

What Can Historically Black Colleges and Universities Teach about Improving Higher Education Outcomes for Black Students?

Gregory N. Price and Angelino C. G. Viceisza¹

April 10, 2023

Abstract

Historically Black colleges and universities are institutions that were established prior to 1964 with the principal mission of educating Black Americans. In this essay, we focus on two main issues. We start by examining how Black College students perform across HBCUs and non-HBCUs by looking at a relatively broad range of outcomes, including college and graduate school completion, job satisfaction, social mobility, civic engagement, and health. HBCUs punch significantly above their weight, especially considering their significant lack of resources. We then turn to the potential causes of these differences and provide a glimpse into the “secret sauce” of HBCUs. We conclude with potential implications for HBCU and non-HBCU policy.

¹ Gregory N. Price is Professor of Economics, University of New Orleans, New Orleans, Louisiana. Angelino C. G. Viceisza is Associate Professor of Economics, Spelman College, Atlanta, Georgia. Their emails are gnprice@uno.edu and aviceisz@spelman.edu.

Introduction

Historically Black colleges and universities, often referred to as HBCUs, are institutions that were founded and developed in an environment of legal segregation prior to the Civil Rights Act of 1964, with the principal mission of educating Black Americans. The National Center for Education Statistics (2023, Table 313.10) listed 99 such institutions located in 19 states, the District of Columbia, and the US Virgin Islands. Total enrollment at these institutions in 2021 was 287,000 students.

In their most important function – enrolling and graduating college students – historically Black colleges and universities punch significantly above their weight (Morse et al., 1996; Sharpe, 2016; Broady et al., 2017). Together, these institutions enroll about 1.5 percent of all college students, with about three-quarters of that enrollment being Black students. However, this accounts for 9 percent of all Black college students nationally and for 13 percent of all Black college graduates in 2021 (National Center for Education Statistics, undated). As we will point out later in this paper, nearly one-quarter of all Black PhDs in science-related fields graduated from these schools. Of course, these patterns vary across states (for discussion, Saunders and Nagle, 2019). In Florida, historically Black colleges and universities enroll 9 percent of all Black undergraduates and award 18 percent of all bachelor’s degrees to Black college graduates. In Louisiana, these institutions enroll 38 percent of all Black students--and produce a similar number of college graduates. In Virginia, they enroll 29 percent of the state’s Black college students and 32 percent of its Black college graduates.

Historically Black colleges and universities have a long tradition of reaching out to the disadvantaged, including those who are first-generation college students or who come with low socioeconomic status. Thus, taken as a group, the students at these schools are more likely than Black college students to have lower academic qualifications (for example, as measured in terms like high school grade point average and test scores) and more likely to be from socioeconomically disadvantaged families (for example, as measured by receiving Pell grants). Nathanson et al. (2019) report that almost 24 percent of students at historically Black colleges and universities are low-income, three times the rate at primarily white institutions. Of course, looking at the averages for all students of historically black colleges and universities as a group does not take the heterogeneity of these institutions into account.

Table 1 shows some 2021 characteristics for two types of four-year historically Black colleges and universities, first, the ten largest by enrollment and second, some smaller historically Black institutions. Of the 16 institutions listed, nine are public. Enrollment ranges from 2,173 to 11,207, with six-year graduation rates varying from 21.7 percent to 75.1 percent. As mentioned previously, a significant proportion of students at these institutions come from disadvantaged backgrounds since ten of the institutions listed have Pell percentages over 50 percent.

In this essay, we focus on two main issues. We start by examining how Black students perform across historically Black colleges and universities compared with other institutions along a relatively broad range of outcomes. We then consider some potential causes of these differences. In so doing, we provide a glimpse into the “secret sauce” that allows these historically Black schools to start with students who are below-average on measures of preparedness for college and end up with above-average results. We conclude with potential implications for policymakers and university administrators. We also emphasize that compared to other colleges and universities, historically Black colleges and universities have been under-resourced, both historically during the time of legal segregation and more recently as well.

Table 1: 2021 Characteristics for Selected Four-Year Historically Black Colleges and Universities

Institution	State	Type	Enrollment	Pell percent	Six-Year Black Graduation Rate
North Carolina A&T State University	NC	Public	11,207	57	51.8%
Florida Agricultural and Mechanical University	FL	Public	9,780	61	53.2%
Howard University	DC	Private	9,069	44	64.2%
Prairie View A&M University	TX	Public	9,011	65	35.5%
Texas Southern University	TX	Public	8,933	65	21.7%
North Carolina Central University	NC	Public	7,541	61	49.8%
Morgan State University	MD	Public	7,286	53	43.7%
Tennessee State University	TN	Public	6,875	55	29.6%
Jackson State University	MS	Public	6,568	70	37.1%
Southern University and A & M College	LA	Public	6,283	68	40.9%
Hampton University	VA	Private	4,510	36	59.8%
Tuskegee University	AL	Private	3,276	21	52.0%
Xavier University of Louisiana	LA	Private	3,133	21	51.4%
Morehouse College	GA	Private	2,296	48	55.0%
Spelman College	GA	Private	2,261	46	75.1%
Clafin University	SC	Private	2,173	71	50.7%

Note: This table comprises 4-year historically Black institutions with the top-ten enrollment as well as select smaller HBCUs, specifically, Hampton University, Tuskegee University, Xavier University of Louisiana, Morehouse College, Spelman College, and Clafin University.

