



# Understanding HBCU Retention and Completion

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Authors' note: Researchers at the Frederick D. Patterson Research Institute often use the terms "African American" and "black" interchangeably. For the purposes of this report, we use the term "black" to remain consistent with the U.S. Department of Education's racial designation.



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## Executive Summary

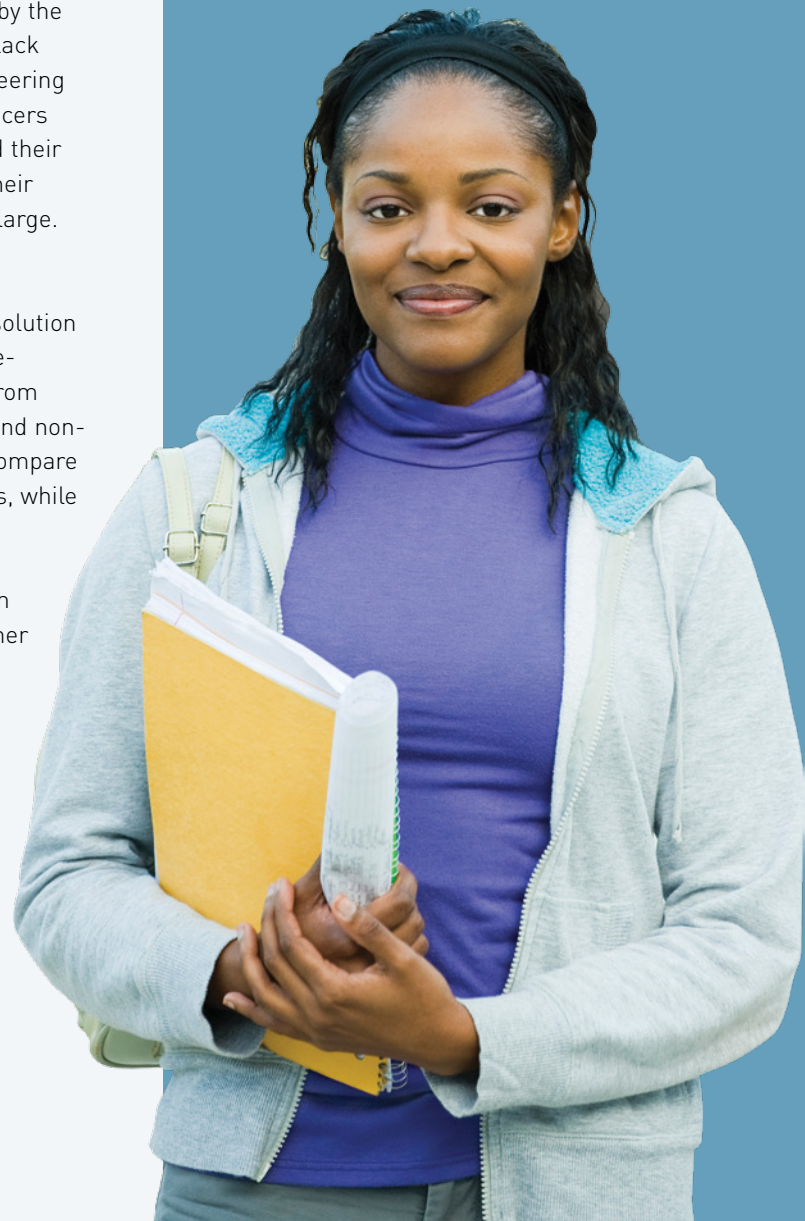
The American economy's need for a pipeline of college-educated workers, combined with an increasing concentration of blacks and other people of color within the population and workforce, places a premium on the ability of colleges and universities to enroll, retain and graduate members of racial and ethnic minority groups. At the same time, the increased cost of going to college has created bubbling pressure on all colleges and universities to be more accountable for demonstrating student outcomes (e.g., retention and graduation rates).

These challenges would seem to point to historically black colleges and universities (HBCUs) as key parts of a national solution to the economy's needs. These colleges have experience in successfully educating black students that dates back more than 150 years. A 2008 study by the National Science Foundation showed that among black recipients of doctoral degrees in science and engineering over the previous decade, eight of the top ten producers of Ph.D.-bound bachelor's degree recipients earned their undergraduate degrees from HBCUs, evidence of their impact on the black community and the country at large.

Yet HBCUs are often regarded, as a group, as low-performing institutions, minor parts at best of the solution to the national need for a diverse pipeline of college-educated workers. Much of this perception stems from comparisons of graduation rates between HBCUs and non-HBCUs. Some HBCUs have graduation rates that compare favorably with the rates at other types of institutions, while others have rates that trail national medians.

In fact, this report demonstrates that the graduation rates at HBCUs compare favorably with those of other kinds of institutions when student-level factors are taken into account—when, in other words, HBCU graduation rates are compared to rates at non-HBCUs that serve many of the same students that HBCUs have always served: those from low-income families, who are the first in their families to attend college, and/or whose pre-college education has been inadequate. In the United States, those populations are disproportionately black and other people of color—the very students the nation and its economy most needs.

**In other words, were HBCUs and non-HBCUs to enroll demographically identical populations of students, HBCUs would retain and graduate students at higher rates than their counterparts.**





The importance of student-level factors in student graduation is well documented. A student's pre-college preparation, socioeconomic background, status as a first-generation student and a host of other factors often combine to hinder collegiate success. HBCUs tend to enroll a large number of these students, whose backgrounds predict difficulty in succeeding in college.

In this report, we provide an evidence-based case for why evaluations of institutional performance—especially for institutions that enroll large numbers of first-generation, low-income, academically under-prepared students—should take into account student characteristics known to affect outcomes but traditionally excluded from most measures of institutional performance. We specifically tried to answer the following questions:

- Is there a performance gap between HBCUs and non-HBCUs?
- How do pre-college factors help explain variation in HBCU performance?
- How does the performance gap change when HBCUs and non-HBCUs serve similar populations?

Standard first-to-second-year student retention rates could be used to raise concerns about HBCU performance. But we found that when SAT scores and Pell Grant eligibility were used as proxies for academic preparedness and socioeconomic status, respectively (alongside an institution's status as an HBCU or non-HBCU) in a multiple regression model, those two factors account for about half of a student's likelihood of enrolling for a second term and almost two-thirds of the likelihood of graduating. In fact, when we used regression analyses to control for SAT scores and Pell funding, we found that, in every case, the inferior performance of HBCUs to non-HBCUs not only was reduced or removed, but was in fact reversed.

Indeed, an examination of the data throws into doubt the supposition that HBCUs are actually underperforming. Controlled comparisons suggest that HBCUs are in fact outperforming many of their peer institutions. In other words, were HBCUs and non-HBCUs to enroll demographically identical populations of students, HBCUs would retain and graduate students at higher rates than their counterparts.

These findings do not lessen any institution's imperative for moving more students to and through college. They do not lessen the obligation of students to work toward the degree that the job market demands or the importance of the public and private sectors to provide the resources that disadvantaged students and the colleges they attend need to make a good education a reality.

