

The Educational Effectiveness of Historically Black Colleges and Universities



U.S. COMMISSION ON CIVIL RIGHTS

Washington, DC 20425

Visit us on the Web: www.usccr.gov

BRIEFING
REPORT



NOVEMBER 2010

The Educational Effectiveness of Historically Black Colleges and Universities

A Briefing Before
The United States Commission on Civil Rights
Held in Washington, D.C.

Briefing Report

Letter of Transmittal

The President
The President of the Senate
The Speaker of the House

Sirs and Madam:

The United States Commission on Civil Rights (Commission) is pleased to transmit this report, *The Educational Effectiveness of Historically Black Colleges and Universities*. A panel of distinguished experts briefed members of the Commission on the educational effectiveness of these institutions, which have been pivotal in educating students, especially black students, for generations. Among the topics addressed was how adequately these institutions prepared students for the increasing demand for highly skilled workers. Based on that briefing, the Commission developed the findings and recommendations that are included in this report.

According to the data presented, the Commission found that students at historically black colleges and universities ("HBCUs") reported higher levels of academic engagement on some survey dimensions than their counterparts at non-HBCUs and that black students at HBCUs were more likely to be involved in faculty research projects than black students at non-HBCUs. HBCUs also produce a disproportionately high share of black students who receive degrees in science, engineering, technology, or mathematics (the "STEM" fields), the Commission found. The Commission attributed the HBCUs' success in educating and graduating disproportionately large numbers of black students (both generally and with respect to those graduating with STEM degrees) in part to their admission policies, which do not create the situation of academic mismatch (a credentials gap) often found at non-HBCUs. Mismatch occurs frequently in institutions that grant preferential admissions based on race. The Commission credited mismatch, rather than discrimination or black students' alleged lack of interest in science, with HBCUs' comparative success over non-HBCUs in producing a higher proportion of black STEM graduates.

The Commission recommended that black students interested in STEM majors may wish to consider attending a college or a university, including an HBCU, at which their academic credentials match those of the typical student so that they avoid experiencing the negative effects academic mismatch. The Commission also urged state governments to allocate funds to HBCUs and non-HBCUs based on racially neutral criteria. Finally, the Commissioner asked that researchers carefully study the success of HBCUs to learn how other schools can emulate their best practices.

Part A, which consists of the body of this report, was approved on March 12, 2010 by Chairman Reynolds, Vice Chair Thernstrom, and Commissioners Heriot, Kirsanow, Melendez, and Yaki. Commissioner Gaziano abstained. Vote tallies for each of the Commission's findings and recommendations, which make up Part B of the report, are noted therein.

For the Commissioners,

Gerald A. Reynolds
Chairman

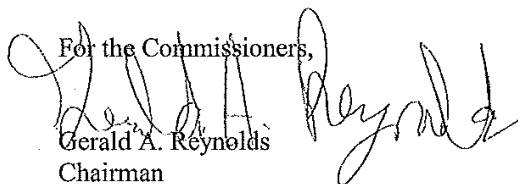


TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
FINDINGS AND RECOMMENDATIONS	8
INTRODUCTION.....	11
SUMMARY OF THE PROCEEDINGS	17
Louis W. Sullivan	17
Historically Black Colleges and Universities and the Development of Students	17
The Morehouse School of Medicine	17
Factors Accounting for the Educational Success of Students at Historically Black Colleges and Universities	18
Earl S. Richardson	18
Challenging the Rightful Place of Historically Black Colleges and Universities in Higher Education	18
Impact of the Civil Rights Act of 1964 on Historically Black Colleges and Universities	19
How the Historically Black Colleges and Universities Survived	20
Historically Black Colleges and Universities are Primary in Narrowing the Higher Educational Gap between African-Americans and Whites	20
Jamie P. Merisotis	22
Four Areas of HBCU Effectiveness	22
Serving as Leaders in Student Engagement	22
Promoting Civic Engagement and Service Learning	23
Enabling Educational Attainment for Low Income, First Generation, and Disabled Students	23
Science, Technology, Engineering, and Mathematics (STEM)	24
Raymond C. Pierce	24
A Real and Continuing Threat to Historically Black Colleges and Universities	24
Desegregation in Higher Education	25
The 1978 Civil Rights Policy for Higher Education Desegregation	26
The 1994 Federal Policy for Higher Education Desegregation	26
The Present	27
Mikyong Minsun Kim	28
Four Areas of Focus	28
Institutional and Student Characteristics of Historically Black Colleges and Universities and Historically White Colleges and	

Universities	28
Research Findings on Selected Outcomes	30
Historically Black Colleges and Universities and Student Engagement and Development	31
Historically Black Colleges and Universities Merit Support.....	32
Discussion Summary	32
Academic Outcomes at Historically Black Colleges and Universities	32
Dropout, Graduation, and Performance on National Examinations	33
Historically Black Colleges and Universities as Pipeline to Graduate School	34
Historically Black Colleges and Universities, STEM, and Teacher Education Programs	34
Historically Black Colleges and Universities as Catalyst for Change	35
A Nurturing Environment.....	36
Lack of Parity between HBCUs and Non-HBCUs	37
Subsidizing Student Tuition.....	37
Greater Staff Workload.....	38
Lack of Adequate Facilities	38
Lack of Technology Transfer and Commercialization Centers	38
Faculty Salaries	39
The Right to Exist	39
Struggle Over State Funding and Program Duplication	40
A Complementary System of Higher Education	42
Dearth of Black Male Undergraduates at TWIs	44
Policy Initiatives to Support HBCUs.....	44
Threats that Imperil HBCUs	45
STATEMENTS	47
Louis W. Sullivan, M.D., Chair of The President's Board of Advisors on Historically Black Colleges and Universities	47
Contributions of Historically Black Colleges and Universities to the Nation.....	47
Earl S. Richardson, President, Morgan State University	49
Jamie P. Merisotis, President, Institute for Higher Education Policy.....	54
HBCUs and Student Engagement.....	56
HBCUs and Civic Engagement/Service-Learning.....	56
HBCUs and Success for Low-Income, First Generation, and Disabled Students.....	57
HBCUs and Science, Technology, Engineering and Math (STEM)	58
Raymond C. Pierce, Dean and Professor of Law, North Carolina Central University.....	61
Failure of the Federal Government to Enforce Federal Civil Rights Laws: A Real Threat to Historically Black Colleges and Universities	61
Mikyong Minsun Kim, Associate Professor of Higher Education, Graduate School of Education and Human Development, The George	

Washington University	65
Institutional and Student Characteristics at HBCUs versus HWCUs	65
Effectiveness of HBCUs versus HWCUs	66
Academic Development and Success	66
Early Career Earnings	66
How Do Students' Learning Opportunities Differ between HBCUs and HWCUs?	67
Conclusion and Recommendation	67
The Role of Ethnicity in Choosing and Leaving Science in Highly Selected Institutions.....	78
The Causes and Consequences of Attending Historically Black Colleges and Universities	102
SPEAKER BIOGRAPHIES	150
COMMISSIONER STATEMENTS.....	155
Statement of Commissioner Abigail Thernstrom	155
Dissent of Commissioners Michael Yaki and Arlan D. Melendez.....	157
Rebuttal By Commissioner Gail Heriot.....	158

EXECUTIVE SUMMARY

The Black College and University Act defined an historically black college and university (HBCU)¹ as one that existed before 1964 with a historic and contemporary mission of educating blacks while being open to all. An HBCU must either have earned accreditation from a nationally recognized accrediting agency or association or be making reasonable progress toward accreditation. Currently, 103 HBCUs are located mainly in the Southeastern United States, the District of Columbia, and the Virgin Islands.

The U.S. Commission on Civil Rights conducted a briefing on May 5, 2006, to assess the educational effectiveness of HBCUs. The Commission invited five distinguished panelists to discuss the issue: Louis W. Sullivan, founding dean and first president of Morehouse School of Medicine, as well as a presidential advisor and former cabinet secretary; Earl S. Richardson, president of Morgan State University and a former presidential advisor on Historically Black Colleges and Universities; Jamie P. Merisotis, president of the Institute for Higher Education Policy; Raymond C. Pierce, dean and professor of law at North Carolina Central University and a former deputy assistant secretary at the U.S. Department of Education; and Mikyong Minsun Kim, associate professor at the George Washington University's Graduate School of Education and Human Development.

After the briefing, Commissioners offered two articles to help provide the reader with a richer understanding of the subject because policymakers should base conclusions about the efficacy of HBCUs in educating black students as compared to non-HBCUs on stronger evidence than mere public support. In both studies the researchers rely on extensive empirical data to reach their conclusions. The two articles are reproduced at the end of this report and cast some additional light on the briefing topic.

In one study,² economists Fryer and Greenstone found that during the 1970s, HBCU attendance resulted in a greater likelihood of graduation when compared to black attendees at traditionally white institutions, as well as an increased probability of majoring in a physical science. As important, HBCUs provided a substantial wage premium to their graduates. However, by the 1990s, HBCU attendance yielded a substantial wage penalty to black matriculants in comparison with black students attending a traditionally white institution.

¹ During the course of this briefing our panelists and commissioners used a wide variety of terms to describe a college or university that is not an HBCU. These terms included *traditionally white institutions*, *historically white colleges and universities*, and *predominantly white schools*, among others. For clarity in this report we used the term *non-HBCU* except when directly referencing a phrase, sentence or quotation from the prepared statements or the transcript where the panelist or author used a different but synonymous term. In these cases we used the term or phrase used by the panelist or author.

Terms such as *traditionally white institutions* and *historically white colleges and universities* should not be construed to mean that such institutions are racially segregated or that blacks or other minorities are discouraged from attending those institutions. In fact, many institutions which our panelists describe using terms such as *historically white college or university* are quite racially diverse.

² Roland G. Fryer, Jr., and Michael Greenstone, "The Causes and Consequences of Attending Historically Black Colleges and Universities," National Bureau of Economic Research Working Paper No. 13036, April 2007.

Other differences are more positive. Students attending HBCUs appear to demonstrate increased charitable giving, political participation, religious participation, and propensity to major in the physical sciences compared with those who went to traditionally white institutions.