Source: This table is based on publicly available data at <https://www.msidata.org>.

Better for Black Students?

College-Level Outcomes

The graduation rates for Black students at historically Black colleges and universities is about 32 percent; for Black students at other institutions, the graduation rate is about 44 percent (Gordon et al. 2021). However, as noted already, historically Black institutions serve a distinctive group. Thus, evaluating the performance of Black students at historically Black institutions turns on how one adjusts for such differences.

For example, Gordon et al. (2021) adjust graduation rates using both parametric and “coarsened exact matching” methods (looking at schools with similar characteristics) to compare for institutional and individual factors. Institutional factors include size of the institution, selectivity, finances, quality of instruction, setting, culture and atmosphere, alumni/legacy connections, and others. Individual student factors include test scores and socioeconomic status. They find that “African American students attending HBCUs are up to 33% more likely to graduate than African American students attending a similar non-HBCU.” In an analysis with more detailed individual data, Hill et al. (2023) find that for Black students with intermediate test scores, attending an historically Black institution is associated with an increase of 13-14 percent in the graduation rate; for Black students with low test scores, the graduation rate doubles. In addition, when comparing Black students who graduate, the historically Black institutions were more likely to produce a science, technology, engineering, and mathematics graduate.

Several studies have found that differences in graduation and retention rates between historically Black colleges and universities and other institutions are mostly driven by selection (for other examples, see Richards and Awokoya, 2010; de Zeeuw et al., 2021; Wilson 2007). There is some evidence that historically Black colleges and universities have a comparative advantage in economic education. Simkins and Allen (2000) gave the Test of Understanding College Economics (TUCE III) before and after introductory courses in economics to students at two regional state institutions of about the same size in the same city: the historically black North Carolina A&T State University and the traditionally white University of North Carolina at Greensboro (UNCG). They found that the students at North Carolina A&T scored lower on the pre-test before the course began, but that scores were equivalent across the two schools after the end of the class.

Graduate School and the Academic Pipeline

Almost one-quarter (23.2 percent) of Black graduates who earned a doctorate in science and engineering between 2015 and 2019 earned their bachelor's degree from a historically black college or university (National Science Foundation, 2021). Historically black institutions produced particularly large shares of baccalaureate recipients who later earned doctoral degrees in agricultural sciences and natural resources (almost 50 percent of all Black graduates who earned such a degree), computer and information sciences (over 30 percent), and mathematics and statistics (over 30 percent). The top producers were Howard University and Spelman College.

To get a more general picture beyond science and engineering, we turn to the Baccalaureate and Beyond dataset, a nationally representative longitudinal study of students who completed the requirements for a bachelor's degree in a given academic year, specifically 1992-1993 (cohort 1), 2000-2001 (cohort 2), 2007-2008 (cohort 3), and 2015-2016 (cohort 4).² Table 2 compares the proportion of students from historically Black colleges and universities who applied to graduate school ten years after completing college with Black graduates of other institutions. While the overall levels for the 1993/2003 cohort were higher than those for the 2008/2018 cohort, students from historically Black colleges and universities were about as likely as Black students at other institutions to have applied to graduate school ten years after college regardless of the cohort. Table 2 presents unadjusted averages: thus, it must be viewed as a success story that historically Black colleges and universities started with a higher share of socioeconomically and academically disadvantaged students, yet ended up with a similar share attending graduate school.

These statistics have implications for diversity, particularly in academia, but also in jobs after graduation, and for knowledge production more broadly. Here, we focus on evidence on these themes from the field of economics. Price and Sharpe (2020) find that PhD-granting departments of economics with more Black faculty members tend to produce more research on topics related to race; thus, they argue that the low numbers of Black economists in these departments has constrained the production of economics knowledge that would reduce racial inequality and improve the living standards of Black Americans. Francis et al. (2022) explore the contributions of Black economists to research on major economic and social policy problems in the United States by focusing on topics in education, poverty and economic mobility, and public finance. Of the

² The National Postsecondary Student Aid Study serves as the base year for each cohort. The Baccalaureate and Beyond data follow graduating seniors one, four, and ten years after completing their bachelor's degree. Ten-year data are only available for cohorts 1992-1993 and 2007-2008, which are typically referred to as 1993/2003 and 2008/2018. All statistics from these data are generated using DATALAB, <https://bit.ly/3bvFvJO>, as shown in the online Appendix.