The findings do, however, demonstrate that HBCUs are high-performing, if often undervalued, assets in serving students and the nation by enrolling, retaining and graduating students whom the country needs to remain economically healthy and internationally competitive.

**We provide an empirically based case for why evaluations of institutional performance should account for factors—namely, student characteristics, given their strong association with student outcomes related to persistence and completion—that are traditionally excluded in most measures of institutional performance.**

## Introduction

As the cost of higher education continues to climb, colleges and universities are finding themselves under increased pressure to demonstrate their value by enrolling, graduating and launching graduates into careers with the skills needed to compete as part of the American workforce. Few institutions are positioned with all of the resources required to support student success absent the public funding (be it student- or institution-based) that has long subsidized the cost of earning a college degree. These difficulties could not be truer of the fiscal environment in which historically black colleges and universities (HBCUs) operate. For more than 150 years, HBCUs have played a significant role in providing access to postsecondary education for millions of blacks, many of whom currently come from low-income families and are first-generation college students.<sup>1</sup> As pressures mount for all institutions of higher education to be more accountable for demonstrating favorable student outcomes (e.g., retention and graduation rates), HBCUs and other minority-serving institutions face unique challenges that have often been overlooked in evaluations of institutional performance in retaining and graduating students.

In this report, we provide an empirically based case for why evaluations of institutional performance should account for factors—namely, student characteristics, given their strong association with student outcomes related to persistence and completion—that are traditionally excluded in most measures of institutional performance. The report begins with an exploration of existing literature that frames our perspective on why student characteristics must be taken into account in evaluating institutional success. As we describe our research and analytic approach, we argue that more effort should be given to “apples to apples” comparisons when analyzing data on institutional success, by controlling for the kinds of students enrolled by different institutions. We conclude by summarizing important policy considerations for

generating metrics that are balanced and provide suggestions to strengthen students’ academic preparedness both before and during college.

## The Importance of Student-level Factors in Student Graduation

Graduation rates have become one of the most important outcome metrics emphasized in current debates about accountability of postsecondary institutions.<sup>2</sup> While many colleges and universities have used their own methodology to track their graduation rates, it was not until the passage of the 1988 Student Right to Know Act that institutions receiving Title IV funds were required to submit data on their graduation rates to the U.S. Department of Education.<sup>3</sup> Since that time, methods for deriving graduation rates from these data have continued to evolve. A common method is simply to use the Department of Education graduation data (accessible via the Integrated Postsecondary Education Data System, or IPEDS), to calculate a ratio of graduated students out of the larger cohort of students to enroll in the institution that same year.



However, these data do not allow disaggregation on the basis of student-level factors that researchers have identified as important in calculating graduation rates (e.g., pre-college preparation, socioeconomic status).<sup>4</sup> Concerns over the limitations associated with the federal definition for calculating graduation rates have led to efforts to create additional metrics that include important variables that are not measured by the Department of Education’s current methodology. For instance, Ashley et al.<sup>5</sup> emphasize that HBCUs do

<sup>1</sup> Mann, T. L. (2011). *Historically black colleges and universities: A vital resource for a diverse and competitive American workforce*. Fairfax, VA: Frederick D. Patterson Research Institute, UNCF. Richards, D. R., & Mann, T. L. (2011). *Statistical report on UNCF member institutions and other HBCUs*. Fairfax, VA: Frederick D. Patterson Research Institute, UNCF.

<sup>2</sup> Cook, B., & Pullaro, N. (2010). *College graduation rates: Behind the numbers*. Washington, DC: American Council on Education.

<sup>3</sup> Ibid.

<sup>4</sup> Ashley, D., Gasman, M., Mason, R., Sias, M., & Wright, G. (2009). *Making the grade: Improving degree attainment at historically black colleges and universities*. Washington, DC: Thurgood Marshall College Fund.

<sup>5</sup> Ibid.



important work educating part-time, transfer and low-income students. However, HBCUs' accomplishments in educating these populations are obscured by an overreliance on traditional measures of institutional success (i.e., six-year graduation rates). The authors recommend employing more comprehensive measures to help create action plans to improve the retention and degree attainment of students at HBCUs. Further, Frederick D. Patterson Research Institute (FDPRI) analyses demonstrate that when measuring graduation rates, it is also necessary to consider differences in enrolled students and their individual and collective experiences prior to enrolling in college.

Two particular pre-college student-level factors have been shown repeatedly to have an effect on students' collegiate performance: socioeconomic status and academic background. We explore these areas of influence in more detail and highlight some key, relevant studies that informed our work.

## Pre-College Factors

Higher education institutions do not enroll identical populations of students, and any discerning examination of graduation rates should consider pre-college differences. Much of the literature on student educational achievement suggests that pre-college, student-level factors matter.<sup>6</sup> A 2004 study, for example, found that many differences in graduation rates disappeared when such pre-college student factors as high school grade-point average (GPA), gender and parental education were taken into account.<sup>7</sup> As it happens, these pre-college student factors accounted for about two-thirds of the differences between institutions' graduation rates. This finding suggests that the graduation and retention challenges found within particular student populations are as much the result of student experiences before

entering college as their experiences during college.

## Socioeconomic Background

The literature presents a dim future for students who begin their postsecondary educational pursuits with less than ideal beginnings.<sup>8</sup> Scholars have long posited that socioeconomic status affects students' educational pursuits and attainment prior to and during college.<sup>9</sup> Research shows that when compared with peers of high socioeconomic status, students from low socioeconomic backgrounds have lower educational aspirations and persistence rates, are less likely to attend college, and are less likely to persist and complete their degrees.<sup>10</sup> The influences that socioeconomic status has on students' educational experiences begin early, are cumulative and are mitigated by various factors including individual agency, parental expectations, school experiences, college costs and financial aid opportunities.

Research shows that students from low socioeconomic backgrounds face a number of challenges as they pursue their college degrees. Low-income students are less likely to engage in academic and social activities that foster college success, such as studying in groups, interacting with faculty and utilizing support services.<sup>11</sup> The lack of social and academic engagement on the college campus is often intimately linked to financial concerns and obligations.

Scholars have argued that financial considerations influence students' ability to persist in their education.<sup>12</sup> Due to the lack of income, students of low socioeconomic backgrounds often have to work to support themselves or their families while in school. They also tend to take fewer credit hours in order to pursue full-time employment, limiting the amount of time spent on campus while also slowing

<sup>6</sup> Venezia, A., Kirst, M., & Antonio, A. L. (2003). *Betraying the college dream: How disconnected K-12 and post-secondary education systems undermine student aspirations*. Bridge Project Policy Report. Stanford, CA: Stanford University Bridge Project.

<sup>7</sup> Astin, A. W. & Oseguera, L. (2004). The declining "equity" of American higher education. *The Review of Higher Education*, 27(3), 321-341.

<sup>8</sup> Kozol, J. (2005). *The shame of the nation: The restoration of apartheid schooling in America*. New York: Crown.

<sup>9</sup> Bowles, S., & Gintis, H. (1976). *Schooling in capitalist America. Educational reform and the contradictions of economic life*. New York: Basic Books.

<sup>10</sup> Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.

<sup>11</sup> Astin, A. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey Bass.