In the second research effort Commissioners identified, psychologists Elliott, et al.,³ sought to assess the effects of black students attending HBCUs rather than non-HBCUs. The study focused on predictors of whether or not black students decide to major in the sciences with some discussion of the special role HBCUs might play in this process. The authors note an initial substantial interest in, and favorable feelings toward, science among blacks pursuing science careers, an effect more positive than that found among white students. The black students failed to manifest such interest later in college and subsequently. To understand this change, the researchers studied the likelihood of students enrolled in four Ivy League institutions majoring in science and, to a lesser extent, of their dropping out of college completely. Elliott, et al., were particularly interested in the situation of high-ability minority students.

The researchers' overall finding is that "preadmission variables accounted for a significant fraction of the variance in persistence decisions, while ethnicity did not." Although black students have a greater initial interest in choosing science majors and careers than whites, and an attraction equal to that of all nonblacks, the heightened appeal of these pursuits is not sustained. While students' initial interest predicts their persistence in the field of science, the enhanced attraction does not stem the disproportionately large attrition among black students. The analysis indicates that the greater attrition of black majors arises from a very large disadvantage in black students' average developed academic ability compared to whites and Asian Americans.

Elliott, et al., indicate that the *relative* position of blacks in HBCUs as compared to those at non- HBCUs probably accounts for the positive effects of HBCUs. The authors note that black students at non-HBCUs—even those who score well compared to national racial and ethnic norms—are competitively disadvantaged relative to their school's student body on indicators of developed ability that predict science persistence and achievement, particularly at elite colleges and universities. This results in weaker performance and persistence among blacks than might occur in less competitive settings. The authors note that the differences are large enough to suggest that the achievement gaps are due to nonacademic factors as well as to differences in developed ability.

Most importantly in the context of this briefing, Elliott, et al., note that while HBCU enrollees and graduates have quite low SAT scores and high school grades, they nonetheless produce 40 percent of black engineers with only 20 percent of black enrollment. They also note that the top 21 undergraduate producers of blacks with doctoral degrees were HBCUs, and none of the highly successful schools were among the 30 most selective academic institutions.

³ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996).

Elliott, et al., found support for their comparative performance hypothesis in a re-analysis of data from 11 private colleges. The research shows that, when students are ranked by SAT math scores and divided into three groups, each institution awarded science degrees to, on average, 54 percent of students in the top tercile, 31 percent in the middle group, and only 15 percent in the bottom third, regardless of differences across colleges in each tier's average math scores. While having a higher SAT math score is associated with becoming a science graduate, the rank of an SAT math score within any given institution also matters in predicting whether a student will become a science graduate. For example, a student among the top third of a less selective institution is likely to have a far greater probability of graduating with a science degree than a student in the bottom tercile of a selective institution, even when they have the same SAT math score. The example that Elliott and his coauthors provide predicts that 55 percent of the former, and only 15.4 percent of the latter, are likely to graduate with a science degree. Relative student position in institutions matters. Here, then, the HBCUs can continue to have an important role in nurturing academic talent among black students.

Despite widely ranging methods, data sources, and professional disciplines, theories, and analyses, both studies that Commissioners contributed to the record after the briefing support the conclusion that HBCUs make a distinctive contribution to the well-being of black Americans.

In the briefing session, Dr. Sullivan stated that for some young African-Americans the development that occurs at HBCUs might have a profound influence on their lives. For example, African-American graduates of certain HBCUs, such as Xavier University, Spelman College, and Morehouse College, successfully gained entry into graduate, medical, engineering, law schools and other fields, in percentages and numbers equaling or exceeding those of African-American students that attended wealthier, longer established, and predominantly-white institutions. He noted that graduates of the Morehouse School of Medicine pass national medical examinations at rates equaling or surpassing the overall national pass rate even though the institution is one of the most recently established medical schools in the United States. Dr. Sullivan suggested that faculty members' dedication to teaching, a supportive social environment on campus, faculty and staff members' encouragement of students to explore leadership roles in their chosen careers, and the general availability of faculty role models help explain HBCU success.

Dr. Richardson indicated that after the enactment of the Civil Rights Act of 1964 (CRA) and initial federal enforcement in the early 1970s, questions arose about the future role of HBCUs in contemporary higher education. Previously, there was a clear understanding that HBCUs were open to all students and were the only type of institution in the Southern states available to African-American students seeking a college education. Continuing, he explained that the CRA mandated that non-HBCUs increase minority enrollment but did not require HBCUs to raise their white enrollment. He went on to say that African-American educational attainment seriously lagged behind that of whites despite HBCUs' success in enabling access, and that the gap between the two groups has been widening in recent years. He observed that HBCUs are far more productive in graduating African-Americans than are selective institutions and therefore must be an "integral part of any strategy for increasing the

number of black graduates in the nation.” Elliott, et al., made a comparable point on HBCU productivity, albeit pertaining to the graduation of science graduates.⁴

Mr. Merisotis said that a 2004–2005 national survey of student engagement found that, compared to African-American students enrolled in “predominantly white institutions,” those attending HBCUs reported more interactions with faculty members. He indicated that the 2004 Campus Compact⁵ membership survey documented that HBCUs are more likely to require service and service-learning as a condition of graduation. Mr. Merisotis also said HBCUs provide “additional support, guidance, and mentoring to students from educationally and economically disadvantaged backgrounds and disabled students to ensure their admission into and graduation from college. Finally, he drew attention to the success of the undergraduate-level “HBCU UP” program that the National Science Foundation (NSF) funds at 14 HBCU sites. NSF, he said, reported that at HBCUs in which the program has been in place for five years, the passing rates in required mathematics courses improved as did performance in mandatory science, technology, and engineering courses. Of the science, technology, engineering, and mathematics (STEM) graduates from these HBCUs, he said about 25 percent have acquired undergraduate research experience that would be helpful to them in graduate school. It bears noting that existing empirical literature suggested that blacks aspire to be in science.⁶ Elliott, et al., pointed out that “intention to concentrate in science is by far the strongest predictor of actually doing so.”⁷

Dean Pierce stated that HBCUs continue to educate large numbers of African-Americans effectively, thus contributing to the nation’s need for a learned population and skilled workforce. He indicated that desegregation efforts in state higher education systems involved private lawsuits seeking equal funding for HBCUs relative to traditionally white institutions in conjunction with federal government intervention. The 1970s *Adams* cases are illustrative.⁸ In these cases, Dean Pierce said private individuals filed suit in federal court against the Secretary of the U. S. Department for Health, Education, and Welfare (HEW), the agency itself, and its Office for Civil Rights (OCR) for failure to enforce federal civil rights laws with regard to

⁴ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), “The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions,” *Research in Higher Education*, Vol. 37, No. 6, p. 684, citing E. Culotta (1992), “Black colleges cultivate scientists,” *Science* 258: 1216–1218 and D. H. Thurgood and J. E. Clark (1995), *Summary Report 1993: Doctorate Recipients from United States Universities*. Washington, DC: The National Academy Press.

⁵ “The National Campus Compact is a coalition of more than 950 institutions committed to the civic purposes of higher education.” USCCR briefing transcript, May 5, 2006, p. 27.

⁶ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), “The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions,” *Research in Higher Education*, Vol. 37, No. 6, p. 690, citing G. H. Dunteman, J. Wisenbaker, and M. E. Taylor (1979), *Race and Sex Differences in College Science Program Participation*. Research Triangle Park, N.C.: Research Triangle Institute and J. Oakes (1990), “Opportunities, Achievement, and Choice: Women and Minority Students in Science and Mathematics,” *Review of Research in Higher Education* 16:153–222.

⁷ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), “The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions,” *Research in Higher Education*, Vol. 37, No. 6, p.690.

⁸ *Adams v. Richardson*, 351F. Supp. 636 (1972) and *Adams v. Califano*, 430 F. Supp. 118 (D.D.C. 1977).

African-Americans enrolled in HBCUs. The court found against OCR and directed it to develop guidelines to desegregate state systems of higher education. OCR's 1978 policy, he explained, examined two components to determine civil rights compliance—HBCU enhancement and traditionally white institution affirmative action in recruitment to attract and enroll more African-American students. Following *Ayers v. Fordice*, 1992 (*Fordice*), he said OCR created a policy for higher education desegregation in 1994 that was far more rigorous than that of the 1978 one. Continuing, he offered that the "problem we face today is almost a re-visitation of the situation that led to the *Adams* cases in the 1970s." In 2000, 2001, and especially 2002, he observed that some states were seeking to revert to a policy of hindering HBCUs' ability to offer attractive educational programs, while others were unnecessarily duplicating programs.⁹ Historically, he said program duplication served to create and maintain a segregated higher education system.

In her turn to speak, Dr. Kim first provided some characteristics about HBCUs and their students. Compared to "historically white colleges and universities," she said that HBCUs tend to have fewer resources, smaller enrollments, a lower student-faculty ratio, and higher student-faculty interactions. Of their students, she said that they were close to 1.5 times likelier than students at historically white colleges and universities to participate in faculty members' research, their family backgrounds tended to be less affluent, and they are generally less academically prepared. With respect to the latter, the research of Elliott, et al., noted, for example, that "black grade-12 achievement in math is about the same as, and in science a little worse than, white grade-8 achievement."¹⁰ Dr. Kim then discussed her research, which examined the impact of HBCUs and historically white colleges and universities on three academic outcomes: overall academic ability, writing ability, and mathematics ability. She found no significant difference between African-American students at HBCUs and historically white colleges and universities in these three areas. Similarly, she found no significant difference between African-American students in HBCUs and historically white colleges and universities in the likelihood of earning a baccalaureate degree and in early career earnings.¹¹

⁹ USCCR briefing transcript, May 5, 2006, p. 42. Unnecessary program duplication refers to those instances in which broadly similar high demand programs at an historically black college or university (HBCU) are offered at a geographically proximate TWI. See, for example, MARYLAND'S REPORT AND THE PARTNERSHIP AGREEMENT BETWEEN THE STATE OF MARYLAND AND THE U. S. DEPARTMENT OF EDUCATION, OFFICE FOR CIVIL RIGHTS, <<http://www.mhec.state.md.us/higherEd/ocrplan/index.asp>> (last accessed Jan. 26, 2007) The HBCU and TWI in question may be public or private. Genevieve Segura senior education policy analyst, Maryland Higher Education Commission, telephone interview, Jan. 26, 2007.

¹⁰ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, Vol. 37, No. 6, p. 682, citing J. Oakes (1990), "Opportunities, achievement, and choice: Women and minority students in science and mathematics," *Review of Research in Higher Education* 16:153–222; L. Suter (ed.) (1993), *Indicators of Science and Mathematics—1993*. Washington, D.C.: U. S. Government Printing Office (NSF 93–95); P. E. White (1992), *Women and Minorities in Science and Engineering: An Update*. Washington, D.C.: National Science Foundation.

