sources	2	17.323**	.049

*$p \leq .05$ *$p \leq .01$**

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

Table 6 reports the Pearson's Chi-Square and strength of association between the outcome variable HBCU and the independent variables of interest for the grade 12 Black student sample, with Appendix D reporting the within group percentages. The variables high school type, urbanicity, and information sources were statistically significant indicating an association with the outcome variable. The effect size was weak between the independent variables of interest and the outcome variable.

Table 6: Pearson Chi-Square: Black Student Sample & HBCU

Characteristics	*df*	*Pearson* X^2	*Cramer's V*
Sex	1	2.308	.046
SES	3	4.926	.068
High School Type	1	9.794*	.095
Urbanicity	2	7.254*	.082
Expectations	3	12.759*	.113
Information Sources	2	4.461	.075

*$p \leq .05$ *$p \leq .01$**

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

Findings

The purpose of this study was to examine patterns of college choice process for Black students as they transitioned from high school to postsecondary education. This section presents findings for the eight research questions that were explored.

Question 1. What is the relationship between students' personal background characteristics and application to selective colleges and universities?

Sex: Using the Complex Samples module in SPSS, an independent-samples t-test was run to determine if there were differences in applying to selective schools between male and female high school students, producing a Wald adjusted *F* statistic. No statistical difference was

detected between Male (M = .3321) and female (M = .2708) students with respect to applying to selective colleges/universities ($F_{adj(1,353)}$ = 3.557, p > .05).

Student Expectations: An Analysis of Variance was conducted to determine if application to selective schools differed for groups by socioeconomic status. The Complex Samples module analysis produced a Wald adjusted F statistic with a Bonferroni adjustment for the accumulation of family-wise type I error. Participants were classified into four groups, with respect to their educational expectations: high school or less (n = 8,625), some college (n = 45,868), completion of a 4-year degree (n = 88,827) and obtaining an advanced degree (n = 117,252).

The selectivity score varied between the four groups ($F_{adj(3,351)}$ = 37.528, p < .001). Group means and standard errors are presented in Table 7. Contrast tests indicated that a higher percentage of students in the highest expectations group (graduate school/advanced degree) applied to selective colleges/universities (M = .4462) than did those who expected to complete high school or less (M = .0438, $F_{adj(1,353)}$ = 69.145, p < .001), those who expected to complete some college (M = .0657, $F_{adj(1,353)}$ = 78.653, p < .001), and those who expected to complete a 4-year degree (M = .2660), $F_{adj(1,353)}$ = 21.172, p < .001). In addition, a higher percentage of students in the third expectations group (completing a 4-year degree) applied to selective colleges/universities (M = .2660) than did those who expected to complete high school or less (M = .0438, $F_{adj(1,353)}$ = 17.195, p < .001) or those who expected to complete some college (M = .0657, $F_{adj(1,353)}$ = 17.693, p < .001).

Table 7: Results of Analysis of Variance Comparing Means of Students' Postsecondary Expectations with Their Application to a Selective College/University (N = 260,573)

Model Estimates	*Mean*	*Std. Error*	*Lower CI*	*Upper CI*
High School Degree or Less	0.044	0.043	-0.041	0.129
Some College	0.066	0.032	0.004	0.128
Complete 4-Year Degree	0.266	0.031	0.206	0.326
Graduate School/Advanced Degree	0.446	0.027	0.393	0.500

Corrected Model	*df1*	*df2*	*F*	
	3	351	37.528	***

Comparisons	*Mean Difference*	*Std. Error*	*df1*	*df2*	*F*	
High School or Less to Graduate School/Advanced Degree	-0.402	0.048	1	353	69.145	***
Some College to Graduate School/Advanced Degree	-0.380	0.043	1	353	78.653	***
Complete 4-Year Degree to Graduate School/Advanced Degree	-0.180	0.039	1	353	21.172	***
Complete 4-Year Degree to High School or Less	0.222	0.054	1	353	17.195	***
Complete 4-Year Degree to Some College	0.200	0.048	1	353	17.693	***

*p<.05 **p<.01 ***p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

SES: An Analysis of Variance was conducted to determine if application to selective schools differed for groups by socioeconomic status. Participants were classified into SES quartiles: lowest quartile (n = 83,011), second quartile (n = 77,673), third quartile (n = 69,055), and highest quartile (n = 51,906).

The selectivity score varied between the quartiles ($F_{adj(3,351)} = 5.037$, $p < .001$). Group means and standard errors are presented in Table 8. Contrast tests indicated that a higher percentage of students in the highest quartile applied to selective colleges/universities ($M = .454$) than those in the third quartile ($M = .299$, $F_{adj(1,353)} = 7.150$, $p < .05$), second quartile ($M = .277$, $F_{adj(1,353)} = 8.454$, $p < .05$), or lowest quartile ($M = .217$, $F_{(1,353)} = 14.847$, $p < .001$).