<sup>12</sup> Hossler, D., Schmit, J., & Vesper, N. (1999). *Going to college: How social, economic, and educational factors influence the decisions student make*. Baltimore, MD: Johns Hopkins University Press.

<sup>11</sup> Engle, J., & Tinto, V. (2008). *Moving beyond access: College success for low-income, first-generation students*. Washington, DC: The Pell Institute for the Study of Opportunity in Higher Education.

<sup>12</sup> Hossler, Schmit, & Vesper (1999); Tinto (1993).



## Low-income students often come to college less academically prepared than their more advantaged peers, with troubling implications for racial achievement gaps.

progress through a degree program. Students in difficult financial straits may be more likely to opt out of school altogether in order to take a low-paying job in the present over the long-term gains that would come from seeing a college education through to the finish. Though all students deserve access to a college education, some will have more difficulty than others reaching graduation due to circumstances that existed before they first set foot on a college campus.

### Academic Background

Ample evidence confirms the importance of pre-college academic preparation for high levels of performance and persistence in postsecondary education.<sup>13</sup> Low-income students often come to college less academically prepared than their more advantaged peers, with troubling implications for racial achievement gaps. Research shows that U.S. school districts, both urban and suburban, are increasingly re-segregated, with black and white students progressively enrolling in different schools.<sup>14</sup> Recent analyses from the Department of Education revealed that more than half of students enrolled in high-poverty elementary and secondary schools were black, Hispanic or American Indian.<sup>15</sup> Other studies contend that schools with high minority populations often have fewer resources than schools comprising majority white or Asian students.<sup>16</sup>

Comparisons between wealthy and poverty-ridden neighborhoods, which are mostly composed of minority students, reveal that high-poverty schools tend to have lower per-student expenditures, receive fewer resources and employ less-experienced teachers.<sup>17</sup>

Students enrolled in schools with low per-pupil expenditures often attend larger class sizes and receive more outdated materials and technology than their more advantaged peers. Further, students in high-poverty schools often lack access to a rigorous high school curriculum, as measured by the number of advanced placement (AP) course offerings.

Research shows that, for blacks and Latinos, successful completion of a rigorous curriculum is a better indicator of college persistence than test scores.<sup>18</sup> Advanced placement courses are regarded as rigorous, college preparatory courses at the high school level and are known to produce better-prepared students for college-level work in addition to potentially granting college credits. A 2005 report by the National Center for Educational Accountability found that student participation in (and successful passing of) AP courses and exams in high school was predictive of those students' likelihood of graduating from college.<sup>19</sup> Though the benefits of AP coursework are well-established, several studies have also noted that black and Latino students are often underrepresented in AP-level courses and may suffer from low achievement when enrolled in these courses.<sup>20</sup> Further, schools with high minority and low-income student populations often have few AP courses available and often lack access to high-quality college counseling that promotes participation in academically rigorous high school courses.<sup>21</sup>

The lack of academic preparation also affects students' performance on standardized tests (e.g., SATs) that many institutions consider in assessing college readiness. Lower test scores may indicate a lesser

<sup>13</sup> Cabrera, A. F., & La Nasa, S. M. (2001). On the path to college: Three critical tasks facing America's disadvantaged. *Research in Higher Education*, 42(2), 119-149.

Perna, L. W. (2000). Differences in the decision to attend college among African Americans, Hispanics, and whites. *Journal of Higher Education*, 71(2), 117-141.

<sup>14</sup> Frankenburg, E., & Lee, C. (2002). *Race in American public schools: Rapidly resegregating school districts*. Cambridge, MA: The Harvard Civil Rights Project.

Trent, W., Owens-Nicholson, D., Eatman, T. K., Burke, M., Daugherty, J., & Norman, K. (2003). Justice, equality of educational opportunity, and affirmative action in higher education. In M. J. Chang, D. Witt, J. Jones, & K. Hakuta (Eds.), *Compelling interest: Examining the evidence on racial dynamics in colleges and universities* (pp. 22-48). Stanford, CA: Stanford University Press.

<sup>15</sup> Aud, S., Hussar, W., Planty, M., Snyder, T., Bianco, K., Fox, M., Frohlich, L., Kemp, J., Drake, L. (2010). *The Condition of Education 2010* [NCES 2010-028]. National Center for Education Statistics, Institute of Education Sciences. Washington, DC: U.S. Department of Education.

<sup>16</sup> Kozol (2005).

<sup>17</sup> Aud et al. (2010).

<sup>18</sup> Swail, W. S., Redd, K. E., & Perna, L. W. (2003). *Retaining minority students in higher education: A framework for success*. ASHE-ERIC Higher Education Report, 30(2).

<sup>19</sup> Dougherty, C., Mellor, L., & Jian, S. (2006). The relationship between advanced placement and college graduation. Washington, DC: National Center for Educational Accountability.

<sup>20</sup> Solorzano, D. G. & Ornelas, A. (2004). A critical race analysis of Latina/o and African American advanced placement enrollment in public high schools. *The High School Journal*, 87(3), 15-26.

<sup>21</sup> Chang, M. J. (2000). The relationship of high school characteristics to the selection of undergraduate students for admission to the University of California-Berkeley. *Journal of Negro Education*, 69(1/2), 49-59; Solorzano & Ornelas (2004).





degree of secondary-level academic preparation, leaving students less prepared for postsecondary education. Indeed, though standardized test scores are inferior to a high school GPA in the prediction of student graduation, students with lower test scores are less likely to graduate within six years.

These pre-college factors have been shown to affect students' academic performance, educational aspirations and educational outcomes at the secondary and postsecondary levels—irrespective of where they pursue their college credentials.

### **HBCU Student Performance: Contributions and Criticisms**

Since their inception, HBCUs have been committed to providing educational access and opportunity to students of varied educational backgrounds. Historically viewed as the only educational option available to many blacks, HBCUs have provided, and continue to provide, students with educational opportunities “regardless of academic preparation, test scores, socioeconomic status, or environmental circumstances.”<sup>22</sup>

Even now, HBCUs, compared to non-HBCUs, serve students who have a relatively more difficult time sustaining their education all the way through to graduation. It is certainly the case that students from lower socioeconomic statuses, and who come from families with lower household incomes, are more likely to withdraw early and less likely to graduate within six years.<sup>23</sup> HBCUs enroll a greater proportion of these students than their non-HBCU counterparts. Some HBCU students may not have been admitted to other institutions of higher learning due to lower

standardized test scores. For such students, HBCUs (26 percent of which are open enrollment) represent an opportunity for higher learning that might not otherwise have been available.<sup>24</sup>

In fall 2009, HBCUs enrolled more than 320,000 students of diverse racial and ethnic backgrounds. HBCUs also produce a disproportionate number of black graduates each year, compared with predominantly white colleges and universities. In fact, while HBCUs account for only three percent of two-year and four-year public and private postsecondary institutions, they are responsible for producing more than ten percent of all bachelor's degrees earned by blacks.<sup>25</sup> At a time when a bachelor's degree is increasingly the irreducible minimum credential necessary for a professional career, HBCUs (as we will show) graduate a higher percentage of their students (black and otherwise) than do non-HBCUs enrolling similar populations of students.