¹¹ "Factors influencing Black students' persistence in college," by P. Cross, P. and H. Astin, in G. Thomas (Ed.). *Black Students in Higher Education*, 1981, pp. 76–90. Westport, CN: Greenwood Press; "Do historically Black institutions of higher education confer unique advantages on Black students: An initial analysis," by R. G. Ehrenberg, and D. S. Rothstein, Cambridge, MA: National Bureau of Economic Research, 1993, unpublished paper; "The influence of college on self-concept: A consideration of race and gender differences," by E.

Dr. Kim pointed out that these findings showed that an African-American student's attendance at an HBCU or an historically white college or university did not affect his or her academic success and early career earnings. She said that her findings along with those of others "lend support to the proposition that HBCUs contribute significantly to higher education in this country and merit strong support."

The discussion began with Commissioner Kirsanow commenting on Dr. Kim's research. He noted that Dr. Kim did not control for regional effects in her study. Nonetheless, given HBCUs lower funding levels and the academic under-preparedness of their students on admission, such institutions were "doing a much better job than historically white colleges and universities in educating African-American students," he said, more than the findings of no significant difference suggest. Dr. Sullivan stated that Spelman College's graduation rate of 77 percent exceeds those of several respected and well-resourced white institutions. He added that Morehouse School of Medicine students performed better on the United States' Medical Licensing Examination than the country's other medical students despite scoring lower on SATs. Dean Pierce pointed out that in 2005, despite fewer resources and pre-entry academic profiles predicting lower achievement, graduates of North Carolina Central University School of Law achieved a first-time bar passage rate of 81 percent, which tied with that of Duke University School of Law. Vice Chair Thernstrom expressed admiration for HBCUs. During a visit to Savannah State University some years ago, she noted that many of its African-American students have limited academic skills, a reflection of the "racial gap in academic achievement at the end of high school." She was impressed by the quality education the institution offered and its dedicated efforts to improve students academically.

Commissioner Kirsanow found it striking that HBCUs awarded 40 percent of all black graduate STEM degrees. Further, he observed that the top 30 HBCUs graduated the largest numbers of blacks who enrolled in STEM doctoral programs. In the same vein, the Elliott, et al., article reported that despite generally weak pre-college academic credentials, HBCUs produced 40 percent of black science and engineering degrees even though they enrolled only 20 percent of the total black undergraduate students.¹² Elliott and his coauthors also commented that of the top 21 undergraduate producers of black doctoral graduates during the period 1986–1993, 17 were HBCUs.¹³

Panelists offered several suggestions for HBCUs' educational success with students whose pre-college profiles are not sterling. Dr. Sullivan suggested that faculty commitment played a role.

Pascarella, J. Smart, C. Ethington, and M. Nettles, in *American Educational Research Journal*, 24 (1), 1987, pp. 49-77. Kim written statement, pp. 46, 56–57.

¹² Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, Vol. 37, No. 6, p. 700, citing *The College Handbook*, for example, 1988, or any recent edition; *Barron's Profiles of American Colleges*, for example, 1988, or any recent edition; E. Culotta (1992), "Black colleges cultivate scientists," *Science* 258: 1216–1218 and T. R. Phillips (1991), *ABET/EXXON Minority Engineering Student Achievement Profile*.

¹³ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, Vol. 37, No. 6, p. 700, citing D. H. Thurgood and J. E. Clark (1995, Table 5), *Summary Report 1993: Doctorate Recipients from United States Universities*. Washington, DC: The National Academy Press.

Dr. Richardson and Dean Pierce both spoke of HBCUs' nurturing environment wherein a culture of engaging students within and outside the classroom flourishes. Both Dr. Richardson and Dr. Kim cited the importance of role modeling. Of interest here is the finding of Elliott, et al. that persistence is not just a matter of average preparation but of comparative position as well. A reasonably well-prepared student at an HBCU is in a strong competitive position in his or her institution, unlike a similar student at an elite, majority white institution, and is thus more likely to succeed and persist beyond the baccalaureate.¹⁴

Chairman Reynolds noted the severity of the budget reality and HBCUs' heavy dependence on state and federal funding, and then asked if HBCU officials have considered any alternative funding model. Dr. Richardson responded that in fiscally difficult times, the higher education community has to be particularly efficient in delivering quality education. He proposed a complementary system of higher education that strategically locates high quality academic programs aimed at developing the state's work force in a few geographically dispersed institutions, rather than unnecessarily duplicating them.

At the close of the discussion, Commissioner Kirsanow asked panelists to identify key federal policy initiatives that could sustain and enhance HBCUs and significant threats that could imperil them. With respect to the former, panelists proposed a return to complementary academic programming among institutions within a higher education system while avoiding unnecessary program duplication in geographically proximate HBCUs and non-HBCUs, continued enhancement of HBCUs, enforcement of federal civil rights laws, additional Title III support for HBCUs, and an increase in financial aid. The threats that panelists identified are unnecessary program duplication, declining financial resources, and public challenges to HBCUs' right to exist.

Based on panelist presentations and the ensuing discussion during the briefing, the Commission offers the following findings and recommendations: (Please see next page.)

¹⁴ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, Vol. 37, No. 6, pp. 701–702.

FINDINGS AND RECOMMENDATIONS

Findings

1. A historically black college or university (“HBCU”) is a college or university that existed before 1964 that has a historic and contemporary mission of educating African-Americans while being open to all students. There are currently 103 HBCUs in the United States. Forty are public four-year colleges and universities, and 49 are private. The remaining 14 are two-year colleges, 11 of which are public and three private [Chairman Reynolds and Commissioners Gaziano, Heriot, Kirsanow, and Taylor voted in favor of this finding. Commissioner Yaki abstained.]
2. Many distinguished and highly successful Americans have graduated from one of these institutions, including high percentages of African-American congressmen, professors, CEOs, lawyers, and judges. Indeed, during the days of legally mandated segregation, academically talented African-American students desiring university degrees often had few or no options other than HBCUs. Today’s African-American students have many more choices, among them universities formerly segregated by law or custom, leading some commentators to question what role HBCUs should play now and in the future [Chairman Reynolds and Commissioners Gaziano, Heriot, and Kirsanow voted in favor of this finding. Commissioners Taylor and Yaki abstained.]
3. According to survey data collected by the National Study for Student Engagement (NSSE), students at historically black colleges and universities (“HBCUs”) report higher levels of engagement on some survey dimensions than do their counterparts at non-HBCUs. For example, according to 2004 and 2005 NSSE data from 37 HBCUs, African-American students report more contact with faculty than African-American students at non-HBCUs. Other studies also show that African-American students at HBCUs are more likely to be involved in faculty research projects than are African-American students at non-HBCUs [Chairman Reynolds and Commissioners Gaziano, Heriot, Kirsanow, and Taylor voted in favor of this finding. Commissioner Yaki abstained.].
4. Generally, HBCUs have less funding and fewer support resources for their students than comparable non-HBCUs. A study conducted by one panelist, Dr. Kim, nonetheless found no significant differences in academic outcomes between HBCUs and wealthier non-HBCUs [Chairman Reynolds and Commissioners Gaziano, Heriot, Kirsanow, and Taylor voted in favor of this finding. Commissioner Yaki abstained.].
5. HBCUs have an average graduation rate of 55 percent, which is lower than the 63 percent average graduation rate for non- HBCUs. This may occur, in part, because of HBCUs’ generally liberal admission policies and their average student’s weaker academic profile. However, for similarly situated students, attendance at an HBCU versus a non-HBCU has no differential effect on an individual African-American student’s chances of obtaining a bachelor’s degree [Chairman Reynolds and

Commissioners Gaziano, Heriot, Kirsanow, and Taylor voted in favor of this finding. Commissioner Yaki voted against this finding].

6. HBCUs succeed in educating and graduating disproportionately large numbers of African-American students in part because their admission policies do not create the situation of academic mismatch often found at non-HBCUs. Many African-American students granted preferential admission at elite non-HBCUs, even when they score well compared to national norms, are competitively disadvantaged in developed ability relative to their school's student body who are admitted without consideration of racial or ethnic preferences. Thus, at some of these institutions, academically well-prepared non-Asian minority students, including African-Americans, have weaker performance and persistence rates than might occur in settings where the competition is in line with their current academic preparation [Chairman Reynolds and Commissioners Gaziano, Heriot, and Kirsanow voted in favor of this finding. Commissioner Yaki voted against this finding. Commissioner Taylor abstained.].
7. HBCUs also produce a disproportionately high share of African-American students who receive degrees in science, engineering, technology, or mathematics (the "STEM" fields). Though only about 20 percent of African-American college students attend HBCUs, 40 percent of all African-American engineers received their degrees from an HBCU. Similarly, of the top 21 undergraduate producers of African-American science PhDs, 17 were HBCUs. The prevalence of academic mismatch, caused by non-HBCUs granting preferential admission to certain minority students as opposed to overt discrimination against African-Americans at non-HBCUs, or African-American students' lack of interest in science, appears to best explain HBCUs' successes in producing African-American STEM graduates [Commissioners Gaziano, Heriot, Kirsanow, and Taylor voted in favor of this finding. Chairman Reynolds and Commissioner Yaki abstained.].

Recommendations

1. African-American students interested in STEM majors may also particularly wish to consider attending a college or a university, including an HBCU, at which their academic credentials match those of the typical student so that they avoid experiencing the negative effects of academic mismatch [Chairman Reynolds and Commissioners Gaziano, Heriot, and Kirsanow voted in favor of this recommendation. Commissioner Yaki voted against this recommendation. Commissioner Taylor abstained.].
2. State governments should allocate funds to HBCUs and non-HBCUs based on racially neutral criteria [Chairman Reynolds and Commissioners Gaziano, Heriot, and Kirsanow voted in favor of this recommendation. Commissioner Yaki voted against this recommendation. Vice Chair Thernstrom and Commissioner Taylor abstained.].
3. Researchers should carefully study the success of HBCUs to learn how other schools can emulate their best practices. [Chairman Reynolds and Commissioners Gaziano,

Heriot, Kirsanow, and Taylor voted in favor of this recommendation Vice Chair
Thernstrom and Commissioner Yaki abstained.].