more than 260 articles they cite, 11 percent include economists on faculties at historically Black colleges and universities. Agesa et al. (2000) find that while economics departments at historically Black colleges and universities produced less research output relative to other economics departments, research output was equally effective in leading undergraduate economics majors to pursue economics doctorates at both types of institutions—which also suggests that support for research at historically Black institutions would likely lead to more Black PhD economists.³

Table 2: A Selection of Average Black Student Outcomes across Historically Black Institutions and Non-HBCUs

Outcome	HBCU	Non-HBCU
Applied to Graduate School		
Cohort: 1993/2003	0.39	0.40
Standard error	0.07	0.03
Cohort: 2008/2018	0.27	0.28
Standard error	0.04	0.02
Annual Salary		
Cohort: 1993/2003	\$47,072	\$52,449
Standard error	\$4,430	\$1,665
Cohort: 2008/2018	\$58,708	\$59,527
Standard error	\$3,357	\$1,787
Pay Satisfaction		
Cohort: 1993/2003	0.35	0.60
Standard error	0.04	0.04
Cohort: 2008/2018	54.40	56.92
Standard error	6.49	2.62
Job Security Satisfaction		
Cohort: 1993/2003	0.69	0.80
Standard error	0.05	0.03
Cohort: 2008/2018	72.12	70.66
Standard error	5.64	2.33
Ever Voted		
Cohort: 1993/2003	0.88	0.85
Standard error	0.04	0.03
Cohort: 2008/2018	0.79	0.80
Standard error	0.04	0.02

Note: This table presents averages for Black graduates from historically Black institutions with Black graduates from non-HBCUs. No other factors are controlled for.

Source: All statistics from these data are generated using DATALAB, <https://bit.ly/3bvFvJO>, as shown in the online Appendix.

³ This finding is consistent with Biasi and Ma (2022) who find: 1) more selective and better funded schools, and those enrolling socioeconomically advantaged students, teach more frontier knowledge; and 2) students from these schools are more likely to complete a doctoral degree, produce more patents, and earn more after graduation.

Compensation and Satisfaction

We now turn to two labor market outcome measures from the Baccalaureate and Beyond dataset: salary and career satisfaction. Comparing Black graduates across all majors in terms of annual salary ten years after graduation, graduates of historically Black colleges and universities did worse relative to other institutions in the 1993/2003 cohort, but seem to have caught up in the 2008/2018 cohort as shown in Table 2.

These findings are consistent with, and in some sense reconcile, those of prior studies. Studies looking at data for the 1970s find that attending a historically Black institution provided a wage premium for Black college students at the time compared to Black students attending other institutions, after adjusting for individual factors. For example, Constantine (1995) finds this result using data from the National Longitudinal Survey of the Class of 1972. Price et al. (2011) use data from the National Survey of Black Americans, conducted in four waves between 1979–1980 and 1992, and find benefits to both labor market and psychological outcomes from attending an historically Black institution. Similarly, Fryer and Greenstone (2010) adjust for family background and high school academic achievement and statistical methods to correct for unobserved personal difference, and find a wage premium from attending a historically Black college or university in the 1970s using nationally representative data. However, using the same methods, Fryer and Greenstone find a wage *penalty* for attending an historically Black institution in the 1990s. This is similar to our finding in Table 2. Wood and Palmer (2017), using data from the 1993/2003 Baccalaureate and Beyond, find that historically Black institutions are equivalent to other higher education institutions in terms of human capital formation to obtain comparable labor market outcomes.

Studies using more recent data tend to find a wage premium for Black students attending historically Black colleges and universities. For example, Elu et al. (2019) use data from the 2015 US Department of Education College Scorecard, which linked together data on characteristics of colleges and their students from the Integrated Postsecondary Education Data System, the National Student Loan Data System, federal earnings and tax records, and other sources. They find that after adjusting for factors like returns to different college majors and the urban wage premium, there is a long-run wage premium for a Black student to attending an historically Black college or university.

Table 2 also compares two measures of career satisfaction: pay/compensation satisfaction and job security satisfaction (with the exact wording of the questions varying slightly over time). For the 1993/2003 cohort, Black graduates of the historically Black institutions do worse on all measures than Black graduates of other institutions, which appears consistent with the salary findings reported previously. For the 2008/2018 cohort, Black graduates of historically Black institutions express more satisfaction with regard to job security than Black graduates of other institutions.

Thriving and Social Mobility

A Gallup (2015) poll conducted in 2014 and 2015 reports that among Black college graduates, those who attended an historically Black institution are more likely than others to agree strongly with the statement that they are thriving in purpose well-being (61 percent versus 40 percent) and financial well-being (40 percent versus 29 percent). Digging deeper into the survey data, these differences reflect a higher likelihood of the graduates of historically Black institutions

expressing liking what they do each day, being motivated to achieve goals, and effectively managing their economic life to reduce stress and increase security.