Table 8: Results of Analysis of Variance Comparing Means of Students' SES with Their Application to a Selective College/University (N = 281,646)

Model Estimates	*Mean*	*Std. Error*	*Lower CI*	*Upper CI*
SES: Quartile 1 (lowest)	0.217	0.037	0.144	0.291
SES: Quartile 2	0.277	0.034	0.211	0.343
SES: Quartile 3	0.299	0.036	0.228	0.370
SES: Quartile 4 (highest)	0.454	0.046	0.363	0.545

Corrected Model	*df1*	*df2*	*F*	
	3	351	5.037	***

Comparisons	*Contrast Estimate*	*Std. Error*	*df1*	*df2*	*F*	
Lowest Quartile to Highest Quartile	-0.236	0.061	1	353	14.847	***
Quartile 2 to Highest Quartile	-0.177	0.061	1	353	8.454	*
Quartile 3 to Highest Quartile	-0.155	0.058	1	353	7.150	*

*p<.05 **p<.01 ***p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

Question 2. What is the relationship between students' high school type and application to selective colleges and universities?

An independent-samples t-test was run to determine if there were differences in applying to selective colleges/universities between public and private high school students, producing a statistically significant Wald adjusted F statistic ($F_{adj(1,353)} = 25.914$, $p < .001$). A higher

percentage of students from private high schools applied to selective colleges/universities (M = .551) than students from public high schools (M = .288, $t_{(1,353)}$ = -5.091, p < .001).

Table 9: Results of t-test Comparing Means of Students' High School Type with Their Application to a Selective College/University (N = 281,646)

	df1	*df2*	*F*		*Mean Difference*	*df*	*t*	
Public v. Private School	*1*	*353*	*25.91*	***	-0.263	*353*	*-5.091*	***

*p<.05 **p<.01 ***p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

An Analysis of Variance was conducted to determine if application to selective schools differed for groups by high school urbanicity (e.g., urban, suburban, or rural location). Participants were classified into three groups, with respect to their high schools' urbanicity: urban (n = 130,385), suburban (n = 120,265), and rural (n = 30,996). No statistical difference was detected between the three groups with respect to applying to selective colleges/universities ($F_{adj(2,352)}$ = 1.560, p > .05).

Question 3. What is the relationship between students' access to college information sources and application to selective colleges and universities?

An Analysis of Variance was conducted to determine if application to selective schools differed for groups by access to information about college. Participants were classified into three groups, with respect to their level of access to college information: low access to information sources (n = 56,680), moderate access to information sources (n = 95,074), and high access to information sources (n = 49,938).

The selectivity score varied between the three groups ($F_{adj(2,320)} = 4.396$, $p < .01$). Group means and standard errors are presented in Table 10. Contrast tests indicated that students in the high information group applied to more selective schools ($M = .419$) than those in the moderate information group ($M = .276$, $F_{adj(1,321)} = 6.389$, $p < .05$) and the low information group ($M = .255$, $F_{adj(1,321)} = 8.423$, $p < .01$).

Table 10: Results of Analysis of Variance Comparing Means of Students' Information Access with Their Application to a Selective College/University (N = 201,693)

Model Estimates	*Mean*	*Std. Error*	*Lower CI*	*Upper CI*
Low Level of Information Sources	0.255	0.032	0.192	0.319
Moderate Level of Information Sources	0.276	0.030	0.217	0.335
High Level of Information Sources	0.419	0.047	0.326	0.512

Corrected Model	*df1*	*df2*	*F*	
	2	320	4.396	**

Comparisons	*Contrast Estimate*	*Std. Error*	*df1*	*df2*	*F*	
Low to High	-0.164	0.056	1	321	8.423	**
Moderate to High	-0.143	0.057	1	321	6.389	*

*p<.05 **p<.01 ***p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

Question 4. Controlling for academic achievement, what will explain more of the variance in students' decisions to apply to selective colleges and universities: personal background characteristics, high school type, or access to college information sources?

A binary logistic regression was performed to detect the effects of student expectations, socioeconomic status, high school type, and information capital on the likelihood of Black students applying to selective colleges/universities. The logistic regression model was statistically significant (Wald $F_{(10,353)} = 10.382$, $p < .001$) with a McFadden's Pseudo R^2 of 0.14. Of the ten predictor variables, five were statistically significant: expecting to complete a 4-year degree, expecting to complete graduate school, attending a private high school, having access to a high number of college information sources, and academic achievement (see Table 11). The parameter estimate (β) represents the effect of a one-unit change in the predictor on the log odds of the outcome variable occurring (e.g., applying to a selective school). Because log odds can be difficult to interpret, odds ratios are also reported. Odds ratios are calculated by taking the natural log of the parameter estimate (EXP(β) or e^{β}). This represents the change in the odds of the dependent variable occurring based on a one-unit change in the independent variable. To compare odds ratios from betas less than zero to those greater than zero, inverse odds ratios (I/OR) were calculated and reported for statistically significant results with negative betas (DesJardins, 2001).

Students in this sample who expected to complete a 4-year college degree had odds of applying to a selective school approximately two and a quarter time greater (OR = 2.24) than those who expected to complete some college. Similarly, students in the sample who expected to complete an advanced degree had odds of applying to a selective college/university over three and a half times greater (OR = 3.71) than those who expected to complete some college. The

odds of applying to a selective college/university were over two times higher (OR = 2.19) for students who attended private high schools than those who attended public schools. The odds of applying to a selective college for students with access to high levels of college information were over one and a half times higher (OR = 1.65) than for those who only had only a moderate amount of access to information. Lastly, a one standard deviation increase in students' Academic Z-Score lead to an almost one and one-half times decrease (I/OR = 1.46) in the odds of applying to a selective institution.