INTRODUCTION

Section 322 of Title III of the Black College and University Act offers criteria that define historically black colleges and universities (HBCUs). An HBCU is a college or university that existed before 1964, with a historic and contemporary mission of educating blacks¹ while being open to all.² An HBCU must either have earned accreditation from a nationally recognized accrediting agency or association, or be making reasonable progress toward accreditation.³ This definition covers a wide range of HBCUs—private, public, church-affiliated, large, small, rich, and poor.⁴ Currently, 103 HBCUs are located mainly in the Southeastern United States, the District of Columbia, and the Virgin Islands. Of these, 40 are public four-year colleges or universities and 49 are private-four-year ones. The remaining 14 are two-year colleges, 11 of which are public and three private.⁵

HBCUs were created to fill a gap in the higher education of black students prior to the civil rights era. The historic mission of HBCUs grew out of racially discriminatory policies in education that were emblematic of an era of segregation in the broader society. Before the Civil War (1861-1865), public policy in the South prohibited the education of blacks,⁶ a majority of whom were enslaved.⁷ A handful of freed blacks, however, found rare opportunities to attend white colleges in the North.⁸ After the Civil War, Christian missionaries established colleges in some Northern states to educate free blacks or runaway slaves. The earliest missionary-established historically black colleges were Cheney University, founded in 1837, Lincoln University, founded in 1854, both located in Pennsylvania, and Wilberforce University in Ohio, founded in 1856.⁹ Most private HBCUs came into existence during this period.¹⁰

¹ John A. Moore, Note: *Are State-Supported Historically Black Colleges and Universities Justifiable after Fordice?—A Higher Education Dilemma*, 27 Fla. St. U. L. Rev. 547, 549 (2000).

² Earl S. Richardson, president, Morgan State University written statement to the U.S. Commission on Civil Rights, Washington, DC, May 5, 2006, p. 33 (hereafter cited as Richardson written statement).

³ John A. Moore, Note: *Are State-Supported Historically Black Colleges and Universities Justifiable after Fordice?—A Higher Education Dilemma*, 27 Fla. St. U. L. Rev. 547, 549 (2000).

⁴ Debra A. Harley, "Desegregation at HBCUs: Removing Barriers and Implementing Strategies." *The Negro Education Review*, Vol. 52, No. 4, October 2001, p. 151.

⁵ United States Department of Education, President's Board of Advisors on Historically Black Colleges and Universities, "White House Initiative on Historically Black Colleges and Universities," <<http://www.ed.gov/about/inits/list/whhbcu/edlite-index.html>> (last accessed Jan. 19, 2007).

⁶ Samuel L. Meyers, "What is a Black College?" *NAFEO Inroads*, (February/March, 1987), p. 2.

⁷ PBS, From Swastika to Jim Crow, "Historically Black Colleges and Universities," <[http://www.pbs.org/itvs/fromswastikatojimcrow/Black colleges.html](http://www.pbs.org/itvs/fromswastikatojimcrow/Black%20colleges.html)> (last accessed October 16, 2005).

⁸ PBS, From Swastika to Jim Crow, "Historically Black Colleges and Universities," <[http://www.pbs.org/itvs/fromswastikatojimcrow/Black colleges.html](http://www.pbs.org/itvs/fromswastikatojimcrow/Black%20colleges.html)> (last accessed October 16, 2005).

⁹ Samuel L. Meyers "What is a Black College?" *NAFEO Inroads*, (February/March., 1987), p. 2.

¹⁰ John A. Moore, Note: *Are State-Supported Historically Black Colleges and Universities Justifiable after Fordice?—A Higher Education Dilemma*, 27 Florida State University Law Review 547, 549–550 (2000).

The first Morrill Act of 1862 indirectly contributed to the founding of public HBCUs. Under this law, each state received grants of federal land to build colleges to teach agriculture, mechanical arts, and liberal education. Many states, however, prohibited blacks from attending white colleges.¹¹ The second Morrill Act of 1890 mandated states to make available separate educational facilities for blacks or admit them to white colleges.¹² Southern states chose to set up separate public colleges for blacks rather than admit them to white colleges.¹³

While *de jure* segregation is a thing of the past, HBCUs still enroll a substantial proportion of black students. In the pre-civil rights era, a large majority of blacks who attended colleges enrolled in HBCUs. Currently, about 20 percent of black students attend four-year HBCUs.¹⁴ More strikingly, even today, HBCUs have educated a large proportion of black leaders including 40 percent of all Congressmen, 50 percent of non-HCBU professors, 12.5 percent of chief executive officers, 50 percent of lawyers, and 80 percent of judges.¹⁵

The Supreme Court's decision in *Ayers v. Fordice*¹⁶ made the situation of HBCUs more precarious. *Fordice* instructed state legislatures either to find an educational justification for the continued existence of HBCUs or to integrate them with the non-HCBU institutions of their respective states. However, public support for HBCUs remains strong. As part of the recently passed College Cost Reduction Act, Congress increased the federal investment in HBCUs by over \$170 million over the next two years.¹⁷

The U.S. Commission on Civil Rights (hereafter the Commission) conducted a briefing on May 5, 2006, to assess the educational effectiveness of HBCUs.¹⁸ These institutions, despite

¹¹ John A. Moore, *Note: Are State-Supported Historically Black Colleges and Universities Justifiable after Fordice?—A Higher Education Dilemma*, 27 Fla. St. U. L. Rev. 547, 550 (2000); PBS, From Swastika to Jim Crow, "Historically Black College and Universities," <http://www.pbs.org/itvs/fromswastikatojimcrow/Blackcolleges_2.html> (last accessed October 16, 2005).

¹² John A. Moore, *Note: Are State-Supported Historically Black Colleges and Universities Justifiable after Fordice?—A Higher Education Dilemma*, 27 Fla. St. U. L. Rev. 547, 550 (2000).

¹³ John A. Moore, *Note: Are State-Supported Historically Black Colleges and Universities Justifiable after Fordice?—A Higher Education Dilemma*, 27 Fla. St. U. L. Rev. 547, 550 (2000); PBS, From Swastika to Jim Crow, "Historically Black College and Universities," <http://www.pbs.org/itvs/fromswastikatojimcrow/Blackcolleges_2.html> (last accessed October 16, 2005); Leonard H. O. Spearman, *Governance in the Nation's Historically Black Colleges and Universities*, 2005, p. 7.

¹⁴ National Center for Educational Statistics, *Historically Black Colleges and Universities, 1976–2001*, September 2004, p.2, Table 1.

¹⁵ Roland G. Fryer, Jr., and Michael Greenstone, "The Causes and Consequences of Attending Historically Black Colleges and Universities," National Bureau of Economic Research Working Paper No. 13036, April 2007, p.1.

¹⁶ 505 U.S. 717 (1992).

¹⁷ United Negro College Fund, <www.uncf.org/print/index.asp?prID=174> (last accessed Nov. 23rd, 2007).

¹⁸ The Executive Summary and the Summary of the Proceedings are based on the briefing held on May 5, 2006. A transcript of the briefing is available on the Commission's Web site <<http://www.usccr.gov>> and by request

difficult beginnings, have been pivotal in educating students, especially African-Americans, for generations. The Commission consulted numerous experts on HBCUs to identify distinguished panelists to discuss this important issue. The five panelists were:

- Louis W. Sullivan, chair of the President's Board of Advisors on Historically Black Colleges and Universities, founding dean and first president of Morehouse School of Medicine, and former Secretary of the U.S. Department of Health and Human Services;
- Earl S. Richardson, president of Morgan State University and former chair of the President's Board of Advisors on Historically Black Colleges and Universities;
- Jamie P. Merisotis, president of the Institute for Higher Education Policy;
- Raymond C. Pierce, dean and professor of law at North Carolina Central University, and former deputy assistant secretary for civil rights at the U. S. Department of Education; and
- Mikyong Minsun Kim, associate professor of Higher Education at The George Washington University's Graduate School of Education and Human Development and director of the Higher Education Administration Doctoral Program at the institution's Virginia Campus.

After the briefing, Commissioners offered two articles to help provide the reader with a richer understanding of the subject because policy makers should base conclusions about the efficacy of HBCUs in educating black students as compared to non-HBCUs¹⁹ on stronger evidence than mere public support. In both studies the researchers rely on extensive empirical data to draw their conclusions. The two articles are reproduced at the end of this report and cast some additional light on the briefing topic.

In one study, economists Fryer and Greenstone analyzed several National Center for Education Statistics' databases collected in the 1970s and the 1990s. They found that during the 1970s, HBCU attendance resulted in a greater likelihood of graduation when compared to black attendees at traditionally white institutions, as well as an increased probability of

from the Publications Office, U.S. Commission on Civil Rights, 624 Ninth Street, NW, Room 600, Washington, D.C. 20425. The telephone number and e-mail address of the Publications Office are (202) 376-8128 and publications@usccr.gov, respectively.

¹⁹ The acronyms TWI, HWI, HWCU, and non-HBCU are used at various points in this report to reflect the differing terminology used by our panelists. For purposes of this report these terms mean the same thing. When referring globally or collectively to the panelist and or commissioner comments this report uses the term non-HBCU. In addition, note that it would be interesting to assess the impact of attending an Historically Black College or University (HBCU) on white students, but this is beyond the scope of the Commission's discussion.

majoring in a physical science.²⁰ As important, HBCUs provided a substantial wage premium to their graduates. However, by the 1990s, HBCU attendance yielded a substantial wage penalty to black matriculants in comparison with black students attending a traditionally white institution.²¹

Other differences are more positive. Students attending HBCUs appear to demonstrate increased charitable giving, political participation, religious participation, and propensity to major in the physical sciences compared with those who went to traditionally white institutions.²²

If these conclusions survive further testing, they indicate that attending an HBCU no longer provides the economic advantage to black matriculants that it once did. It may also imply, as Fryer and Greenstone suggest, that traditionally white institutions may be more efficacious in placing their black matriculants than HBCUs. However, HBCUs' wage penalties are offset at least partly with non-pecuniary advantages that may accrue to black matriculants in attending HBCUs rather than traditionally white institutions. These include greater civic participation and greater willingness of students to major in the physical sciences. The large proportions of black lawyers, judges, members of the Congressional Black Caucus, and professors graduated from HBCUs, mentioned earlier, support such a finding.