Several studies have made use of the publicly available Opportunity Insights dataset, generated by government researchers working with Harvard researchers, to study the socioeconomic mobility of graduates from different types of institutions. These data are built on aggregate intergenerational (parent linked to child) income information from the Internal Revenue Service (IRS) linked with college attendance information from the NCES Integrated Postsecondary Education Data System (IPEDS). The IRS data link parents and their children's reported income earnings for children born from 1980-1991. Parents' household earnings are calculated as the five-year average when the child was age 15-19. Children's earnings are calculated as wage and self-employment earnings in 2014, when children were in their early to mid-30s.⁴

Using these data, Nathenson et al. (2019) find that that historically Black colleges and universities enroll far more low-income students than predominantly White institutions, and more students experience upward mobility at historically Black rather than predominantly White institutions. They compare 50 historically Black institutions with 115 primarily White institutions, yielding an analytic sample of 165 institutions. For example, their calculations show that two-thirds of low-income students at historically Black colleges and universities end up in at least the middle class. In their estimate, Xavier University of Louisiana, Dillard University, and Tuskegee University are among the historically Black institutions doing a particularly good job at fostering upward mobility for their students.

Hammond et al. (2021) also use this Opportunity Insights dataset. They compare 50 historically Black institutions with a broader group of 1,235 other colleges and universities. They measure an institution's "access" as the percentage of students whose parent or guardian had low-income levels, and an institution's "success" as the share of students from low-income households who attain a higher income category. They multiply access and success to obtain a measure of how well an institution promotes mobility. By this measure, 52 percent of all institutions above the 95th percentile of mobility are historically Black colleges and universities. In part, this outcome arises because the historically Black institutions have an access rate twice the national average and over five times that of what they categorize as "Ivy Plus" institutions. The ten historically Black colleges and universities with the highest mobility rates are: Claflin University, Rust College, Grambling State University, Florida Memorial University, Southern University at New Orleans, Jackson State University, Elizabeth City State University, Mississippi Valley State University, South Carolina State University, and Southern University and A&M College at Baton Rouge.

Itzkowitz (2022) also uses the Opportunity Insights data to create their own economic mobility index. For the index, he calculates a "Price-to-Earnings Premium"—basically, how long it takes a low-income student to recoup the costs of their education based on the premium they earn by attending a given institution—and multiply their comparative rank by the percentage of Pell Grant recipients that each institution enrolls. He finds that Hispanic-serving institutions concentrated in California, Texas, and New York provide the most economic mobility by this measure, but historically Black institutions also score high. By this measure, the top ten historically Black institutions for social mobility are: Elizabeth City State University, Xavier

⁴ In this data, postsecondary institution is defined as the institution the child most often attended between the ages of 19 and 22. Income mobility by postsecondary institution is calculated as an aggregation of students and parents' income for children born in 1980, 1981, and 1982.

University of Louisiana, North Carolina A&T State University, Fayetteville State University, Florida A&M University, Bowie State University, Prairie View A&M University, Tennessee State University, Winston-Salem State University, and Wilberforce University.

Voting and Health

One proxy for civic engagement is whether someone has ever voted. As shown in Table 2, Black graduates of historically Black colleges and universities are more civically engaged by this measure than Black graduates of other colleges and universities; although the difference seems to have decreased over time.

Attending an historically Black college or university seems to have a positive impact on the physical and mental health of Black students. Colen et al. (2020) assess the odds of metabolic syndrome among Black college attendees age 24-34. Specifically, they assess whether respondents are above a high-risk threshold on at least three of five common biomarkers of cardiovascular health: blood pressure, waist circumference, triglycerides, high-density lipoprotein, and glycated hemoglobin levels. They find that enrollment in an historically Black institution is associated with a 35 percent reduction in such odds compared with those who attend other colleges and universities. Moreover, those who attend historically Black institutions and who grew up in more segregated environments experience the greatest reductions in the likelihood of developing metabolic syndrome. This finding is consistent with the Gallup (2015) evidence mentioned earlier.

With regard to psychological well-being, the Price et al. (2011) study mentioned earlier using data from the National Survey of Black Americans found that Black students who attended an historically Black institution scored more highly on self-esteem and Black identity. In a sample of 171 students at historically Black institutions, Braby et al. (2022) found that those with high ethnic identification and resilience reported lower alcohol and substance use, as well as minimal mental health distress. During the recent and ongoing COVID-19 pandemic, Huang et al. (2022) found in a survey of 254 students at an historically Black university that by enabling an environment of connectiveness for students, the institution was better able to mitigate pandemic-related student mental stress.

What is the Secret Sauce?

The Mission of Black Identity Formation

Historically Black colleges and universities were created and run by the descendants of American Negro slaves. Historically Black colleges and universities have long been associated with broader goals than just conferring degrees on graduates, including a broader focus on individual and community prosperity. Their role in advocating for social justice and activism over time, going back decades to the period of legalized segregation, cannot be overestimated. It complements what students learn in the classroom, expanding their broader skills. This broader mission not only imparts on students a sense of belonging at their respective institutions but also within society.