Table 11: Results of Logistic Regression Exploring Characteristics of Students' Academic and Personal Background with Their Application to a Selective College/University (N = 281,646)

Independent Variables	*β*	*SE*	*t*		OR	Inverse OR
High School Degree or Less	-0.762	1.064	-0.716		0.467	~
Complete 4-Year Degree	0.807	0.326	2.473	*	2.241	~
Graduate School	1.312	0.302	4.337	***	3.712	~
Lowest SES Quartile	-0.302	0.280	-1.080		0.739	~
Quartile SES 3	-0.194	0.240	-0.807		0.824	~
Highest Quartile	0.204	0.294	0.694		1.227	~
Private School	0.783	0.223	3.518	***	2.188	~
Low Info Sources	-0.022	0.218	-0.099		0.979	~
High Info Sources	0.502	0.254	1.974	*	1.651	~
Academic Z-Score	-0.380	0.078	-4.896	***	0.684	1.462
Wald F =	10.382	***	Pseudo R^2 =		0.138	

*p<.05 **p<.01 ***p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

Question 5. What is the relationship between students' personal background characteristics and attending historically Black College and Universities (HBCUs)?

Sex: Using the Complex Samples module in SPSS, an independent-samples t-test was run to determine if there were differences in attending HBCUs between male and female high school students. No statistical differences were detected between male (M = .2682) and female (M = .2385) students with respect to attending HBCUs ($F_{adj(1,354)}$ = .632, p > .05).

Student Expectations: An Analysis of Variance was conducted to determine if attending HBCUs differed for groups by student expectations. Participants were classified into four groups, with respect to their educational expectations: high school or less (n = 7,753), some college (n = 48,866), completion of a 4-year degree (n = 96,504) and obtaining an advanced degree (n = 124,362).

The HBCU score varied between the four groups ($F_{adj(3,352)}$ = 4.309, p < .01). Group means and standard errors are presented in Table 12. Contrast tests indicated students who expected to obtain an advanced degree were more likely to attend an HBCU (M = .2893) than those who expected to complete some college (M = .1592, $F_{adj(1,354)}$ = 9.427, p < .01) and for those who expected to complete some college and those who expected to complete a 4-year degree (M = .2789, $F_{adj(1,354)}$ = 6.337, p < .05). All other groups were statistically equal.

Table 12: Results of Analysis of Variance Comparing Means of Students' Postsecondary Expectations with Their Attending an HBCU (N = 260,573)

Model Estimates	*Mean*	*Std. Error*	*Lower CI*	*Upper CI*
High School Degree of Less	0.104	0.069	-0.032	0.240
Some College	0.159	0.036	0.088	0.231
Complete 4-Year Degree	0.279	0.029	0.222	0.336
Graduate School/Advanced Degree	0.289	0.030	0.230	0.349

Corrected Model	*df1*	*df2*	*F*	
	3	352	4.309	**

Comparisons	*Contrast Estimate*	*Std. Error*	*df1*	*df2*	*F*	
Some College to Graduate School/Advanced Degree	-0.130	0.042	1	354	9.427	**
Some College to Complete 4-Year Degree	-0.120	0.048	1	354	6.337	*

*p<.05 **p<.01 ***p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

SES: An Analysis of Variance was conducted to determine if attending HBCUs differed for groups by socioeconomic status. Participants were classified into SES quartiles: lowest quartile (n = 87,470), second quartile (n = 82,805), third quartile (n = 75,811), and highest quartile (n = 53,403). No statistical significance was detected between the income quartiles with respect to attending HBCUs ($F_{adj(3,352)} = 1.865$, $p > .05$).

Question 6. What is the relationship between students' high school type and attending HBCUs?

An independent-samples t-test was run to determine if there were differences in attending HBCUs between public and private high school students, producing a statistically significant Wald adjusted F statistic $F_{adj(1,354)} = 11.072$, $p < .01$). A lower percentage of students from private high schools attended HBCUs (M = .113) than students from public high schools (M = .257), $t_{(1,354)} = 3.327$, $p < .01$).

Table 13: Results of t-test Comparing Means of Students' High School Type with Their Attending an HBCU (N = 299,492)

	df1	*df2*	*F*		*Mean Difference*	*df*	*T*	
Public v. Private School	*1*	*354*	*11.072*	**	*0.144*	354	3.327	**

*p<.05 **p<.01 ***p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

An Analysis of Variance was conducted to determine if attending HBCUs differed for groups by high school urbanicity (i.e., urban, suburban, or rural location). Participants were classified into three groups, with respect to their high schools' urbanicity: urban (n = 137,266),

suburban (n = 129,506), and rural (n = 32,719). No statistical difference was detected between the three groups with respect to attending HBCUs ($F_{adj(2,353)} = 1.534$, $p > .05$).

Question 7. What is the relationship between students' access to college information sources and attending HBCUs?

An Analysis of Variance was conducted to determine if attending HBCUs differed for groups by access to information about college. Participants were classified into three groups: low access to information sources (n = 60,596), moderate access to information sources (n = 100,819), and high access to information sources (n = 54,375).