In the other research effort Commissioners identified, psychologists Elliott, et al., sought to assess the effects of black students attending HBCUs rather than non-HBCUs. The study focused on predictors of whether or not black students decide to major in the sciences with some discussion of the special role HBCUs might play in this process. The authors note an initial substantial interest in, and favorable feelings toward, science among blacks pursuing science careers, an effect more positive than that found among white students. The black students failed to manifest such interest later in college and subsequently.²³ To understand this change, the researchers studied the likelihood of students enrolled in four Ivy-league institutions majoring in science and, to a lesser extent, of their dropping out of college

²⁰ Roland G. Fryer, Jr., and Michael Greenstone, "The Causes and Consequences of Attending Historically Black Colleges and Universities," National Bureau of Economic Research Working Paper No. 13036, April 2007, p. 18.

²¹ Roland G. Fryer, Jr., and Michael Greenstone, "The Causes and Consequences of Attending Historically Black Colleges and Universities," National Bureau of Economic Research Working Paper No. 13036, April 2007, pp. 18–25.

²² Roland G. Fryer, Jr., and Michael Greenstone, "The Causes and Consequences of Attending Historically Black Colleges and Universities," National Bureau of Economic Research Working Paper No. 13036, April 2007, Appendix, Table 6, p. 46.

²³ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996), p. 682.

completely.²⁴ Elliott, et al., were particularly interested in the situation of high-ability minority students. Their study examined data from 1988 to 1992.²⁵

The researchers' overall finding is that "preadmission variables accounted for a significant fraction of the variance in persistence decisions, while ethnicity did not."²⁶ Although black students have a greater initial interest in choosing science majors and careers than whites, and an attraction equal to that of non-blacks, the heightened appeal of these pursuits is not sustained. Students' initial interest ordinarily does predict their persistence in the field of science. This study, however, finds that the enhanced attraction does not stem disproportionately large attrition among black students majoring and pursuing careers in science. The analysis indicates that the greater attrition of black majors arises from a very large disadvantage in black students' average developed academic ability compared to whites and Asian Americans.²⁷

Elliott, et al., indicate that the *relative* position of blacks in HBCUs as compared to those at majority white institutions probably accounts for the positive effects of HBCUs. The authors note that black students at majority white institutions—even those who score well compared to national racial and ethnic norms—are competitively disadvantaged relative to their school's student body on indicators of developed ability that predict science persistence and achievement, particularly at elite colleges and universities. This results in weaker performance and persistence among blacks than might occur in less competitive settings.²⁸ The authors note that the differences are large enough to suggest that the achievement gaps are due to nonacademic factors as well as to differences in developed ability.

²⁴ The article did not name the Ivy-league schools. See Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996), p. 682

²⁵ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996), p. 682.

²⁶ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996), p. 695.

²⁷ Using a composite predictor of academic achievement, the authors found that, in statistical terms, white and Asian American students enjoy an advantage amounting to 1.75 standard deviations over black students. Note that in this study the averages of students' combined SAT scores were: 1325 for white matriculants; 1160 for blacks; 1345 for Asians; and 1219 for Hispanics. Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996), pp. 682 and 700.

²⁸ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996), p. 684.

Most importantly in the context of this briefing, Elliott, et al., note that while HBCU enrollees and graduates have quite low SAT²⁹ scores and high school grades, they nonetheless produce 40 percent of black engineers with only 20 percent of black enrollment.³⁰ They also note that the top 21 undergraduate producers of blacks with doctoral degrees were HBCUs, and none of the highly successful schools were among the 30 most selective academic institutions.³¹

Elliott, et al., found support for their comparative performance hypothesis in a re-analysis of data from 11 private colleges. The research shows that, when students are ranked by SAT math scores and divided into three groups, each institution awarded science degrees to, on average, 54 percent of students in the top tercile, 31 percent in the middle group, and only 15 percent in the bottom third, regardless of differences across colleges in each tier's average math scores. While having a higher SAT math score is associated with becoming a science graduate, the rank of an SAT math score within any given institution also matters in predicting whether a student will become a science graduate. For example, a student among the top third of a less selective institution is likely to have a far greater probability of graduating with a science degree than a student in the bottom tercile of a selective institution, even when they have the same SAT math score. The example that Elliott and his coauthors provide predicts that 55 percent of the former, and only 15.4 percent of the latter, are likely to graduate with a science degree.³² Relative student position in institutions matters. Here, then, the HBCUs can continue to have an important role in nurturing academic talent among black students.

Despite widely ranging methods, data sources, and professional disciplines, theories, and analyses, both studies that Commissioners contributed to the record after the briefing support a common conclusion. In short, HBCUs make a distinctive contribution to the well-being of black Americans.

²⁹ The test, originally known as the Scholastic Aptitude Test, was later renamed the Scholastic Assessment Test, and now is simply called the SAT. See Fair Test: The National Center for Fair and Open Testing, "The SAT Questions and Answers," <<http://www.fairtest.org/facts/satfact.htm>>, (last accessed Aug. 31, 2006).

³⁰ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996), pp. 684, 700.

³¹ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996), p. 700.

³² Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, vol. 37, No. 6. (1996), pp. 700–701.

SUMMARY OF THE PROCEEDINGS

Louis W. Sullivan

Historically Black Colleges and Universities and the Development of Students

Dr. Sullivan stated that a majority of the nation's historically black colleges and universities (HBCUs) came into existence after the Emancipation Proclamation in 1863. Religious organizations built many of them with states taking over this task in later years.⁴⁷ Passage of the Voting Rights Act of 1965 and other momentous civil rights legislation in the 1960s, designed to prohibit discriminatory conduct and "eliminate the vestiges of segregation and discrimination," guaranteed equal rights in principle for African-Americans and other minorities.⁴⁸ There was, however, an unintended consequence: persistent questions arose in some quarters on the continued need for HBCUs and their educational effectiveness.⁴⁹

The college years, Dr. Sullivan explained, are significant in the academic, social, and personal development of undergraduates. During this period, they make the transition from the certain, intimate world of the home to the more indeterminate, impersonal environment of the campus.⁵⁰ For some young African-Americans, he said, the development that occurs at HBCUs may have a profound influence on their lives, including how they perform roles such as spouse, parent, professional, or responsible citizen.⁵¹ For example, African-American graduates of certain HBCUs successfully gained entry into graduate, medical, engineering, and law schools and other fields in percentages and numbers equaling or exceeding those of African-American students that attended wealthier, established predominantly white colleges and universities. Dr. Sullivan noted that HBCUs with such eminent track records include, for example, Xavier University, Spelman College, Morehouse College, Florida A & M, North Carolina A & T University, and Jackson State University.⁵²

The Morehouse School of Medicine

Dr. Sullivan explained that the Morehouse School of Medicine is a predominantly African-American medical school. Morehouse College established its medical school in 1975 specifically to increase the number of African-American and other minority physicians in Georgia and, more generally, the nation. The Morehouse School of Medicine, with modest financial resources, began as a two-year institution enrolling the first class of medical students in

⁴⁷ U.S. Commission on Civil Rights, briefing on the educational effectiveness of historically black colleges and universities, Washington, DC, May 5, 2006 transcript (hereafter cited as USCCR briefing transcript, May 5, 2006), testimony of Louis W. Sullivan, p. 11.

⁴⁸ USCCR briefing transcript, May 5, 2006, p. 11.

⁴⁹ USCCR briefing transcript, May 5, 2006, p. 11.

⁵⁰ USCCR briefing transcript, May 5, 2006, p. 12.

⁵¹ USCCR briefing transcript, May 5, 2006, p. 12.

⁵² USCCR briefing transcript, May 5, 2006, pp 12–13.45

1978. It expanded to a four-year school by 1981, and earned full accreditation in 1985.⁵³

The institution, according to Dr. Sullivan, now counts 800 medical alumni, including a commissioner for health for the State of Georgia, a vice president of a large prestigious medical school, the personal physician of the President of South Africa, and physicians practicing in medically underserved rural and inner city communities. Dr. Sullivan noted that the institution's graduates pass national medical examinations at rates equaling or surpassing the overall national rate. Yet the Morehouse School of Medicine is one of the most recently established medical schools in the United States.⁵⁴

Factors Accounting for the Educational Success of Students at Historically Black Colleges and Universities

Dr. Sullivan identified four factors that help explain HBCU students' successful experience. These are:

- (1) Faculty members' dedication to teaching;
- (2) HBCUs' supportive social environment;
- (3) Strong encouragement to students to explore career options and leadership roles in their chosen careers; and
- (4) Faculty role models.⁵⁵

Ending on a sober note, Dr. Sullivan said the vestiges of segregation and discrimination still linger in contemporary American society. Their elimination demands our sustained and dedicated efforts. The nation's HBCUs are significant in this regard, contributing to the academic, social, and personal development of many African-American and other minority citizens.⁵⁶

Earl S. Richardson

Challenging the Rightful Place of Historically Black Colleges and Universities in Higher Education

Dr. Richardson stated that the Civil Rights Act of 1964 (CRA) changed the landscape for HBCUs. According to him, following its enactment and federal enforcement in the early 1970s, discussions arose about the future role of HBCUs in contemporary higher education. Previously, the understanding of what HBCUs represented was clear: they were open to all

⁵³ USCCR briefing transcript, May 5, 2006, p. 13.

⁵⁴ USCCR briefing transcript, May 5, 2006, pp. 13–14.

⁵⁵ USCCR briefing transcript, May 5, 2006, p. 14.

⁵⁶ USCCR briefing transcript, May 5, 2006, pp. 14–15.

students, and, according to him, were the only type of institution in the Southern states available to African-American students seeking a college education.⁵⁷

Dr. Richardson said that during this historic period, an erroneous assumption that HBCUs restricted enrollment to African-Americans precipitated a discussion of HBCUs' rightful place in contemporary American higher education. In fact, he said, a high percentage of prominent African-American leaders in public life and the professions earned their college degrees from HBCUs because of the concentration of blacks in the South.⁵⁸ The State of Maryland illustrates this unique history. For example, Morgan State University counts among its graduates the "first black judge in Maryland, the first black congressman, the first [black] state senator, and the first [black] official to hold any statewide office." Dr. Richardson added that these leaders would not be in their positions without their HBCU attendance.⁵⁹

Impact of the Civil Rights Act of 1964 on Historically Black Colleges and Universities

According to Dr. Richardson, the CRA required traditionally white institutions to increase minority enrollment. Traditionally white institutions sought to meet this requirement through financial incentives to mostly poor black students, who were thus able to enroll in such institutions for the first time.⁶⁰ He noted that there was no parallel requirement for HBCUs to attract white students. He suggested that the federal government missed an opportunity to create a fully desegregated higher education system by adopting this approach to integration.⁶¹

At the same time, Dr. Richardson said, HBCUs were not on par with traditionally white institutions in many important respects, such as the quality of facilities and range of academic programs.⁶² He opined that Southern states deliberately neglected HBCUs as part of a strategy to limit educational opportunities for blacks at all levels.⁶³ He estimated that by the time the federal government enforced CRA, most HBCUs were about a century behind traditionally white institutions.⁶⁴ HBCUs therefore were not competitive in attracting their traditional constituency and even less so with respect to white students.⁶⁵ In the early 1970s, Dr. Richardson noted that black enrollment at HBCUs declined substantially as did the smaller white enrollment.⁶⁶ With regard to Morgan State University, he said the graduate student

⁵⁷ Richardson written statement, p. 31.