While the mission of historically Black colleges and universities has not changed (Wright 2016), these institutions now serve a distinct student population – for the most part, Black students who *choose* to go to a historically Black institution despite having the option to attend a

college or university that is not historically Black. As alluded to earlier in this essay (for example, Table 1), a significant proportion of these students increasingly come from disadvantaged backgrounds, and historically Black institutions continue to do well by them.

For all of these reasons, it is thus not surprising that graduates of these institutions seem more civically engaged and more likely to report that they are thriving in purpose and wellbeing (recall the polling results of Gallup, 2015, to which we return below as well). The overrepresentation of graduates of historically Black colleges and universities in occupations that are plausibly positively correlated with confidence and self-esteem such as US congressional representatives, court judges, university professors (as described in Fryer and Greenstone, 2010; Toldson et al., 2022), and civil rights activists (as discussed in Redd, 1998; Roebuck and Murty, 1993), suggests that historically Black institutions have a comparative advantage in cultivating these traits.

Here, our focus is on how identity formation, confidence, and self-esteem boost academic achievement. Price et al. (2011) provide a theoretical framework in which a college seeks to produce an ideal student identity through mechanisms such as curricular and co-curricular activities. The abovementioned comparative advantage stems from the fact that historically Black colleges and universities have a higher ratio of Black to non-Black students, thus making it easier and less costly for Black students to subscribe to a particular identity and in turn, high confidence, self-esteem, and self-image. This identity interacts with the choices that students make about investing energy and effort in their studies. This theoretical framework both rationalizes how historically Black institutions confer relative labor market advantages upon their graduates and constitutes a causal framework that enables historically Black colleges and universities to “punch above their weight” in general.

Gains in confidence and self-esteem can be viewed as the provision of social capital. Such traits, when successfully transmitted to students, can translate into individual productivity, including the observed patterns of academic success while in college and earnings in the labor market discussed earlier. Such non-cognitive traits are of course difficult to measure, but a growing body of evidence for students and graduates of historically Black colleges and universities, some based on interviews, confirms their importance.

For example, “stereotype threat” refers to the common finding that if Black students are reminded of their racial identity before taking a test, they tend to score lower. However, when Alston et al. (2022), replicated the methods of these previous tests in a lab experiment at a historically Black university, they found no evidence of stereotype threat on test scores in this group. When McGee et al. (2021) interview 13 presidents or senior administrators at historically Black colleges and universities, they find that race-consciousness led to improved student performance by prioritizing the hiring of Black faculty, enhancing Black student experiences, and creating culturally affirming programming. Winkle-Wagner et al. (2020) discuss how alumnae credited Spelman College for fostering a culture of success.

In studies focused on graduate students, Tiako et al. (2021) find that Black medical students at historically Black institutions (1) report a greater sense of belonging than their Black colleagues at primarily White institutions, with a gap that widens over time, and (2) remain more confident in their scholastic capabilities (also see Gasman et al., 2017). Shorette and Palmer (2015) interview several a dozen Black men in graduate programs at a primarily White midwestern university, and find evidence that those who graduated from historically Black institutions have an advantage in certain noncognitive traits including positive self-concept, realistic self-appraisal, ability to handle the systems they face, availability of a strong support person, leadership

experience, and community participation. Similarly, Jett (2013) sought out four Black men who were graduate students in mathematics at various institutions. It turned out that all four had graduated from historically Black colleges and universities, and all of them emphasized the importance of supportive structures and mechanisms, especially the role models provided by African American male mathematics professors.

Looking at this body of evidence as a whole, both the qualitative data and the overall record of success for both Black and other students, Smith and Jackson (2021) argue that historically Black colleges and universities can serve as a model for other institutions of higher education in the ways that they “(1) foster familial learning environments, (2) promote diversity and inclusion, and (3) invest more time, support, and compassion into students.”

Student Support from Faculty and Alumni

As reported by Gallup (2015, p. 18) and shown in Table 3, Black graduates of historically Black colleges and universities recall more positive and supportive experiences than Black graduates of other institutions. Black graduates of historically Black institutions are more than twice as likely to have felt supported. Digging into this data more deeply, they are also more likely to recall involvement in applied internships, long-term projects, and extracurricular activities. The gap between Black graduates of historically Black institutions and Black graduates of other colleges and universities is 58 percent versus 25 percent in recalling having professors who cared about them as a person, and 42 percent to 23 percent in recalling that they had a mentor who encouraged them to pursue their goals and dreams. Similarly, the Baccalaureate and Beyond data suggest that Black graduates of historically Black institutions are more likely to have participated in co-curricular experiences, such as a paid internship.

Table 3: Black Graduates: Support and Experiential Learning Opportunities

Outcome (Percent who strongly agree with the following statements)	HBCU	Non-HBCU
My professors at My University cared about me as a person	58%	25%
I had at least one professor at My University who made me excited about learning	74%	62%
While attending My University, I had a mentor who encouraged me to pursue my goals and dreams	42%	23%
Felt Support	35%	12%
While attending My University, I had an internship or job that allowed me to apply what I was learning in the classroom	41%	31%
While attending My University, I worked on a project that took a semester or more to complete	36%	30%
I was extremely active in extracurricular activities and organizations while attending My University	32%	23%
Experiential Learning	13%	7%

Source: Gallup (2015, p. 18).