The overall model was statistically significant ($F_{adj(2,322)} = 3.008$, $p < .05$). Group means and standard errors are presented in Table 14. Contrast tests indicated that a higher percentage of students in the high information group attended HBCUs (M = .340) than those in the low information group (M = .218, $F_{adj(1,323)} = 5.878$, $p < .05$).

Table 14: Results of Analysis of Variance Comparing Means of Students' Information Access with Their Attending an HBCU (N = 201,693)

Model Estimates	*Mean*	*Std. Error*	*Lower CI*	*Upper CI*
Low Level of Information Sources	0.218	0.031	0.158	0.279
Moderate Level of Information Sources	0.252	0.031	0.191	0.312
High Level of Information Sources	0.340	0.039	0.263	0.418

Corrected Model	*df1*	*df2*	*F*	
	2	322	3.008	*

Comparisons	*Contrast Estimate*	*Std. Error*	*df1*	*df2*	*F*	
Low to High	-0.122	0.050	1	323	5.878	*

*p<.05 **p<.01 ***p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

Question 8. Controlling for academic achievement, what will explain more of the variance in students' attending HBCUs: personal background characteristics, high school type, or access to college information sources?

A binary logistic regression was performed to detect the effects of student expectations, socioeconomic status, high school type, and information capital on the likelihood of students applying to HBCUs. The logistic regression model was statistically significant (Wald $F_{(10, 345)}$ = 3.218, $p < .05$) with a McFadden's Pseudo R^2 of 0.031. Of the ten predictor variables, four were

statistically significant: expecting to complete a 4-year degree, expecting to complete graduate school, attending a private high school, and having access to a high number of college information sources (see Table 15).

Students in this sample who expected to complete a 4-year college degree had odds of attending an HBCU close to two times greater (OR = 1.945) than those who expected to complete some college. Likewise, students in the sample who expected to complete an advanced degree had odds of attending an HBCU nearly two times greater (OR = 1.907) than those who expected to complete some college. The odds of attending an HBCU were over three times lower (I/OR = 3.257) for students who attended private high schools than those who attended public schools. Finally, odds of attending an HBCU for students with access to high levels of college information were over one and a half times higher (OR = 1.56) than for those who had a moderate amount of access to information.

Table 15: Results of Logistic Regression Exploring Characteristics of Students' Academic and Personal Background with Their Attending an HBCU (N = 299,492)

Independent Variables	B	SE	t		OR	Inverse OR
High School Degree or Less	-0.451	0.782	-0.577		0.637	~
Complete 4-Year Degree	0.665	0.255	2.608	*	1.945	~
Graduate School	0.645	0.287	2.251	*	1.907	~
Lowest SES Quartile	-0.341	0.236	-1.447		0.711	~
Quartile SES 3	-0.066	0.255	-0.259		0.936	~
Highest Quartile	0.123	0.279	0.441		1.131	~
Private School	-1.182	0.414	-2.857	**	0.307	3.257
Low Info Sources	-0.059	0.217	-0.269		0.943	~
High Info Sources	0.446	0.212	2.108	*	1.562	~
Academic Z-Score	-0.006	0.084	-0.076		0.994	~
Wald F =	3.218	*	Pseudo R^2 =		0.031	

*p<.05 **p<.01 ***p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

CHAPTER 5
DISCUSSION

This study sought to understand how Black students navigate the college choice process by examining the relationship between Black students' personal background characteristics, high school type, academic achievement, acquired cultural capital, and the postsecondary selection of these students. Data from the Education Longitudinal Study of 2002 (ELS:2002) were used to examine differences in application to selective colleges/universities and HBCU attendance for Black students in the sample. This chapter highlights major findings related to the study's research questions, discusses the significance of findings, offers limitations of findings, and proposes future directions for research.

Restatement of Research Questions

The eight research questions helped explain the college choice process for Black students as they began to make important decisions about whether to apply to selective colleges/universities and attend HBCUs. The research questions were: (1) What is the relationship between students' personal background characteristics and application to selective colleges and universities? (2) What is the relationship between students' high school type and application to selective colleges and universities? (3) What is the relationship between students' access to college information sources and application to selective colleges and universities? (4) Controlling for academic achievement, what will explain more of the variance in students' decisions to apply to selective colleges and universities: personal background characteristics, high school type, or college information sources? (5) What is the relationship between students' personal background characteristics and attending HBCUs? (6) What is the relationship between

students' high school type and attending HBCUs? (7) What is the relationship between students' access to college information sources and attending HBCUs? (8) Controlling for academic achievement, what will explain more of the variance in students' decisions to attend HBCUs: personal background characteristics, high school type, or access to college information sources?

Major Findings

Background Characteristics

Research questions one and five addressed student background characteristics in relationship to applying to selective schools and attending HBCUs, respectively. In looking at differences between male and female students, the percentage of Black men applying to selective schools was higher than that for Black women applying to selective schools, but this difference was not statistically significant.

Research regarding gender and college-going rates indicate that women outpace men in overall higher education enrollment rates (NCES *The Condition of Education*, 2015). However, some researchers such as Litten (1982) and Stage and Hossler (1989) note that gender plays a mixed role when considering the specific type of school students apply to for their postsecondary education. Furthermore, when looking specifically at Black students, Smith and Fleming (2006) found that parents tended to push a college-going trajectory with daughters more than their sons. Given that there was no statistically significant difference detected regarding gender and application to selective schools and HBCU attendance in this study, additional research is still warranted in this area.