Despite HBCUs' historical successes, their efficacy, compared with that of non-HBCUs, has been a recurring source of controversy and criticism for several decades. The most famous of these critiques may have been the 1967 article in *The Harvard Educational Review* by Christopher Jencks and David Riesman labeling HBCUs as “academic disaster areas.”<sup>26</sup> Thomas Sowell later affirmed their review as an “honest assessment” of HBCUs.<sup>27</sup> A more recent, high-profile criticism comes from a *Wall Street Journal* editorial by Jason L. Riley lamenting that “Black colleges need a new mission”<sup>28</sup> and pointing to comparatively low graduation rates as evidence of HBCUs' troubles. This charge was soon echoed in *The Chronicle of Higher Education* by HBCU critic Richard Vedder,<sup>29</sup> whose questions over the continued

**By enrolling students—even poorly prepared students—HBCUs are accepting an obligation to do everything in their power to educate them to the point of successful completion of their academic programs.**

<sup>22</sup> Brown, M. C. III, & Freeman, K. (2002). Guest editors' introduction. *The Review of Higher Education*, 25(3), 237-240.

<sup>23</sup> Bowen, W.G., Chingos, M.M., & McPherson, M.S. (2009). *Crossing the finish line: Completing college at America's public universities*. Princeton, NJ: Princeton University Press.

<sup>24</sup> Open enrollment institutions provide educational opportunities to all students. The primary admission requirements are state residency and either a high school or a GED certificate.

<sup>25</sup> FDPRI analysis of data from the U.S. Department of Education, National Center for Educational Statistics.

<sup>26</sup> Jencks, C., & Riesman, D. (1967). The American Negro college. *Harvard Educational Review*, 37(2), 3-60.

<sup>27</sup> Sowell, T. (1972). *Black education: Myths and tragedies*. New York: McKay.



relevance of HBCUs put him at the center of vigorous discussion at the 2012 meeting of the National Association for Equal Opportunity in Higher Education.

These criticisms have motivated counterarguments from others who view the HBCU performance data from a different perspective, such as scholar Marybeth Gasman, who charged Jencks and Riesman with a “lack of understanding of the black college community, false institutional comparisons, dismissal of the contributions to black leadership, use of anecdotal evidence, and lack of scientific rigor.”<sup>30</sup> In response to more recent criticisms of HBCUs, Gasman argued in a *Chronicle of Higher Education* blog that HBCUs often outperform comparable historically white institutions—i.e., institutions with similar numbers of Pell Grant recipients and student SAT scores.<sup>31</sup> Hampton University President William R. Harvey, in an open letter to *The Wall Street Journal*, recounts accomplishments by his own university and other HBCUs, concluding that HBCUs “do not need ‘a makeover’ or ‘a new mission,’” but rather need their critics to better understand HBCUs’ accomplishments and successes.<sup>32</sup> UNCF President Michael L. Lomax likewise responded in *The Grio* by pointing to evidence that HBCUs produce a disproportionate share of bachelor’s degrees awarded to blacks and remarking on a National Science Foundation finding that HBCUs were the top eight colleges from which blacks proceeded to earn Ph.D.s in science and engineering.<sup>33</sup>

## Unpacking the HBCU Performance Gap: Research Questions and Analytic Approach

Based on the pre-college factors that are instrumental in understanding graduation rates and the current

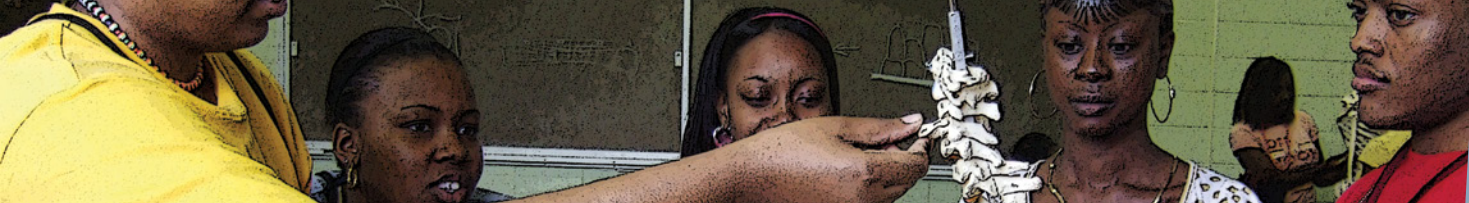
discourse on HBCUs described earlier, this report examines these questions:

- *Is there a performance gap between HBCUs and non-HBCUs?* Through a straightforward comparison of descriptive statistics, we examine performance differences between retention and graduation rates of HBCUs and non-HBCUs.
- *How do pre-college factors help explain variation in HBCU performance?* Using a controlled analytical approach (multiple linear regression), we examine how pre-college student factors (family income and academic preparation) account for the retention and graduation gaps between HBCUs and non-HBCUs.
- *How does the performance gap change when HBCUs and non-HBCUs serve similar populations?* Using our regression model, we examine what the performance gap between HBCUs and non-HBCUs would likely be if both groups of institutions were to enroll identical populations of students.

To explore these questions, we accessed—via the National Center for Education Statistics’ (NCES) Integrated Postsecondary Education Data System (IPEDS)—the following data for all four-year public and private not-for-profit institutions:

- 2009 retention rates of full-time undergraduate students
- 2009 baccalaureate, six-year graduation rates (including demographically disaggregated graduation data for blacks, including by gender)

We excluded any institutions for which the relevant data were not available, leaving us with 85 HBCUs and 1,875 non-HBCUs.

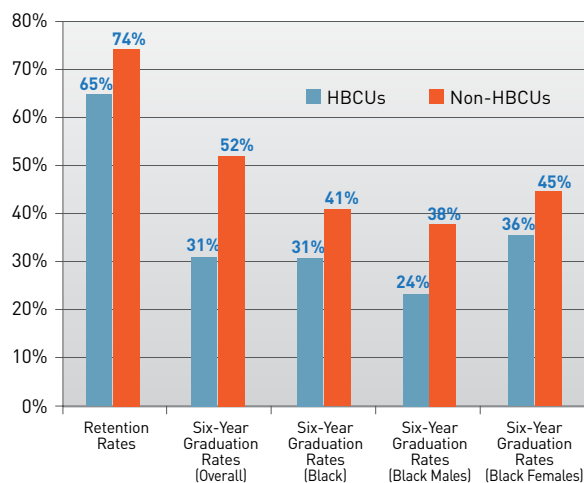


## Low-income students often come to college less academically prepared than their more advantaged peers, with troubling implications for racial achievement gaps.

### Is There a Performance Gap Between HBCUs and Non-HBCUs?

As we see in Figure 1, when we compare HBCUs and non-HBCUs, HBCUs underperformed non-HBCUs in 2009. The second-year retention rate for HBCUs was 9 percentage points lower than that of non-HBCUs, the six-year graduation rate was 21 points lower than that of non-HBCUs, the overall black graduation rate was 10 points lower than that of non-HBCUs, the black male graduation rate was 14 points lower than that of non-HBCUs, and the black female graduation rate was 9 points lower than that of non-HBCUs.