The role of alumni in the success of historically Black institutions should not be underestimated. This support ranges from donations and mentoring (both in and out of the classroom) to exerting pressure on college and university leadership to stay true to their mission. In fact, many alumni give back by returning to their institutions, particularly as faculty. In other instances, alumni are parents, grandparents, aunts, uncles, and so on of current students at historically Black institutions. Based on the 2016-17 Baccalaureate and Beyond cohort, 11.2 percent of Black students at historically Black institutions utilized the alumni network during their undergraduate education, relative to 8.5 percent of Black students at other colleges and

universities. These statistics are probably underestimates, because alumni who return during job market season to recruit students are often not reported as part of “utilizing the alumni network.” Also, networks of parents and relatives are unlikely to be reported, even when they are alumni as well.

The above findings are consistent with other related work. For example, Palmer et al. (2010) investigate the academic and social experiences of 11 Black males, who entered a public historically Black institution through its remedial or developmental studies program and persisted to graduation. Participants credited the university’s racial composition, support from peers, faculty, and role models in helping to increase their propensity for learning and academic success. Moreover, there is a growing literature that underscores the importance of Black teachers being trained at historically Black institutions since such training seems to differentially impact Black student achievement (for example, Edmonds 2022, Morgan and Hu 2022 and Redding 2019).

In the rest of this section, we highlight some of the ways in which historically Black colleges and universities have managed to pave the way in curricular and co-curricular innovation for Black students: college preparation, Black-centered curriculum and first-year courses, pathways to college, research experiences, and pathways to terminal degrees. Our discussion is only meant to offer some concrete illustrations, not to be exhaustive. The list covered here primarily reflects specific initiatives with which we are most familiar.

College Preparation

Many historically Black colleges and universities have college preparation summer programs that seek to expose local youth to their mission, programs, campus—and to Black culture more generally. HBCU Buzz (<https://www.facebook.com/hbcubuzz/>) and HBCU First (<https://hbcufirst.com/>) curate lists of select summer programs, while institutional websites provide up-to-date information for specific programs. A specific example is Morehouse College’s Summer Academy (<https://bit.ly/3bl708Q>, accessed on April 8, 2023).

Summer programs benefit both current and prospective students at historically Black institutions. Current students are often involved with such programs; for example, as teaching, research, and/or resident assistants. This involvement helps current students develop technical and soft skills that serve them well on the job market and when applying for graduate school. It also helps current students with stronger letters of recommendation and references.

For prospective students—and Black youth in particular—such programs can be a series of firsts: for example, first time setting foot on a college campus for a period longer than a few hours and first time encountering faculty (teachers), staff, and peers who mostly look like them. With these experiences comes the beginning of an understanding of the culture of historically Black institutions: rigorous academics in a supportive community environment, and how that combines with a social life on and off campus.

Black-Centered Curricula and First-Year Experiences

Historically Black colleges and universities tend to tailor their curricula, particularly during the first year, to Black culture. Such an Afro-centric approach has been found to be complementary to effective learning outcomes for Black students (for example, as described in the literature review by Gasman and Commodore, 2014; or in the “living-learning culture” discussed by Ericksen and Williamson-Ashe, 2019).

An example of a Black-centered curriculum is the “African Diaspora and the World” course at Spelman College, a two-semester sequence required in the first year or for transfer students. The sequence speaks to students’ experiences as Black women and in so doing, helps them learn about themselves, their history, and their place in the African Diaspora and the world. Many alumnae refer to the course as being the most formative educational influence in their lives (per the course website, <https://bit.ly/3N8opyY>, accessed on April 8, 2023). ADW has existed for more than 25 years and tends to challenge students’ critical inquiry and reading skills. From 2015 to 2020, a multi-disciplinary team of Spelman faculty and staff, supported by a grant from the US Department of Education, implemented a randomized controlled trial in collaboration with the ADW course. The main purpose of the intervention was to test whether metacognitive strategies could further enhance student learning in challenging first-year courses and have follow-on impacts as students progress through the college curriculum. Faculty were randomized to either a treatment condition in which they were trained to teach the material using metacognitive strategies such as reciprocal teaching, or a control condition in which they taught ADW as they usually would have in absence of the intervention (for an overview of the research, see Blankson et al., 2019). This experiment is a testament to historically Black institutions’ commitment to the scholarship of teaching and learning as well as providing Black students with the best curricular and co-curricular experience.

A concrete example of a first-year experience program is the one at Winston-Salem State University. It is designed to support first-year students in their transition from high school to college, and provide them with a comprehensive, holistic experience that creates successful learners and competent citizens. The experience is centered around three keywords: empower, engage, and explore. First-year students are empowered through enhanced knowledge about communication, time and money management, effective study strategies, and research. They engage with peers, faculty, staff, and administrators through special activities, volunteering, and activism. Finally, they explore social justice in five areas: diversity, educational equity, health equity, community empowerment, and community sustainability. Additional information about the Winston-Salem first-year experience course is available at <https://bit.ly/3Ng9IKh> (accessed on April 8, 2023).