Student Expectations: The selectivity score varied between the four expectations groups. As educational expectations increased, so did the percentage of students in the highest two

categories – those expecting to go to graduate school/earn an advanced degree or complete a 4-year degree – who applied to selective schools. Furthermore, a higher percentage of students in the highest expectations group (graduate school/advanced degree) applied to selective colleges/universities than those who expected to complete high school or less, those who expected to complete some college, and those who expected to complete a 4-year degree. In addition, a higher percentage of students in the third expectations group (completing a 4-year degree) applied to selective colleges/universities than those who expected to complete high school or less or those who expected to complete some college.

Regarding HBCU attendance, a higher percentage of students in the highest expectations group (graduate school/earn an advanced degree) attended HBCUs than those who expected to complete some college. Additionally, a higher percentage of students who expected to complete a 4-year degree attended HBCUs than those who expected to complete some college. Kao and Thompson (2002) found that educational aspirations remain an important predictor of both educational and occupational success, and the findings in this study align prior research related to the importance of high expectations in the overall college choice process.

SES: While there was no significant finding between SES and HBCU attendance, there was an association between SES and applying to a selective college/university. The selectivity score varied between the SES quartiles and contrast tests indicated that a higher percentage of students in the highest quartile applied to selective colleges/universities than those in the third quartile, second quartile, or lowest quartile. This is consistent with the findings of prior researchers (Carnevale and Rose, 2003; Chapman, 1981; Hurtado et al., 1997; and Radford, 2013) who note the impact of socioeconomic status on the college choice process at all stages, as well as the impact of SES on applying to selective schools. Additionally, in looking at immediate

enrollment from high school to postsecondary education, data from the 2015 NCES report *The Condition of Education* notes that 80% of students from high-income families transition to college immediately after high school. This is a 30 percentage points higher than peers from low-income families and this trend has remained steady over time. Despite many interventions and efforts to close the gap between lower income families and higher income families regarding postsecondary education, there remains much work to do to ensure that all students have equitable access to the full range of postsecondary opportunities (Kena et al., 2015).

High School Type

Research questions two and six addressed students' high school type and application to selective colleges/universities and HBCU attendance.

School Type: A higher percentage of students from private high schools applied to selective colleges/universities than did students from public high schools. This finding is supported by prior researcher (Coleman et al., 1981; Falsey and Heyns, 1984; McDonough, 1997; and Morgan, 1983) which suggests that organizational structure, staffing levels, and the organizational culture in some private schools leads to students being exposed to and offered a wider range of postsecondary options.

Regarding urban locale, no statistical difference was detected in selectivity scores between the three groups (urban, suburban, and rural) for applying to either selective colleges/universities or attending HBCUs. While the literature seldom speaks to urbanicity outside of the context of school type (e.g., public, Catholic, or other private schools), Neal (1998) noted that gains for students in private schools are often strongest for those in urban environments, possibly because of historical underfunding of public high schools in urban

locales, which has often led to both overcrowding and under-staffing. This finding was also suggested in the qualitative study conducted by McDonough (1994), where she found that students in urban, public high schools were the least likely to apply to selective schools. Key to this finding were the differing human resources (specifically, college counseling/advising) available to students across the various school types in her study.

Research questions three and seven addressed students' access to college information sources and application to selective colleges and universities and HBCU attendance, respectively.

Students in the high information group applied to more selective schools than those in the moderate information group and the low information group. Related to HBCU attendance, students in the high information group were more likely to attend HBCUs than those in the low information group. These findings signal the importance of information and guidance throughout the college choice process. This is also consistent with the findings of Chapman et al. (2018) and their assertion that parents – and the extended village of supportive adults – help shape students' perceptions of colleges/universities and provide guidance through the process. This also aligns with the view of Freeman (2005) and St. John et al. (2011) that trusted, supportive adults are essential to students and their families when making important decisions about applying to postsecondary schools.

Interpretation of Findings

The major findings of this exploratory study are that expecting to obtain a graduate/advanced degree, expecting to obtain a 4-year degree, attending a private school, and having access to high levels of quality information about colleges are predictors of applying to

selective colleges/universities. The odds of applying to a selective school decreased for those with a strong academic score. While this finding is not consistent with the literature. One possible explanation for this finding is that SAT/ACT scores were not used in the calculation of the academic Z score for this study.

The findings show that in terms of HBCU attendance, a higher percentage of students who expected to complete a graduate/advanced degree were more likely to attend HBCUs than students who only expected to complete some college. A higher percentage of students who expected to complete a 4-year degree were also more likely to attend HBCUs than those who only expected to complete some college. The odds of attending HBCUs for students with access to high levels of college information were higher than for those who only had a moderate amount of information. Interestingly, a higher percentage of students who attended private schools were less likely to attend HBCUs than those who attended public school. This finding should be further explored as the transition from a private high school to an HBCU could be considered a seamless transition by some students.