**Figure 1. HBCU Performance Gaps, 2009**



Source: FDPRI analysis of data from the U.S. Department of Education, National Center for Educational Statistics, 2010.

So we see that concerns over HBCU performance may not be completely baseless—though we will argue that these concerns are based on comparisons that, once proper controls are applied, are not entirely valid. However, commentators giving voice to these concerns may, implicitly or explicitly, assume that HBCUs

themselves are responsible for these performance gaps. Is such an assumption warranted? What accounts for student success (or the lack of it)?

Rather than consider how institutional differences may account for these performance gaps, we might instead consider how differences among students may explain these disparities. We cannot assume that HBCUs and non-HBCUs are enrolling identical students. Indeed, HBCUs, as special-mission, minority-serving institutions (26 percent of which are open admission, compared with 14 percent of non-HBCUs), have from their very inception been concerned with enrolling, retaining and graduating populations of students not historically served by non-HBCUs. HBCU students, upon enrollment, can differ from non-HBCU students in important ways, many of which might impinge on their ability to see a college education through to a successful completion.<sup>34</sup>

### How Do Pre-college Factors Explain Variation in HBCU Performance?

What could account for the performance gaps we observe between HBCUs and non-HBCUs? While it would be easy to focus only on institutional factors, we must remember that HBCUs and the students they enroll historically have had to overcome numerous barriers, the most famous of which have been racial discrimination and segregation.<sup>35</sup> As discussed, however, other barriers also exist, such as economic inequality and lessened academic and financial preparedness.<sup>36</sup> For the retention and graduation rate gaps between the total student populations of HBCUs and non-HBCUs, we used multiple linear regression to examine whether financial need (operationally defined here as the amount of Pell money received per undergraduate student enrolled) as well as test scores

<sup>34</sup> Flowers, L., & Pascarella, E. (2011). *African Americans in college: The impact of institutional racial composition on student development and educational outcomes*. Sterling, VA: Stylus Publishing.

<sup>35</sup> Allen, W. (1992). The color of success: African-American college student outcomes at predominately white and in historically black public universities. *Harvard Educational Review*, 62, 26-44. Allen, W., Epps, E., & Haniff, N. (Eds.). (1991). *College in black and white: African American students in predominantly white and in historically black public universities*. Albany: State University of New York Press.

<sup>36</sup> Muraskin, L., Lee, J., Wilner, A., & Swail, W. S. (2004). *Raising the graduation rates of low-income college students*. Washington, DC: The Pell Institute for the Study of Opportunity in Higher Education.

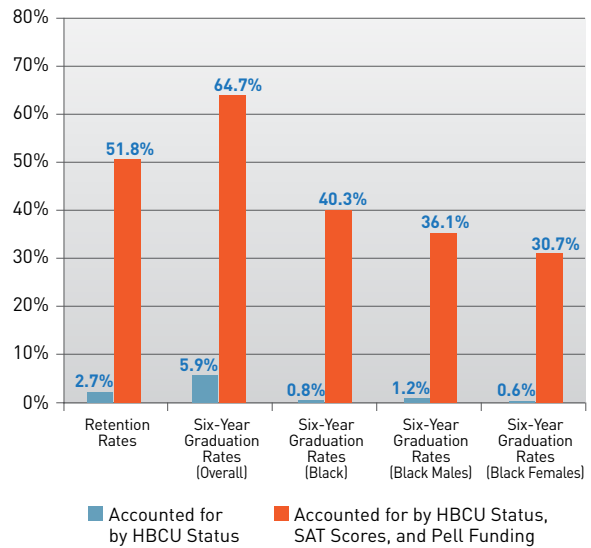
(the average 25th percentile math and critical reading scores on the SAT) accounted for these differences in retention and graduation. For each of these regression analyses, HBCU status and SAT scores were found to be statistically significant predictors of institutional performance, and Pell funding was a statistically significant predictor in all but two instances, confirming the importance of pre-college factors on institutional performance.<sup>37</sup>

We found that when SAT scores and Pell funding were used (alongside institutions' status as an HBCU or non-HBCU) in a multiple regression model to predict retention rates, the resultant adjusted  $R^2$  statistic was .518. For purposes of interpretation, this means, roughly, that academic preparedness and socioeconomic status (and HBCU status) account for about 51.8 percent of students' likelihood to persist into the second year of college—a non-negligible percentage. These pre-college factors account for half of a student's likelihood of enrolling for a second term.

By the same standard, these factors account for 64.7 percent of students' likelihood of graduation (adjusted  $R^2 = .647$ ), with this percentage becoming 40.3 percent for black students, 36.1 percent for black males, and 30.7 percent for black females (adjusted  $R^2 = .403$ ,  $.361$ , and  $.307$ , respectively). These are large percentages, accounting for as much as two-thirds of a student's likelihood of graduating within six years.

Note that these high percentages have little to do with whether an institution is an HBCU. When these statistical models used only HBCU status (excluding SAT scores and Pell funding from the analysis) to predict retention rates, the adjusted  $R^2$  was only .027 (interpreted as 2.7 percent). Likewise, we found similarly low values when we used HBCU status by itself to predict overall graduation rates (adjusted  $R^2 = .059$ , or 5.9 percent). This was also the case for overall black graduation rates (adjusted  $R^2 = .008$ , or 0.8 percent), black male graduation rates (adjusted  $R^2 = .012$ , or 1.2 percent), or black female graduation rates (adjusted  $R^2 = .006$ , or 0.6 percent). (These percentages of explained variance are depicted in Figure 2.)

**Figure 2. Proportion of Academic Outcomes Accounted For by HBCU Status, SAT Scores and Pell Funding, 2009**



Source: FDPRI analysis of data from the U.S. Department of Education, National Center for Educational Statistics, 2010.

### How Does the Performance Gap Change When HBCUs and Non-HBCUs Serve Similar Populations?

We know that students who enroll at HBCUs tend to have fewer financial resources and less rigorous academic preparation than students who enroll at non-HBCUs, and that this under-preparedness accounts in large part for lower retention and graduation rates. What would retention and graduation rates look like if HBCUs and non-HBCUs enrolled students who had the same level of academic preparedness and socioeconomic status?

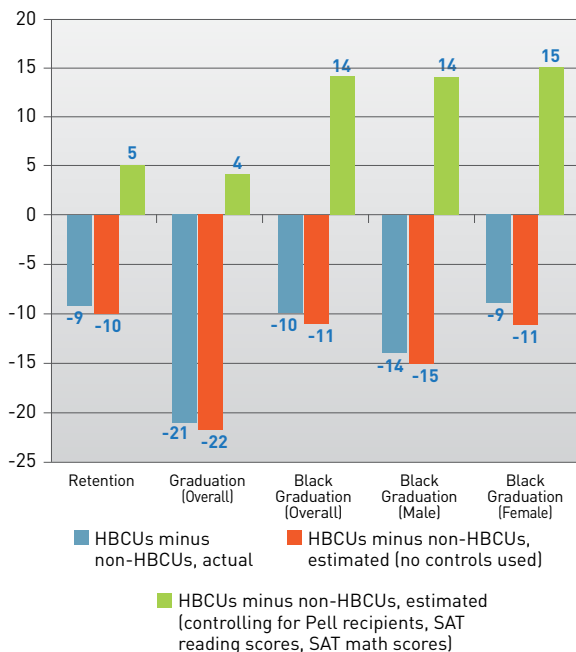
When we used regression analyses to control for SAT scores and Pell funding, we found that, in every case, the inferior performance of HBCUs to non-HBCUs was not only reduced or removed, but was in fact reversed. When these student characteristics were controlled for, HBCUs' retention rates were actually superior to those of non-HBCUs. HBCUs also outperformed non-HBCUs in graduating their students when these student characteristics were controlled for, and this superior performance persisted even when we narrowed the analyses to focus specifically on black students, black males, and black females.