Research Experiences In and Out of the Classroom

Many historically Black colleges and universities have long embraced research experiences, both in and out of the classroom. We discuss a few examples to illustrate, although we believe that they typify the experiences at many other institutions.

First, the Course-based Undergraduate Research Experiences (CURE) project at Xavier University of Louisiana is supported by a Targeted Infusion Project award from the National Science Foundation’s HBCU program. Per the NSF awards page (<https://bit.ly/3zTHRwj>, accessed on April 8, 2023), this CURE project (expected to end in 2023) infuses two authentic research projects in first-year biology labs. The key objectives of the CURE are to (1) increase students’ scientific competencies, motivation, and self-efficacy and (2) broaden their knowledge of career options. Data on student learning, self-efficacy, project-ownership, and retention will be analyzed to further advance science education at historically Black institutions.⁵

⁵ Lee and Searles (2021) discuss the IBM-HBCU Quantum Center, which is a collaboration between IBM and a consortium of 23 historically Black institutions that seeks to address the lack of Black representation and build a diverse and aware workforce in quantum information science and engineering. One key pillar of the Center is to provide funding to support undergraduate, graduate, and faculty research.

The Research Initiative for Scientific Enhancement (RISE) program at Morgan State University seeks to equip scholars with resilience, excellence, achievement, and community in health sciences by adopting a holistic approach to college matriculation and graduate training preparation. The RISE program provides a supportive community that features hands-on research training, mentoring, academic support, and science identity development. These strategies are intended to strengthen student preparedness to enter PhD training in the biomedical sciences with the long-term goal of contributing researchers that possess the ability to address some of the nation's critical health disparities (per the program website, <https://bit.ly/3br2cPG>, accessed on April 8, 2023). A related set of programs are funded by the National Institutes of Health, <https://bit.ly/3bnjEnR> (accessed on April 8, 2023).

Some historically Black institutions, perhaps especially Morehouse and Spelman Colleges, have been successful at utilizing external (sometimes federal) funding to enable student research experiences that make peer-reviewed published contributions to knowledge. In our own experience, Smith and Viceisza (2018) includes one undergraduate student as co-author, and was supported by the Kauffman Foundation (also see Viceisza's lab at Spelman, VLab, <http://bit.ly/2CTseGs>, accessed on April 2, 2023, which involves students in research experiences more generally). Elu et al. (2019) includes nine undergraduate students as co-authors and was supported by NSF award 1748433 (<https://bit.ly/3boNGI2>, accessed on April 8, 2023).

Pathways to Terminal Degrees

As mentioned previously, almost one-quarter of Black graduates who earned a doctorate in science and engineering between 2015 and 2019, earned their bachelor's degree from an historically Black college or university (National Science Foundation, 2021).

Here, we discuss two prominent examples of pathways to graduate school and terminal degrees. The Fisk-Vanderbilt Master's-to-PhD Bridge Program exists to increase the number of minority students engaged in PhD-level research in science (per their website, <https://bit.ly/3OLGCnn>, accessed on April 8, 2023). All students begin by working toward a Master's degree in physics, biology, or chemistry under the guidance of faculty mentors, so that they can develop the academic foundation, research skills, and one-on-one mentoring relationships that will foster a successful transition to the PhD. According to Stassun et al. (2010), the program couples targeted recruitment with active retention strategies, and is built upon a clearly defined structure that is flexible enough to address individual student needs while maintaining clearly communicated baseline standards for student performance. A key precept of the program's philosophy is to eliminate passivity in student mentoring; students are deliberately groomed to successfully transition into the PhD program through active involvement in research experiences with future PhD advisers, coursework that demonstrates competency in core PhD subject areas, and frequent interactions with joint mentoring committees. While geographical proximity of the implementing institutions seems important, it may not be insurmountable given the possibility of virtual interactions. To date, 152 students have enrolled in the program, 118 Master's degrees have been awarded, 100 students have bridged to PhD programs, and 40 students have earned the PhD, 30 of those from Vanderbilt. Today, 31 students are in a Vanderbilt PhD program, while 17 are in a Fisk Master's program. Fifty-one percent of the students are African American, 22 percent are Hispanic, 7 percent are other minority, including Native Hawaiian and Pacific Islander, and 20 percent are White or other non-minority. Fifty-seven percent are female.

Prairie View's Department of Biology has created two successful programs aimed at producing Black doctors (Gasman et al. 2017). The Premedical Concepts Institute is a rigorous ten-week summer program for incoming first-year students interested in pursuing science careers. The Cardiovascular and Microbial Research Center provides undergraduate students with research projects and mentoring that support independent problem solving. One of the institution's approaches to ensuring that students see themselves as successful is to bring former students – now successful alumni serving as doctors across the nation – back to campus at the beginning of the academic year and throughout students' academic programs. This strategy has been echoed at many historically Black colleges and universities and underscores at least a couple of issues highlighted previously – the importance of alumni and role models.