While initial tests showed differences across socioeconomic groups regarding applying to selective schools, SES was not found to be predictive of students' applying to selective colleges/universities in the logistic regression model. Extensive literature (Carnevale & Rose, 2003, 2013; Chapman, 1981; Hossler et al., 1989; and Radford, 2013) comparing students across race/ethnicity consistently asserts that as SES increases so does the likelihood of students applying to selective schools. However, in this exploratory study that was not the finding for this sample of Black students. This leaves an opportunity for future researchers to conduct additional cross-comparative analysis on this finding.

This exploratory research also indicates that HBCUs continue to remain well poised as incredible opportunity pathways for students. As with selective colleges/universities, SES did not have statistical significance in the logistic regression model. Additionally, no statistical difference was detected with regard to the academic score of those who applied to HBCUs. This might suggest that HBCUs are doing much of the heavy lifting that other colleges and universities are often not doing – providing equitable access for students who may have had fewer academic opportunities and financial resources. As Coaxum (2001) notes, some students might enter HBCUs with lower academic preparation than their peers, but they leave college equally prepared as their counterparts who attended PWIs. At a time when we need to invest in talent and build our future labor market, HBCUs do more than their fair share of this developing talent and future global leaders.

In an era of increasing postsecondary competition, it is also important to note that HBCUs remain a powerful option for talented young adults, and they are successful in getting students to and through the academy. Similarly, given the proven outcomes that HBCUs have produced regarding baccalaureate degree completion and the generations of Black leaders that have been cultivated, HBCUs have been and remain a vital force for students who seek academic excellence in an affirming environment. One take away is that the awareness and value of HBCUs often ebbs and flows for Black students and families. Similarly, secondary school leaders are often not aware or appreciative of the value and importance that comes with an HBCU education.

Implications for Policy

The Hossler and Gallagher model of college choice is widely accepted as the logical way that students navigate the college choice process. Given that the strategies for reaching students

and the methods by which students search for colleges, it is possible that this model needs rethinking and refinement. A next step for future research could involve additional qualitative research with diverse populations to better understand how they are currently navigating and approaching the process. While the basic three-stage model may still hold, it is likely that colleges are engaging students in ways that were not available when the initial model was developed. It would be important to future literature to see what students have to say about how they are experiencing the search/application/choice process now, with the widespread use of technology in all stages the recruitment and admissions process.

The Second Morrill Act of 1890 established land-grant institutions specifically for the education Black students. Funding was provided by federal appropriation with the express expectation that states would match the funding dollar-for-dollar for ongoing maintenance and viability. This is in keeping with the structure of the First Morrill Act of 1862; however, for years, HBCU leaders have expressed serious concerns about the underfunding of their colleges. Decades of documentation have established that HBCUs have been significantly shortchanged in their funding in massive amounts. As one example, it is estimated that Tennessee State University (TSU) is owed between $150 and $500 million due to decades of underfunding by the State of Tennessee (Weissman, 2021). This is a policy, leadership, and systemic failure on the part of the state, whose legislature failed to follow through on its matching commitment to TSU. At the federal level, leaders must apply pressure to states to rectify these inequities. One solution to this problem is to eliminate the ability for states to waive the matching requirement for HBCUs. Lee and Keys (2013) note that waivers are not an option for other (PWI) land-grant colleges, and states must be held accountable to equitable treatment for HBCUs.

Implications for Practice

This study serves to reinforce that choice – in the broadest sense of the word – is often not a reality for all students as they navigate their postsecondary selection journey. Young adults are faced with tremendous pressures as they navigate their next steps. Depending on one's high school context, some students are presented with a wide range of options for their future and others are not. With the ease of applying to multiple schools in one swoop, students often make application decisions based on brand recognition and reputation – sometimes with little tangible information about the institution. Even at schools that present students with many choices for postsecondary education, HBCUs are often not put forth as options at the same level as PWIs. This is unfortunate as the range of college options should be as broad as possible to encourage as many choices as possible for students. While it is not solely on high school counselors to shape a student's college path, schools who do have robust counseling support should be open to presenting a full field of options and encourage students to think about the best fit from a holistic point of view.

Similarly, community-based organizations, the Divine Nine (historically Black fraternities and sororities), civic organizations, and HBCU alumni, can serve a critical role for youth at all stages of the college choice process by consistently reinforcing the importance and value of an HBCU education and serving as ambassadors and information resources as needed.

Limitations

There are several limitations to consider when interpreting the results of this study. First, these data were collected in 2002, and the study's design was likely set many years prior to data collection. In looking at the study's questionnaires there is, naturally, limited reference to the type of technology currently used to reach student audiences and no reference to social media.

The way students gather information about college/universities has shifted dramatically over the last 20 years so this is a limitation to this data and study. Similarly, demographic shifts in the last 20 years necessitate changes in the way we collect and ask about demographic data. Today's students are increasingly multi-ethnic/multi-racial. Collecting data that allows students to reflect these, and other demographic changes, would be ideal.