<sup>37</sup> For more complete details on these regression analyses, please refer to the appendix.



Comparisons of actual success rates to estimated success rates are presented in Figure 3. The blue bars represent the actual performance gap between HBCUs and non-HBCUs. (For example, non-HBCU retention rates are nine percentage points higher than they are for HBCUs.) The red bars show the performance gaps that would be predicted by our statistical model (a ten percentage point difference for retention rates). They are presented alongside the actual performance gaps as a way of demonstrating the validity and accuracy of our statistical model. The green bars show the estimated performance gaps when we control for SAT scores and Pell funding. In other words, they show what the performance gaps would look like if HBCUs and non-HBCUs enrolled students with the same socioeconomic status and with the same levels of academic preparation.

**Figure 3: Retention and Graduation Rate Percentage Point Differences, Actual and Estimated, 2009**



Source: FDPRI analysis of data from the U.S. Department of Education, National Center for Educational Statistics, 2010.

As we can see, when we control for SAT scores and Pell funding, retention and graduation rates at HBCUs are higher than at non-HBCUs. In other words, if HBCUs and non-HBCUs were to enroll students from the same socioeconomic status with the same level of academic preparedness, we would expect HBCUs

to retain students at a higher rate (by four percentage points) than non-HBCUs, and graduate them at a higher rate (by three percentage points). When we focus on the graduation of blacks specifically, HBCUs would outperform non-HBCUs by 14 percentage points. Broken down by gender, HBCUs would graduate black males at a rate 14 percentage points higher than non-HBCUs and would graduate black females at a rate 15 percentage points higher.

These findings strongly suggest that the differences in retention and graduation rates that exist between HBCUs and non-HBCUs are due not so much to an inability of HBCUs to shepherd their students to successful program completion as to differences in the populations served by the institutions. Furthermore, they suggest that HBCUs are actually doing a superior job of retaining and graduating the students they enroll compared with non-HBCUs, and this excellence is most pronounced in the graduation of black students, male and female alike.

## Conclusions

We were initially spurred to pursue this investigation of HBCU performance to respond to questions regarding HBCU underperformance. As we examined the data, we found ourselves reconsidering the premise of whether HBCUs are underperforming at all. HBCUs' lower graduation rates are due not so much to poor performance by the institutions, but to their enrollment of students from lower socioeconomic statuses who are less academically prepared for the rigors of college. Controlled comparisons suggest that HBCUs are in fact outperforming their peer institutions. In other words, were HBCUs to enroll identical populations of students as non-HBCUs, HBCUs would in fact retain and graduate students at higher rates than non-HBCUs.

We are obliged to proffer two important caveats:

- These findings should not motivate HBCUs to reject, en masse, less prepared students in order to increase graduation rates. This would presuppose that graduation rates are, in and of themselves, the HBCUs' primary mission. A more commendable mission, and one more in keeping with HBCUs' legacy, is to provide educational opportunities



and success to students who might not otherwise have access to a quality higher education. High graduation rates are merely an indicator of success in this mission—they are not the mission itself.

- Though this finding gives important and mitigating context to the problem of underperforming HBCUs, it does not in itself excuse underperformance. By enrolling students—even poorly prepared students—HBCUs are accepting an obligation to do everything in their power to educate them to the point of successful completion of their academic programs. Granted, this is a shared responsibility, one that extends also to the students, their parents, their local and national governments, and UNCF. But the distribution of responsibility does not diminish it.

These findings cast a strong light on HBCUs' very real successes in retaining and graduating students, despite the difficulties and hardships with which many students contend. It has often been said of HBCUs that they "do more with less." We believe that the evidence in this report lends empirical support to this claim.

### Improving Student Success

As discussed earlier, these findings do not absolve HBCUs of the responsibility to graduate their students at the highest rates possible, up to the point of closing (or even reversing) the performance gaps separating them from non-HBCUs. Indeed, all institutions of higher learning (HBCU or otherwise) should pursue with due vigor the goal of shepherding their students to successful completion. Michael Lomax wrote in his *Grio* opinion that, "like every institution, HBCUs need to be accountable to their students and the nation for their performance."<sup>38</sup> Rather than being an apologetic for HBCUs, this report identifies and illuminates the already considerable successes HBCUs have achieved in helping students complete their college education.

In addition, there are a number of strategies that HBCUs and other institutions serving low-income, minority populations can implement to further improve the academic performance of their students and increase their success rates. In the next section, we briefly discuss implications of the reports' findings.

### Implications

#### *The K-16 Alignment Needs Strengthening*

Research shows that the lack of adequate preparation in the K-12 system has significant consequences in the postsecondary space for students and institutions alike. Two major takeaways of this report should be that students' pre-college preparation is immensely important and that the alignment of the K-12 and higher education pipelines must be a major policy concern for the nation.<sup>39</sup> Two major points of contention surrounding this alignment are that the two education systems have different missions and that not all high school graduates will pursue postsecondary credentials. However, aligning the two systems' academic standards would neither challenge the missions nor exclude students who do not go to college. Increasingly, college and career readiness require high levels of academic preparation and skill sets. Preparing all students to meet high academic standards will give them the tools they need to be successful for the rigors of college coursework and the workforce.

#### *Institutional success measures should be expanded*

As described in this report, the current method of measuring success leaves little room for the added element of student-level factors that significantly affect graduation rates. We describe and demonstrate an alternative method for assessing institutional success

**Two major takeaways of this report should be that students' pre-college preparation is immensely important and that the alignment of the K-12 and higher education pipelines must be a major policy concern for the nation.**

<sup>38</sup> Lomax (2010).

<sup>39</sup> Kirst, M., & Venezia, A. (2006). Improving college readiness and success for all students: A joint responsibility between K-12 and post-secondary education. Secretary of Education Issue Paper. Washington, DC: Department of Education.



## When we focus on the graduation of blacks specifically, HBCUs would outperform non-HBCUs by 13 percentage points.

that counters the straightforward, uncontrolled comparison of group means. We are not the first to propose such an alternative.<sup>40</sup> For example, the Access to Success Initiative<sup>41</sup> (A2S) works with 24 public higher education systems to halve attendance and graduation gaps for low-income and minority students. In their tailored approach, A2S participants pursue goals (and measure progress with metrics) tailored to the particular needs and demands of their students and campuses. Graduation rates should take into account the academic readiness and financial wherewithal, in addition to other barriers to graduation, of the student populations being served to provide a more realistic assessment of institutional performance and whether the job the institutions are doing in retaining and graduating their students is better or worse than expected.