Where Do We Go From Here?

Since their founding, dating back in many cases to the 19th century, historically Black colleges and universities have played a significant role in the education and social mobility of African Americans. They have lessons to teach about how to educate Black college students, as well as a continuing role to play as part of the eco-system of US higher education.

About 90 percent of Black college students do not attend a historically Black institution. In addition, if the number of Black students attending college is to rise substantially in the future, many of the additions will come on the margin of high school students with lower socioeconomic status and less academic preparation—the margin where historically Black institutions have been having success. Our discussion suggests a number of ways in which institutions that are not traditionally Black can encourage and support Black students: 1) introduce high school and post-college bridge programs with a focus on inclusion of Black students; 2) tailor parts of their curriculum and first-year experiences in particular to Black culture; 3) engage Black students with co-curricular experiences on research, social justice, and activism; and 4) expose Black students to role models who look like them, including Black alumni and faculty (the latter would of course require these other institutions to hire a critical mass of such faculty to begin with, an issue that reaches beyond the scope of this essay).

In addition, and perhaps more importantly, we believe that there are fruitful opportunities for collaboration between historically Black and predominantly White colleges and universities, like the Fisk-Vanderbilt Master's-to-PhD Program discussed earlier. In addition, we believe in the possibilities for faculty exchange programs that go in both directions. Some student and faculty exchanges exist now, but it is our impression that many more could do so.

The reason to emphasize these types of collaborations is that some ingredients to the secret sauce of historically Black colleges and universities are organic to the institutions themselves: they were founded as institutions intended to educate Black Americans and in so doing have a comparative advantage that enables them to impart on Black students a sense of belonging, increased confidence and self-esteem, and skills that benefit the Black community and society at large. They have built expertise at reaching out to the disadvantaged, and their initiatives to do so have developed organically—in alignment with the institution's mission—over time. It may be difficult, if not impossible, to replicate such efforts in primarily White institutions. Ad hoc attempts at “diversity, equity, and inclusion” efforts can feel forced, giving rise to concerns of tokenism and other types of stigma, stereotype threat, and pandering.

Historically Black colleges and universities continue to play an important role in the broader eco-system of US higher education. Their continuing vitality might be boosted along two

dimensions: managerial and financial. The quality of executive leadership, particularly the president of a college or university, may matter for student outcomes (for example, Kuh et al., 2005; Friedman and Kass-Shraibman, 2017). However, executive leadership at historically Black institutions seems to be disproportionately challenged and contested. For example, in the data collected by Sean McKinniss on no-confidence votes for college presidents from 1989 to 2021 (<https://bit.ly/3A4LnnH>, accessed on April 8, 2023), historically Black institutions account for approximately 6 percent of no-confidence votes while constituting only 3 percent, approximately, of all US colleges and universities.

Finally, increased funding for historically Black colleges and universities could generate substantial returns on several fronts. These institutions were dramatically underfunded on a per-student basis during decades of legalized segregation (Smith, 2021). Colleges and universities are long-lived institutions, and underfunding from decades ago will affect the physical inheritance of these institutions today: academic buildings, library resources, greenspaces, athletic facilities, and more. This underfunding has continued up to the present. Lawsuits about underfunding of historically Black institutions have been settled in recent years by Maryland, Alabama, and Mississippi, and a similar lawsuit was recently announced in Florida. Two journalists at *Forbes* calculated that Black land-grant universities have been underfunded at the state level, relatively to their primarily White counterparts in the same states, by \$12.8 billion in the last three decades (Adams and Tucker 2022).

In part due to the killing of George Floyd in May 2020, there have recently been some notable private and public investments in historically Black colleges and universities. MacKenzie Scott has given \$560 million in the last few years (as reported by Freeman 2021) and the American Rescue Plan passed in 2022 provides \$2.7 billion for historically Black institutions (White House, 2022). Still, this is only a drop in the bucket given decades of underfunding to historically Black institutions (Smith, 2021), and centuries of marginalization of the broader African-American community (Baker, 2022). Black colleges and universities generate a good return on investment (for additional discussion, see Morse et al., 1996; Sharpe, 2016). Closing the financial resource gap that has long prevailed between historically Black institutions and other colleges and universities could improve education, social mobility, and the future of African Americans.

Acknowledgments

We are thankful to Jason Owen-Smith, Jonathan Smith, Omari Swinton, Bruce Weinberg, and the editors for helpful discussions. Viceisza is grateful to the Hoover Institution at Stanford University where he was a W. Glenn Campbell and Rita Ricardo-Campbell National Fellow and the John Stauffer National Fellow when this project was initiated. In 2021-22, Viceisza was also a Carnegie Corporation and Rockefeller Foundation Distinguished Researcher and Creative Scholar at Spelman College.

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