⁵⁸ USCCR briefing transcript, May 5, 2006, pp. 16–17.

⁵⁹ USCCR briefing transcript, May 5, 2006, pp. 16–17; Richardson written statement, p. 31.

⁶⁰ Richardson written statement, p. 31.

⁶¹ USCCR briefing transcript, May 5, 2006, pp. 17–18; Richardson written statement p. 31.

⁶² USCCR briefing transcript, May 5, 2006, p. 18.

⁶³ Richardson written statement, p. 31.

⁶⁴ Richardson written statement, p. 31.

⁶⁵ Richardson written statement, p. 31.

⁶⁶ Richardson written statement, p. 31. From kindergarten through the 12th grade, poor funding of black schools resulted in closure and caused black students to enroll in predominantly white schools that were once closed to them. *See* Richardson written statement, p. 31.

population was once slightly majority white, but became almost entirely black within a decade. He further noted that the institution's enrollment only recently re-attained its previous heights.⁶⁷

How the Historically Black Colleges and Universities Survived

Dr. Richardson suggested that four factors contributed to the survival of HBCUs:

- (1) In the mid-1970s, in light of the devastation wrought on HBCUs' enrollment, the federal government required states to enhance such institutions as a precondition to developing desegregation plans.⁶⁸ These plans were intended to "create parity and comparability between ... black ... [and] white institutions so that they could be equally competitive to students regardless of ... [the] race [of the student body]," a task that Dr. Richardson said is still incomplete;⁶⁹
- (2) There is a core group of African-American students who choose to attend HBCUs over traditionally white institutions;⁷⁰
- (3) Growth in the African-American population since the 1960s translated into a growing number of college-age students by the mid-1980s. On the other hand, the white college-age population had been declining, and would continue to do so for another decade;⁷¹
- (4) Traditionally white institutions became more selective in their admission requirements. African-American students, on average, were less competitive on standardized tests and other measures of pre-college academic achievement than their white counterparts were. This compelled more and more African-American students to seek admission in institutions with liberal admission policies, including HBCUs and community colleges, which led to substantial growth in the enrollments of such schools.⁷²

Historically Black Colleges and Universities are Primary in Narrowing the Higher Educational Gap between African-Americans and Whites

Dr. Richardson stated that African-American educational attainment lags far behind that of whites despite HBCUs' success in enabling college access. In 1970, a year that marked the beginning of a federal emphasis on "parity, equity, and affirmative action," he said the difference between whites and African-Americans holding at least a bachelor's degree among persons 25 to 29 years of age favored whites by 10 percent.⁷³ At that time, attaining

⁶⁷ Richardson written statement, p. 31.

⁶⁸ Richardson written statement, pp. 31–32.

⁶⁹ USSCR briefing transcript, pp. 19–20.

⁷⁰ USSCR briefing transcript, p. 20.

⁷¹ USSCR briefing transcript, p. 20.

⁷² USSCR briefing transcript, p. 20.

⁷³ Richardson written statement, p. 32

parity necessitated increasing the number of African-Americans with at least a bachelor's degree by 160,000.⁷⁴ Dr. Richardson pointed out that the trend in recent years has been an ever-widening educational gap between the two groups.⁷⁵ A similar comparison made today shows a 17-point difference between the groups because whites exhibit a higher level of degree attainment.⁷⁶ Attaining parity now requires approximately 400,000 additional African-Americans with bachelor's degrees, far more than the necessary number in 1970.⁷⁷

Dr. Richardson stated that less selective or open-access campuses such as HBCUs would have to shoulder the enormous task of increasing the numbers of minority students enrolling in and graduating from college if this goal were to be met.⁷⁸ He reasoned that:

- (1) With growing emphasis on selectivity, traditionally white institutions are increasingly recruiting students that scored in the upper ranges of the SAT.⁷⁹ Less than 1 percent of blacks as compared to 6 percent of whites score 1400 or higher on the SAT, and less than 5 percent of blacks as compared to 24 percent of whites score 1200 or higher. HBCUs and less selective institutions therefore represent "realistic" options when it comes to enrolling minority students;⁸⁰
- (2) Selective campuses generally graduate a percentage of African-Americans that is half that of the total population from which they recruit. For example, the Ivy League institutions, all of which are national universities, collectively have a graduating class that is 7 percent African-American; the graduating class of the University of California, Berkeley and the University of California, Los Angeles combined, 4 percent; and the graduating class of the University of North Carolina, Chapel Hill, 11 percent. These percentages constitute about half the proportion of blacks in the nation, California, and North Carolina, respectively. Thus, the nation cannot look to selective campuses to increase significantly the number and percentage of black and other minority graduates;⁸¹
- (3) HBCUs, in contrast, produce a larger number of black graduates than selective institutions. Twenty-four individual HBCUs graduate the same numbers of blacks as the University of Michigan and the University of North Carolina, Chapel Hill combined. Morgan State University alone graduates almost as many black students as all of the Ivy League campuses taken together, and Southern University graduates even more. Howard University and Florida A & M graduate more blacks than the

⁷⁴ USCCR briefing transcript, May 5, 2006, pp. 21–22; Richardson written statement, p. 34

⁷⁵ Richardson written statement, p. 34.

⁷⁶ Richardson written statement, p. 32.

⁷⁷ USCCR briefing transcript, May 5, 2006, p. 22; Richardson written statement, p. 32

⁷⁸ Richardson written statement, pp. 33–34.

⁷⁹ See note 29.

⁸⁰ Richardson written statement, p. 33.

⁸¹ Richardson written statement, p. 33.

entire University of California System, the largest public university system in the nation. “HBCUs [therefore] must be an integral part of any strategy for increasing the number of black graduates in the nation.”⁸²

In light of the reasons he presented, Dr. Richardson was emphatic that allocation of additional resources to HBCUs would have the greatest impact in narrowing the degree attainment gap between minority and majority students.⁸³

Jamie P. Merisotis

Four Areas of HBCU Effectiveness

According to Mr. Merisotis, any review of the educational effectiveness of HBCUs should consider four areas. They are:

- (1) HBCUs as leaders in student engagement;
- (2) HBCUs as community-based institutions that “promote civic engagement and service learning;”
- (3) HBCUs as drivers of educational attainment for “low income, first generation, and disabled students;” and
- (4) HBCUs as examples of success in a national effort to “improve the quality of science, technology, engineering, and mathematics” (STEM) in education and research.⁸⁴

Serving as Leaders in Student Engagement

Mr. Merisotis stated that a 2004–2005 National Survey of Student Engagement (NSSE) found “more supportive learning environments for students” on HBCU campuses.⁸⁵ For example, compared to African-American students enrolled in “predominantly white institutions,” those attending HBCUs reported more frequent interactions with faculty members.⁸⁶ They also

⁸² Richardson written statement, pp.33–34.

⁸³ USCCR briefing transcript, May 5, 2006, p. 22; Richardson written statement, p. 34.

⁸⁴ USCCR briefing transcript, May 5, 2006, p. 24

⁸⁵ USCCR briefing transcript, May 5, 2006, p. 25. Other panelists, for example, Dr. Sullivan also noted this factor. USCCR briefing transcript, May 5, 2006, pp. 14, 56–57. The National Survey of Student Engagement (NSSE), administered by the Indiana University Center for Post Secondary Research, documents the extent to which institutions are involved in educational practices or activities that result in preferred learning and personal development outcomes. NSSE collects information from students attending colleges and universities nationwide about their participation in institutional programs and activities designed for “learning and personal development.” The findings estimate “how undergraduates spend their time and what they gain from attending college.” NSSE began in 2000 and since then close to 1,000 colleges and universities have participated. Jamie P. Merisotis, president of the Institute for Higher Education Policy, written statement to the U.S. Commission on Civil Rights (hereafter cited as Merisotis written statement), Washington, DC, May 5, 2006, p. 25.

⁸⁶ USCCR briefing transcript, May 5, 2006, p. 26. Other panelists, for example Dr. Kim also noted this factor. USCCR briefing transcript, May 5, 2006, p. 44.

reported greater likelihood of voting and believed that their institutions promoted “personal spiritual growth.”⁸⁷ According to Mr. Merisotis, the NSSE results in conjunction with other relevant research support the claim that HBCUs offer an educational experience that encourages a high level of student engagement and “enhances [students’] intellectual gains and accomplishments.”⁸⁸

Promoting Civic Engagement and Service Learning

Mr. Merisotis noted that the extent to which colleges and universities contribute to student “civic engagement and participation in ... democratic institutions, such as voting, volunteering, and community involvement”⁸⁹ is of general interest. Institutions may affect this in a number of ways, one of which is to require service learning.⁹⁰ The 2004 Campus Compact⁹¹ membership survey, according to Mr. Merisotis, documented that HBCUs and other minority-serving institutions are more likely to have service and service-learning requirements as a condition of graduation, community service or service learning offices, directors of community service or service learning, and partnerships with kindergarten through secondary schools and faith-based organizations.⁹² He said that such deliberate cultivation of civic engagement among HBCU students “point[s] to a profoundly different approach to student success.” He noted that the national literature on service learning and civic engagement has yet to document adequately the effects of HBCUs’ intentional strategies.⁹³

Enabling Educational Attainment for Low Income, First Generation, and Disabled Students

HBCUs, Mr. Merisotis said, offer disabled students and those from educationally and economically disadvantaged backgrounds “additional support, guidance, and mentoring” to ensure admission into and graduation from college.⁹⁴ According to him, the Council for Opportunity in Education reported that almost 75 percent of HBCUs participate in the TRIO⁹⁵ program compared to less than 25 percent for non-HBCUs. The TRIO programs on these

⁸⁷ USCCR briefing transcript, May 5, 2006, p. 26.