### *Enhance College Access Programs and Student Support Services*

In addition to having the necessary knowledge, skills and abilities at the K-12 levels, students must be prepared to navigate the complex application, selection, admission and financial aid processes to enter college. First-generation, low-income and under-represented populations, in particular, may lack the necessary knowledge to transition from being college-ready to actually enrolling and persisting in their college of choice. Several college access programs (e.g., GEAR UP and TRIO) have been instrumental in fostering a college-going culture among high school students from the aforementioned populations by providing pre-college educational services and support. Despite the longevity, proven success and substantial need of these programs, however, many have been targeted for elimination.<sup>42</sup> More resources should be given to improve upon and scale up these programs. In addition, collegiate-level programs (e.g., Student Support Services, Ronald E. McNair Scholars Program

and learning communities) have been identified as helping to improve college persistence and graduation rates for low-income and minority college students.<sup>43</sup> These programs provide support systems for students from under-represented backgrounds by helping them socially and academically integrate into the college environment.

### **Concluding Thoughts**

Much contemporary discussion of HBCUs' performance in graduating students takes a critical tone, presupposing these institutions' underperformance without adequately considering the context for their graduation rates. HBCUs have sustained a tradition of enrolling many students who might not otherwise have an opportunity for a quality postsecondary education, and they perform admirably at helping these students successfully complete their educational goals and improve their post-graduation prospects. Of course, these vital services have always been the *raison d'être* of HBCUs, and HBCUs hardly deserve criticism for providing educational opportunities that other institutions are less willing or able to provide.

But even as we understand the pre-college factors (i.e., socioeconomic status and academic preparation) accounting for the graduation gap, we must still attend to the persistent reality of this gap and the need to address and remedy it. Some responsibility to narrow the gap is in the hands of the HBCUs enrolling these students. These institutions face the harsh reality of being generally and historically underfunded; yet, they persist in their efforts, continuing to do necessary work for the betterment of not only the black community, but also the nation at large. This responsibility of remedying the graduation gap applies as well to the rest of society, and resolving it is a shared obligation in the national interest.

<sup>40</sup> The Education Trust. (2012). *Replenishing opportunity in America: The 2012 midterm report of public higher education systems in the Access to Success Initiative*. Washington, DC: The Education Trust.

<sup>41</sup> *Ibid.*

<sup>42</sup> Engle, J. (2007). Postsecondary access and success for first-generation college students. *American Academic*, 3(1), 25-48.

<sup>43</sup> McElroy, E. J., & Armento, M. (1998). TRIO and Upward Bound: History, programs, and issues—past, present, and future. *The Journal of Negro Education*, 67(4), 373-380.



## Appendix: Regression Analyses

In these regression analyses, we compared 85 HBCUs (coded as “1”) to 1,875 non-HBCUs (coded as “0”). We examined data from the National Center for Education Statistics’ Integrated Postsecondary Data System (IPEDS) for the 2008-2009 academic year. This was the most recent year, at the time of these analyses, that IPEDS had publicly released numbers for the number of Pell dollars distributed to each institution, as well as the institutions’ undergraduate enrollment for that same year. As our measure of test scores, we used colleges’ average 25th percentile scores for the math and critical reading portions of the SAT for fall 2008.

### Retention Rates of All Students

We predicted fall 2009 full-time retention rates from schools’ HBCU status and found that status as an HBCU did significantly predict retention rates,  $\beta = -.165, p < .001$ . In other words, HBCUs do have a lower retention rate than non-HBCUs. (Adjusted  $R^2 = .027$  for this model.)

However, when we include in the regression equation the number of Pell dollars per enrolled undergraduate ( $\beta = -.122, p < .001$ ), SAT critical reading scores ( $\beta = .307, p < .001$ ), and SAT math scores ( $\beta = .373, p < .001$ ), we find that HBCUs flip from being a negative predictor of retention rates to a positive one ( $\beta = .083, p < .001$ ). (Adjusted  $R^2 = .518$  for this model.)

In other words, when you account for the population of students being served, HBCUs actually, statistically, retain more students than do non-HBCUs (see Table 1).

**Table 1. Prediction of Retention Rates from Schools’ HBCU Status, Percent of Pell Recipients, SAT Critical Reading Scores and SAT Math Scores, 2008**

Model	Adjusted $R^2$	Predictors <sup>†</sup>	B	SE	$\beta$	t	P
1	.027	Constant	76.260	.348		219.413	<.001*
		HBCU	-9.721	1.672	-.165	-5.813	<.001*
2	.518	Constant	23.972	2.371		10.111	<.001*
		HBCU	4.903	1.356	.083	3.617	<.001*
		Pell	-.003	.001	-.122	-4.533	<.001*
		SAT Critical Reading	.053	.010	.307	5.592	<.001*
		SAT Math	.060	.009	.373	6.837	<.001*

<sup>†</sup>*HBCU*: Whether an institution is coded as an HBCU or not (0=No, 1=Yes). *Pell*: The number of Pell dollars received by the institution per enrolled undergraduate in the 2008-2009 academic year. *SAT Critical Reading*: Enrolling students’ 25th percentile SAT critical reading score in fall 2008. *SAT Math*: Enrolling students’ 25th percentile SAT math score in fall 2008.

\*Significant at .05 level or lower.

Source: FDPRI analysis of data from the U.S. Department of Education, National Center for Educational Statistics, 2011.





## Graduation Rates of All Students

We predicted schools' August 2009 overall graduation rates from their HBCU status and found that status as an HBCU did significantly predict graduation rates,  $\beta = -.245, p < .001$ . In other words, HBCUs do have a lower graduation rate than non-HBCUs. (Adjusted  $R^2 = .059$  for this model.)

However, when we include in the regression equation the number of Pell dollars per enrolled undergraduate ( $\beta = -.199, p < .001$ ), SAT critical reading scores ( $\beta = .418, p < .001$ ), and SAT math scores ( $\beta = .284, p < .001$ ), we find that HBCUs flip from being a negative predictor of overall graduation rates to a positive one ( $\beta = .049, p < .05$ ). (Adjusted  $R^2 = .647$  for this model.)

In other words, when you account for the population of students being served, HBCUs actually have a superior overall graduation rate to non-HBCUs (see Table 2).

**Table 2. Prediction of Overall Graduation Rates from Schools' HBCU Status, Percent of Pell Recipients, SAT Critical Reading Scores and SAT Math Scores, 2008**

Model	Adjusted $R^2$	Predictors <sup>†</sup>	B	SE	$\beta$	t	P
1	.059	Constant	57.258	.519		110.352	<.001*
		HBCU	-21.847	2.493	-.245	-8.765	<.001*
2	.647	Constant	-23.972	3.091		-7.480	<.001*
		HBCU	4.335	1.761	.049	2.461	.014*
		Pell	-.008	.001	-.199	-8.592	<.001*
		SAT Critical Reading	.110	.012	.418	8.879	<.001*
		SAT Math	.070	.011	.284	6.060	<.001*

<sup>†</sup>*HBCU*: Whether an institution is coded as an HBCU or not (0=No, 1=Yes). *Pell*: The number of Pell dollars received by the institution per enrolled undergraduate in the 2008-2009 academic year. *SAT Critical Reading*: Enrolling students' 25th percentile SAT critical reading score in fall 2008. *SAT Math*: Enrolling students' 25th percentile SAT math score in fall 2008.