Next, it is important to underscore that this study is not comparing Black students' choices of applying to selective colleges/universities against attending HBCUs. First, as referenced in the methodology chapter, only one variable was available in the data set relating to HBCUs. This variable was from the third collection wave and related to attending an HBCU. While it provides some information, it is best characterized as a look back and not an exact comparison of application behavior in a parallel time frame. Not only was a comparison between these higher education school types not the goal, Coaxum (2001) reminds us that HBCUs are structurally situated within Carnegie classifications and do not constitute a distinct group within this classification. Said differently, the outcome variable for selectivity includes HBCUs as they are 'ranked' like all other comparable schools by Carnegie Classifications. Unless these data were significantly restructured at the secondary analysis level, it would be impossible to make any comparisons or statements about students applying to selective colleges/universities versus applying to HBCUs. Finally, students can and do apply to multiple schools (for this sample, the average was nearly three schools per person). Any combination of school choices could have been possible for any given student. Therefore, the goal of this study was to look broadly at the opportunities and options students saw for themselves based on background characteristics, academic achievement, and access to information.

This study may have benefitted from the use of SAT/ACT scores as a marker of academic achievement in addition to the standardized math test score. This research did not include SAT scores for two reasons. First, SAT scores were not reported or available for a significant percentage of students in the sample. Second, the literature indicates that SAT scores highly correlate with socioeconomic status. By excluding the SAT scores and opting to construct an academic measure using GPA and a school-based math achievement test, achievement is measured in a more equitable manner. As noted above, this may shape how to interpret the finding surrounding the Academic Z-score and application to selective colleges/universities. Furthermore, many researchers do consider the use of SAT scores standard, so this exploratory study will not necessarily be comparable to other similar studies.

Additionally, this study focused only on 4-year college and universities. There are many other types of postsecondary options for students to explore, including two-year schools and trade-schools. These options are viable for students who choose to pursue them after high school. The exclusion of these schools from this study was done to limit the scope of this research to a a manageable set of schools as this helps advance the conversation about postsecondary access for Black students in a focused and targeted way. Future research is certainly warranted on postsecondary options that were not explored in this study.

It is also important to recognize that the landscape for how students now apply to colleges/universities has changed – particularly over the last decade. Access to information about schools is easily accessible and applying to multiple schools simultaneously is commonplace. Tools such as the Common App make it feasible for students to apply to schools that they may only have cursory information about due to the ease of applying. Massive amounts of information without guidance and support do a disservice to students and families. In the absence

of college counseling, where students are often seeking information solo, decision-making may be more sporadic than is typically assumed under the three-stage model approach.

Finally, the Covid-19 pandemic will fundamentally alter how students transition from high school to postsecondary education for the foreseeable future. Several colleges have dropped standardized testing requirements or made these tests optional – in some cases permanently – due to access and equity concerns. High school students are moving in and out of virtual schooling, and teachers and parents alike are concerned about learning loss. Additionally, some students may no longer have access to college counseling as they navigate through this transition, and this gap in support will likely disproportionally impact first-generation and underserved students.

Future Research

This exploratory study contributes to the literature about Black students and postsecondary access. It also raises questions for future study and exploration. Additional research on this topic will allow us to continuously build on the knowledge around college choice and access. Understanding college choice remains as relevant today as it did in previous years. Technology makes it easy for students to apply to dozens of schools with one application and one click of a button; however, for some applicants, this is akin to stuffing a shopping cart full of items and returning them later. Increasing application access may serve colleges' enrollment management functions by driving overall numbers up, but this is not reflective of more thoughtfulness in the overall process. Additionally, today's students are acutely aware that merit and access are not necessarily linked. This current generation of college-bound students witnessed such incidents as the 2019 FBI sting 'Operation Varsity Blues' where wealthy families went to great lengths to obtain space in "choice colleges" for their children. This generation of college-bound students also see the advantages and access that wealth brings by providing

enhanced access to private college counseling consultants, one-on-one tutoring, access to AP courses, and smaller class sizes.

As noted in the Limitations Section, future studies would benefit from more robust data being available about high school students and their application patterns to HBCUs and other Minority Serving Institutions. Designing questions related to knowledge and interest in these institutions could prove valuable for future studies.

Additional research comparing Black students to other racial and ethnic groups is needed to understand the role SES plays in students applying to selective colleges/universities. While SES was significant in the Analysis of Variance between the quartile groupings and applying to selective colleges, it did not have predictive value in the logistic regression model in explaining the likelihood of applying to either selective schools or HBCUs. Given that decades of research point to the importance of SES and college choice, this finding needs more investigation.

Given that access to college information sources were found to be important to students in the college choice process, it would be interesting to utilize this study's design with current data. In the case of this study, identifiable/significant adults were important for information and support. Now that high school students can more easily access information about schools and how to apply to them, it would be interesting to see if the sources that were important to these students (e.g., teachers, coaches, parents) remain important to subsequent cohorts of students.

Finally, this research would benefit from a mixed-methods design and one where the researcher could be in dialogue with students and their families about the college choice process. Many questions remain regarding how students are making the decisions on where to apply for colleges. It would be helpful to tease out if families are conflating terms such as selectivity, quality, and prestige. Being clear about what these terms mean and why they are important to

distinguish may help reduce the anxiety and accelerated pressure that students often express throughout the college choice process.