⁸⁸ USCCR briefing transcript, May 5, 2006, p. 26.

⁸⁹ Merisotis written statement, p. 37.

⁹⁰ Merisotis written statement, p. 38.

⁹¹ “The National Campus Compact is a coalition of more than 950 institutions committed to the civic purposes of higher education.” USCCR briefing transcript, May 5, 2006, p. 27.

⁹² USCCR briefing transcript, May 5, 2006, p. 28.

⁹³ USCCR briefing transcript, May 5, 2006, p. 28.

⁹⁴ USCCR briefing transcript, May 5, 2006, pp. 28–29.

⁹⁵ The federally funded TRIO program historically has provided educational opportunities for low-income, first-generation college attendees, and disabled persons. The TRIO program includes Upward Bound, Talent Search and Student Support Services, and is authorized under the Higher Education Act. TRIO serves students from the pre-college to the pre-graduate levels. USCCR briefing transcript, May 5, 2006, p. 29.

HBCU campuses collectively serve about 70,000 students and receive approximately \$70 million in federal funds.⁹⁶

Science, Technology, Engineering, and Mathematics (STEM)

Mr. Merisotis stated that study of science, technology, engineering, and mathematics (STEM) plays a critical role in enhancing America's global and economic competitiveness. He offered that African-Americans are seriously underrepresented as a percentage of the STEM workforce and as a percentage of students enrolling in and graduating from college-level STEM programs. In his view, enhancing the quality and success of HBCU STEM programs is an appropriate way to improve the nation's strength in these fields.⁹⁷

Mr. Merisotis reported that the undergraduate level initiative known as "HBCU UP" enhances the success of HBCU STEM programs. The National Science Foundation (NSF) funds the program at 14 HBCU sites and supports a wide range of activities, including "curriculum enhancement, faculty professional development, undergraduate research [to enable acquisition of research experience], collaborations with research institutions, and other activities that meet institutional needs."⁹⁸ NSF, according to Mr. Merisotis, reported that institutions with "HBCU UP" programs in place for five years have improved passing rates in mathematics courses essential to success in STEM programs, such as Algebra, Pre-calculus, and Calculus I.⁹⁹ Performance in other required STEM courses, such as Biology I and Physics I, also showed improvement. Of the STEM graduates from these HBCUs, about 25 percent have acquired undergraduate research experience that will help them in graduate school.¹⁰⁰

Mr. Merisotis said that the four factors discussed above illustrate the multidimensional nature of educational effectiveness. A fair and comprehensive assessment of HBCU performance should extend beyond examinations of rates of graduation, retention, or job placements, which are necessary indicators but not fully representative of the benefits of attending such institutions. He further pointed out that a multidimensional approach would "improve the targeting of strategies to continuously upgrade quality and performance at these nationally essential institutions of higher learning."¹⁰¹

Raymond C. Pierce

A Real and Continuing Threat to Historically Black Colleges and Universities

Dean Pierce stated that HBCUs continue to effectively educate large numbers of African-Americans, thus contributing to the nation's need for a learned population and skillful

⁹⁶ USCCR briefing transcript, May 5, 2006, p. 29.

⁹⁷ USCCR briefing transcript, May 5, 2006, p. 30.

⁹⁸ USCCR briefing transcript, May 5, 2006, p. 30.

⁹⁹ USCCR briefing transcript, May 5, 2006, p. 31.

¹⁰⁰ USCCR briefing transcript, May 5, 2006, p. 31.

¹⁰¹ USCCR briefing transcript, May 5, 2006, pp. 31–32.

workforce. On the other hand, he said there is no evidence that their closure would result in extant students enrolling in and graduating from traditionally white institutions.¹⁰² He also declared that there is a “real and continuing threat” to HBCUs in part because the federal government refused to enforce federal civil rights laws that pertain to African-Americans enrolled in public HBCUs.¹⁰³ He further pointed out that because of HBCUs’ critical educational contribution, and because full participation in the world economy demands an educated workforce, this threat directly undermines the nation’s global competitiveness.¹⁰⁴

Desegregation in Higher Education

Dean Pierce stated that federal civil rights efforts involving HBCUs occurred after the 1954 desegregation litigation in *Brown v. Board of Education*.¹⁰⁵ He pointed out that desegregation in state higher education systems involved private lawsuits seeking equal funding for HBCUs relative to traditionally white institutions in combination with federal government intervention.¹⁰⁶ The Adams cases of the 1970s¹⁰⁷ are illustrative. Private individuals filed suit in federal court against the U. S. Department for Health, Education, and Welfare (HEW) for failure to enforce federal civil rights laws with regard to the equality of African-Americans enrolled in HBCUs.¹⁰⁸ According to Dean Pierce, HEW’s Office for Civil Rights (OCR) had determined that 19 Southern and border states violated Title VI of the Civil Rights Act of 1964 for “failure to equally protect the rights of African-Americans attending [HBCUs] pursuant to the Fourteenth Amendment of the United States Constitution.”¹⁰⁹ He noted that these states nonetheless continued to treat HBCUs unequally *vis-à-vis* traditionally white institutions in a number of areas, including resource allocation.¹¹⁰ Furthermore, federal funds flowed uninterrupted to these states, thereby allowing them to operate segregated institutions of higher education.¹¹¹ In the Adams cases, Dean Pierce said, the court found against OCR and directed it to develop guidelines to desegregate state systems of higher education. OCR required the 19 Southern and border states to submit plans that would bring about compliance with Title VI.¹¹²

According to Dean Pierce, 14 of the 19 states presented plans acceptable to OCR and entered into agreements to implement five-year Title VI compliance plans.¹¹³ Of the remaining five,

¹⁰² USSCR briefing transcript, May 5, 2006, pp. 32–33.

¹⁰³ USSCR briefing transcript, May 5, 2006, p. 33.

¹⁰⁴ USSCR briefing transcript, May 5, 2006, p. 33.

¹⁰⁵ USSCR briefing transcript, May 5, 2006, p. 33. *Brown v. Board of Education*, 347 U. S. 483 (1954).

¹⁰⁶ Raymond C. Perce written statement to the U.S. Commission on Civil Rights, Washington, DC, May 5, 2006, p.42 (hereafter cited as Pierce written statement).

¹⁰⁷ *Adams v. Richardson*, 351F. Supp. 636 (1972) and *Adams v. Califano*, 430 F. Supp. 118 (D.D.C. 1977).

¹⁰⁸ USSCR briefing transcript, May 5, 2006, pp. 33–34; Pierce written statement, p. 42.

¹⁰⁹ USSCR briefing transcript, May 5, 2006, p. 34.

¹¹⁰ Pierce written statement, p. 42.

¹¹¹ Pierce written statement, p. 42.

¹¹² Pierce written statement, p. 42.

¹¹³ USSCR briefing transcript, May 5, 2006, p. 34; Pierce written statement, p. 43.

four of them—Louisiana, Tennessee, Alabama, and Mississippi—failed to reach agreement with OCR, and each went on to litigate in federal court. Dean Pierce stated that Mississippi’s case advanced to the U. S. Supreme Court as *Ayers v. Fordice* in 1992. OCR referred Ohio, the fifth state, to the U.S. Department of Justice (DOJ) for litigation, when the parties could not agree on a plan to desegregate Ohio’s system of higher education. DOJ, however, did not file the case in court.¹¹⁴

The 1978 Civil Rights Policy for Higher Education Desegregation

Dean Pierce explained that OCR’s 1978 civil rights policy, “Revised Criteria for the Desegregation of State Systems of Higher Education,” used whether or not states were enhancing their HBCUs as one factor in determining state compliance with desegregation requirements. He said that HBCUs’ limited academic program offerings and substandard physical facilities were typical at that time and resulted largely from the circumstances of their founding and existence. Enhancement consisted of establishing and locating attractive academic programs on HBCUs’ campuses to expand educational opportunities for African-American students and attract a diverse student body. The policy’s second component for determining states’ compliance was whether or not traditionally white institutions used affirmative action in recruitment and scholarship to attract and enroll more African-American students. The intent of the 1978 policy, according to Dean Pierce, was to make academic offerings, rather than the racial composition of the student body, the primary basis for students’ choice of HBCUs. If successful, the 1978 policy would have created a unitary system of higher education in place of racially identifiable black and white institutions.¹¹⁵

Dean Pierce stated that in 1988 Secretary William Bennett of the U. S. Department of Education directed its Office for Civil Rights (OCR) to review the 14 states that had entered into agreements in 1978 to ascertain progress in compliance with Title VI of the 1964 Civil Rights Act. OCR employed a checklist analysis¹¹⁶ to make that determination and concluded that eight of the 14 states were indeed in compliance.¹¹⁷ According to Dean Pierce, OCR did not conduct compliance reviews for the remaining six states.¹¹⁸

The 1994 Federal Policy for Higher Education Desegregation

Dean Pierce stated that the U. S. Supreme Court ruled in *United States v. Fordice* that “states have an affirmative duty to remove all vestiges of the past practice of segregation that have a present day effect to the greatest extent practicable.”¹¹⁹ In response to the Supreme Court

¹¹⁴ USCCR briefing transcript, May 5, 2006, pp. 34–35; Pierce written statement, p. 43.

¹¹⁵ USCCR briefing transcript, May 5, 2006, pp. 35–36; Pierce written statement, pp. 42–43.

¹¹⁶ In a check list approach, such questions may be asked, “did the states enhance public HBCUs and implement affirmative action procedures at TWIs?” Pierce written statement, p. 43.

¹¹⁷ USCCR briefing transcript, May 5, 2006, p. 37; Pierce written statement, p. 43.

¹¹⁸ Pierce written statement, p. 43. These six states were Florida, Kentucky, Maryland, Pennsylvania, Texas, and Virginia. USCCR briefing transcript, May 5, 2006, p. 38; Pierce written statement, p. 43.