\*Significant at .05 level or lower.

Source: FDPRI analysis of data from the U.S. Department of Education, National Center for Educational Statistics, 2011.



## Graduation Rates of All Black Students

We predicted schools' August 2009 graduation rates for black students from their HBCU status and found that status as an HBCU did significantly predict black graduation rates,  $\beta = -.093, p < .01$ . In other words, HBCUs do graduate black students at a lower rate than do non-HBCUs. (Adjusted  $R^2 = .008$  for this model.)

However, when we include in the regression equation the number of Pell dollars per enrolled undergraduate ( $\beta = -.063, p = .057$ ), SAT critical reading scores ( $\beta = .473, p < .001$ ), and SAT math scores ( $\beta = .160, p < .05$ ), we find that HBCUs flip from being a negative predictor of overall black graduation rates to a positive one ( $\beta = .123, p < .001$ ). (Adjusted  $R^2 = .403$  for this model.)

In other words, when you account for the population of students being served, HBCUs actually graduate black students at a higher rate than do non-HBCUs (see Table 3).

**Table 3. Prediction of Overall Black Graduation Rates from Schools' HBCU Status, Percent of Pell Recipients, SAT Critical Reading Scores and SAT Math Scores, 2008**

Model	Adjusted $R^2$	Predictors <sup>†</sup>	B	SE	$\beta$	t	P
1	.008	Constant	45.840	.721		63.544	<.001*
		HBCU	-10.726	3.398	-.093	-3.156	.002*
2	.403	Constant	-56.653	5.747		-9.858	<.001*
		HBCU	14.278	3.172	.123	4.502	<.001*
		Pell	-.004	.002	-.063	-1.905	.057*
		SAT Critical Reading	.166	.024	.473	7.033	<.001*
		SAT Math	.053	.022	.160	2.379	.018*

<sup>†</sup>*HBCU*: Whether an institution is coded as an HBCU or not (0=No, 1=Yes). *Pell*: The number of Pell dollars received by the institution per enrolled undergraduate in the 2008-2009 academic year. *SAT Critical Reading*: Enrolling students' 25th percentile SAT critical reading score in fall 2008. *SAT Math*: Enrolling students' 25th percentile SAT math score in fall 2008.

\*Significant at .05 level or lower.

Source: FDPRI analysis of data from the U.S. Department of Education, National Center for Educational Statistics, 2011.



## Graduation Rates of Black Males

We predicted schools' August 2008 graduation rates for black males from their HBCU status and found that status as an HBCU did significantly predict graduation rates for black males,  $\beta = -.116, p < .001$ . In other words, HBCUs do graduate black males at a lower rate than do non-HBCUs. (Adjusted  $R^2 = .012$  for this model.)

However, when we include in the regression equation the number of Pell dollars per enrolled undergraduate ( $\beta = -.100, p < .01$ ), SAT critical reading scores ( $\beta = .318, p < .001$ ), and SAT math scores ( $\beta = .256, p < .01$ ), we find that HBCUs flip from being a negative predictor of black male graduation rates to a positive one ( $\beta = .112, p < .001$ ). (Adjusted  $R^2 = .361$  for this model.)

In other words, when you account for the population of students being served, HBCUs actually graduate black males at a higher rate than do non-HBCUs (see Table 4).

**Table 4. Prediction of Black Male Graduation Rates from Schools' HBCU Status, Percent of Pell Recipients, SAT Critical Reading Scores and SAT Math Scores, 2008**

Model	Adjusted $R^2$	Predictors <sup>†</sup>	B	SE	$\beta$	t	P
1	.012	Constant	42.158	.824		51.161	<.001*
		HBCU	-14.555	3.817	-.116	-3.813	<.001*
2	.361	Constant	-57.316	6.855		-8.362	<.001*
		HBCU	14.128	3.742	.112	3.775	<.001*
		Pell	-.006	.002	-.100	-2.795	.005*
		SAT Critical Reading	.123	.029	.318	4.189	<.001*
		SAT Math	.092	.027	.256	3.398	.001*

<sup>†</sup>*HBCU*: Whether an institution is coded as an HBCU or not (0=No, 1=Yes). *Pell*: The number of Pell dollars received by the institution per enrolled undergraduate in the 2008-2009 academic year. *SAT Critical Reading*: Enrolling students' 25th percentile SAT critical reading score in fall 2008. *SAT Math*: Enrolling students' 25th percentile SAT math score in fall 2008.

\*Significant at .05 level or lower.

Source: FDPRI analysis of data from the U.S. Department of Education, National Center for Educational Statistics, 2011.



## Graduation Rates of Black Females

We predicted schools' August 2008 graduation rates for black females from their HBCU status and found that status as an HBCU did significantly predict graduation rates for black females,  $\beta = -.082, p < .01$ . In other words, HBCUs do graduate black females at a lower rate than do non-HBCUs. (Adjusted  $R^2 = .006$  for this model.)

However, when we include in the regression equation the number of Pell dollars per enrolled undergraduate ( $\beta = -.061, p = .094$ ), SAT critical reading scores ( $\beta = .352, p < .001$ ), and SAT math scores ( $\beta = .201, p < .01$ ), we find that HBCUs become a positive predictor of female black graduation rates ( $\beta = .114, p < .001$ ). (Adjusted  $R^2 = .307$  for this model.)

In other words, when you account for the population of students being served, HBCUs actually graduate black females at a higher rate than do non-HBCUs (see Table 5).

**Table 5. Prediction of Black Female Graduation Rates from Schools' HBCU Status, Percent of Pell Recipients, SAT Critical Reading Scores and SAT Math Scores, 2008**

Model	Adjusted $R^2$	Predictors <sup>†</sup>	B	SE	$\beta$	t	P
1	.006	Constant	49.630	.831		59.716	<.001*
		HBCU	-10.631	3.869	-.082	-2.748	.006*
2	.307	Constant	-49.622	7.126		-6.964	<.001*
		HBCU	14.748	3.908	.114	3.774	<.001*
		Pell	-.004	.002	-.061	-1.676	.094
		SAT Critical Reading	.138	.030	.352	4.605	<.001*
		SAT Math	.074	.028	.201	2.648	<.008*

<sup>†</sup>*HBCU*: Whether an institution is coded as an HBCU or not (0=No, 1=Yes). *Pell*: The number of Pell dollars received by the institution per enrolled undergraduate in the 2008-2009 academic year. *SAT Critical Reading*: Enrolling students' 25th percentile SAT critical reading score in fall 2008. *SAT Math*: Enrolling students' 25th percentile SAT math score in fall 2008.

\*Significant at .05 level or lower.

Source: FDPRI analysis of data from the U.S. Department of Education, National Center for Educational Statistics, 2011.



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