Concluding Remarks

This study uses the Hossler and Gallagher (1987) student college choice model and research by Freeman (2002), Jack (2014), and McDonough (1997) on student college choice to provide the conceptual lenses for this study. Like prior research, these findings suggest that certain background characteristics, are predictive in the college choice process. Surprisingly, the academic achievement variable did not serve as a strong predictor of applying to a selective college/university and this finding was not consistent with prior literature (Chapman, 1981; Hearn, 1991). Prior research by Freeman (2002) and Hossler et al. (1989) support the idea that students who have access to considerable amounts of quality information from adults in their network with respect to the college application process would see higher odds of enrolling in a 4-year college/university. This exploratory study extends the research of these scholars to include dialogue surrounding the role of adults and the role they play in shaping the type of colleges/universities that students apply to.

This study provides insight into the roles of student expectations and information capital in the college choice process. High postsecondary expectations, high school type, and access to college information sources are powerful predictors as relates to applying to selective colleges/universities. Similarly, high expectations and having access to college information sources are predictive of attending HBCUs.

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APPENDIX A

Appendix A: Pearson Chi-Square: Grade 12 Cohort & Selectivity with Percentages

Characteristics	Applied to Selective 41% (N=4,160)	Did not Apply to Selective 59% (N=6,080)	*Pearson* X^2	*df*	*Cramer's V*
Sex			2.345	1	.015
Female	53%	55%			
Male	47%	46%			
SES			1106.592**	3	.329
Lowest Quartile	9%	24%			
Second Quartile	15%	27%			
Third Quartile	24%	27%			
Highest Quartile	52%	23%			
High School Type			362.293**	1	.188
Public	63%	80%			
Private	37%	20%			
Urbanicity			131.565**	2	.113
Urban	31%	39%			
Suburban	49%	48%			
Rural	21%	13%			
Expectations			1332.296**	3	.372
H.S. or less	1%	3%			
Some College	2%	22%			
4-year Degree	33%	42%			
Graduate Degree	65%	33%			
Information Sources			175.181**	2	.149
Low	22%	36%			
Moderate	59%	50%			
High	19%	14%			

*$p \leq .05$ *$p \leq .01$**

NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

APPENDIX B

Appendix B: Pearson Chi-Square: Black Student Sample & Selectivity with Percentages

Characteristics	Applied to Selective 31% (N=370)	Did not Apply to Selective 70% (N=850)	*Pearson* X^2	*df*	*Cramer's V*
Sex			4.645*	1	.062
Female	28%	72%			
Male	34%	66%			
SES			66.093**	3	.232
Lowest Quartile	18%	88%			
Second Quartile	29%	72%			
Third Quartile	31%	69%			
Highest Quartile	49%	51%			
High School Type			60.795**	1	.223
Public	26%	74%			
Private	55%	45%			
Urbanicity			9.470*	2	.088
Urban	34%	66%			
Suburban	30%	71%			
Rural	21%	79%			
Expectations			118.432**	3	.323
H.S. or less	3%	97%			
Some College	7%	93%			
4-year Degree	26%	74%			
Graduate Degree	46%	54%			
Information Sources			10.568*	2	.110
Low	25%	75%			
Moderate	34%	66%			
High	38%	62%			

*$p \leq .05$ *$p \leq .01$**

NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

APPENDIX C

Appendix C: Pearson Chi-Square: Grade 12 Cohort & HBCU with Percentages

Characteristics	Attended HBCU 3% (N=310)	Did not Attend HBCU 97% (N=9060)	*Pearson* X^2	*df*	*Cramer's V*
Sex			.021	1	.001
Female	3%	97%			
Male	3%	97%			
SES			19.961*	3	.043
Lowest Quartile	5%	95%			
Second Quartile	4%	96%			
Third Quartile	3%	97%			
Highest Quartile	3%	97%			
High School Type			33.925**	1	.060
Public	4%	96%			
Private	2%	98%			
Urbanicity			63.492**	2	.082
Urban	5%	95%			
Suburban	2%	98%			
Rural	3%	97%			
Expectations			5.442	3	.025
H.S. or less	2%	98%			
Some College	3%	97%			
4-year Degree	3%	97%			
Graduate Degree	4%	96%			
Information Sources			17.323**	2	.049
Low	3%	97%			
Moderate	3%	97%			
High	6%	95%			

*$p \leq .05$ *$p \leq .01$**

NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).

APPENDIX D

Appendix D: Pearson Chi-Square: Black Student Sample & HBCU with Percentages

Characteristics	Attended HBCU 22% (N=240)	Did not Attend HBCU 78% (N=840)	*Pearson* X^2	*df*	*Cramer's V*
Sex			2.308	1	.046
Female	20%	80%			
Male	24%	76%			
SES			4.926	3	.068
Lowest Quartile	21%	80%			
Second Quartile	19%	81%			
Third Quartile	23%	77%			
Highest Quartile	27%	73%			
High School Type			9.794*	1	.095
Public	24%	76%			
Private	13%	87%			
Urbanicity			7.254*	2	.082
Urban	26%	75%			
Suburban	19%	81%			
Rural	19%	81%			
Expectations			12.759*	3	.113
H.S. or less	12%	89%			
Some College	12%	88%			
4-year Degree	24%	76%			
Graduate Degree	25%	75%			
Information Sources			4.461	2	.075
Low	21%	79%			
Moderate	23%	77%			
High	30%	70%			

*$p \leq .05$ *$p \leq .01$**

NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002/2012).