¹¹⁹ USCCR briefing transcript, May 5, 2006, p. 38; *United States v. Fordice*, 505 U. S. 717 (1992)

decision, Mississippi initially suggested desegregating its higher education system by closing all of the state's HBCUs.¹²⁰

Dean Pierce said that in 1994, following *Fordice*, OCR created a far more rigorous policy for higher education desegregation than its 1978 version. Dean Pierce explained that under the 1994 policy, OCR employed a vestige analysis to determine if states previously found in violation of Title VI were currently in compliance. Specifically, it sought to ascertain if states had to the "greatest extent practicable addressed and removed all of the vestiges that have a present day effect on the educational opportunities of African-Americans attending historically black colleges and universities."¹²¹ Subsequent to publishing its 1994 policy, OCR obtained newly signed five-year compliance agreements from seven states—Ohio and the remaining six of the 14 states that entered into agreements with OCR under the 1978 policy.¹²² Notably, Dean Pierce said, the 1994 agreements did not include traditionally white institution affirmative action programs to attract African-Americans, focusing instead on enhancing HBCUs and addressing "the remaining vestiges of [segregated higher education] found to have continuing and present day effects."¹²³

The Present

In Dean Pierce's view, the "problem we face today is almost a revisitation of the situation that led to the Adams cases in the 1970s."¹²⁴ In 2000, 2001, and especially 2002, there were indications that the seven states that signed the new agreements were backing away from them. Ohio in particular was seeking to revert to policies that would negatively affect Central State University, a historically black university, potentially in violation of Title VI. Dean Pierce suggested that the State of Maryland faces a similar situation. These states, though, continued to receive federal funds for public higher education.¹²⁵

At the same time, Dean Pierce said strong evidence exists that the eight states found in compliance with Title VI in 1988 are now engaged in actions that negatively affect some HBCUs, such as unnecessary program duplication.¹²⁶ Historically, program duplication served

¹²⁰ USCCR briefing transcript, May 5, 2006, pp. 38–39.

¹²¹ USCCR briefing transcript, May 5, 2006, pp. 39–40.

¹²² USCCR briefing transcript, May 5, 2006, p. 40.

¹²³ USCCR briefing transcript, May 5, 2006, pp. 39–40.

¹²⁴ USCCR briefing transcript, May 5, 2006, p. 40; Pierce written statement, p. 41.

¹²⁵ USCCR briefing transcript, May 5, 2006, p. 41; Pierce written statement, p. 44.

¹²⁶ USCCR briefing transcript, May 5, 2006, p. 42. Unnecessary program duplication refers to those instances in which broadly similar high demand programs at an historically black college or university (HBCU) are offered at a geographically proximate traditionally white institution (TWI). See, for example, MARYLAND'S REPORT AND THE PARTNERSHIP AGREEMENT BETWEEN THE STATE OF MARYLAND AND THE U. S. DEPARTMENT OF EDUCATION, OFFICE FOR CIVIL RIGHTS, <<http://www.mhec.state.md.us/higherEd/ocrplan/index.asp>> (last accessed Jan. 26, 2007). The HBCU and TWI in question may be public or private. Genevieve Segura senior education policy analyst, Maryland Higher Education Commission, telephone interview, Jan. 26, 2007.

to create and maintain a segregated higher education system. Dean Pierce predicted: “[L]itigation that was brought in the Adams cases will once again find its way to the courts.”¹²⁷

Mikyong Minsun Kim

Four Areas of Focus

Dr. Kim stated that she studied the educational effectiveness of HBCUs. To do so, she employed longitudinal, national-level data sets from the Higher Education Research Institute (HERI), which is located at the University of California, Los Angeles.¹²⁸ She concentrated on four areas: (1) comparisons of institutional and student characteristics between HBCUs and historically white colleges and universities, (2) review and comparison of her research findings with those of other studies, (3) discussion of HBCUs’ contribution to the development of African-American students, and (4) evaluation of whether HBCUs merit strong support.¹²⁹

Institutional and Student Characteristics of Historically Black Colleges and Universities and Historically White Colleges and Universities

Dr. Kim indicated that the American higher education community includes 103 HBCUs of which 89 are four-year institutions. Of these 89 institutions, 41 are public and 48 private. Collectively, the 89 HBCUs award about 30 percent of the bachelor’s degrees that African-Americans earned. Dr. Kim’s research also showed that a high percentage of African-American political leaders, professionals such as lawyers and doctors, and doctoral degree recipients are graduates of HBCUs.¹³⁰

Dr. Kim reported that HBCUs tend to have fewer resources compared to historically white colleges and universities, such as lower expenditures for each full time equivalent student, lower average faculty salaries, and poorer physical facilities.¹³¹ HBCUs also tend to have smaller enrollments, a lower student-faculty ratio, and higher student-faculty interactions, characteristics that other panelists noted as well.¹³² She pointed out that research has shown that these same institutional characteristics tend to be positively associated with student development.¹³³

Continuing, Dr. Kim stated that students enrolled in HBCUs were generally less academically prepared than historically white college and university students.¹³⁴ Other research, such as that

¹²⁷ USSCR briefing transcript, May 5, 2006, p. 42.

¹²⁸ USSCR briefing transcript, May 5, 2006, p. 45; Kim written statement, p. 46.

¹²⁹ USSCR briefing transcript, May 5, 2006, p.43; Kim written statement, p. 45.

¹³⁰ Kim written statement, Washington, DC, May 5, 2006, p. 45; Mikyong Minsun Kim, PowerPoint document to the U.S. Commission on Civil Rights, Washington, DC, May 5, 2006, p. 49 (hereafter cited as Kim PowerPoint document).

¹³¹ USSCR briefing transcript, May 5, 2006, p. 45; Kim written statement, p. 50.

¹³² USSCR briefing transcript, May 5, 2006, p. 44; Kim written statement, p. 45.

¹³³ Kim written statement, p. 45.

¹³⁴ Kim written statement, p. 45.

of Elliott, et al., reported a similar but more detailed observation: “accounts of race, ethnicity, and science made it clear that [African-Americans] are relatively low on most measures of preparation and developed ability, and that these deficits begin early in their school careers. They are concentrated just before the point of entrance to college. Both the average SAT mathematics ... scores and the math and science proficiencies of the twelfth-grade blacks are about a standard deviation [a statistical measure of the breadth of African-Americans’ range of scores] behind ... those of whites. Thus, black grade-12 achievement in math is about the same as, and in science a little worse than, white grade-8 achievement.”¹³⁵ In their study on the causes and consequences of attending HBCUs, Fryer and Greenstone found that blacks enrolled in traditionally white institutions generally have substantially stronger academic credentials than those attending HBCUs.¹³⁶

Dr. Kim stated that the family backgrounds of students enrolled in HBCUs tended to be less affluent. She noted that this finding is consistent with other researchers’ reports.¹³⁷ In addition, she said African-American students at HBCUs were close to 1.5 times more likely than African-American students enrolled in historically white colleges and universities to participate in faculty members’ research. Dr. Kim said such engagement is a predictor of degree completion.¹³⁸ Based on HERI data, she reported that the African-American degree completion rate at HBCUs was 55 percent compared to 63 percent at historically white colleges and universities,¹³⁹ although the college grade point averages of African-American students in both types of institutions did not differ.¹⁴⁰

¹³⁵ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), “The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions,” *Research in Higher Education*, Vol. 37, No. 6, p. 682, citing J. Oakes (1990), “Opportunities, achievement, and choice: Women and minority students in science and mathematics,” *Review of Research in Higher Education* 16:153–222; L. Suter (ed.) (1993), *Indicators of Science and Mathematics—1993*. Washington, D.C.: U. S. Government Printing Office (NSF 93–95); P.E. White (1992), *Women and Minorities in Science and Engineering: An Update*. Washington, D.C.: National Science Foundation.

¹³⁶ Roland G. Fryer, Jr., and Michael Greenstone, “The Causes and Consequences of Attending Historically Black Colleges and Universities,” National Bureau of Economic Research Working Paper No. 13036, April 2007, p. 9.

¹³⁷ Kim written statement, p. 45.

¹³⁸ Kim written statement, pp. 45, 47; Kim PowerPoint document, Table 1, p.58.

¹³⁹ The national six-year graduation rate for first-time, full-time degree-seeking African-American freshmen attending HBCUs who graduated in academic year 2005/2006 is 37 percent. The comparable figure for African-American freshmen attending TWIs is 42.7 percent. Andrew Mary, statistician, National Center for Education Statistics made several special data runs for the Commission drawing on data from the Integrated Postsecondary Education Data System (IPEDS). See Andrew Mary e-mail, October 4, 2007. Dr. Kim’s graduation statistics are clearly based on different parameters. What is consistent between her graduation statistics and those retrieved from IPEDS data is that African-Americans who attended TWIs have higher graduation rates than their peers who went to HBCUs. Yet the difference is much smaller than might otherwise be expected when considering the difference in academic credentials alone between blacks who attend HBCUs and TWIs.

¹⁴⁰ USCCR briefing transcript, May 5, 2006, p. 44.

Research Findings on Selected Outcomes

Dr. Kim examined the impact of students' attending HBCUs and historically white colleges and universities on three academic outcomes: (a) their overall academic ability, (b) writing ability, and (c) mathematics ability.¹⁴¹ Specifically, she examined a sample of African-American students who earned bachelor's degrees from either HBCUs or historically white colleges and universities with data that included information covering a nine-year period after their graduation.¹⁴² Dr. Kim studied institutional effectiveness using sophisticated statistical procedures.¹⁴³

Dr. Kim found no significant difference between African-American students in HBCUs and historically white colleges and universities in the three outcome areas.¹⁴⁴ These findings are somewhat consistent with research literature produced more than a decade ago.¹⁴⁵ Similarly, she found no significant difference in the likelihood of earning a baccalaureate degree between African-American students in HBCUs and historically white colleges and universities. In this respect, she said her finding contradicted those that several scholars reported more than 10 years ago.¹⁴⁶ Her finding that African-American students in HBCUs and historically white colleges and universities faced no significant difference in early career earnings echoed the results of

¹⁴¹ USCCR briefing transcript, May 5, 2006, p. 45; Kim written statement, p. 46.

¹⁴² Kim written statement, pp. 49–50; USCCR briefing transcript, May 5, 2006, p. 50.

¹⁴³ Dr. Kim used hierarchical linear and non-linear modeling, which, according to her reviews of statistical procedures, has “well-established advantages over standard regression techniques for evaluating the effectiveness of schools and colleges and handling multi-level nested data sets.” USCCR briefing transcript, May 5, 2006, p. 45; Kim written statement, p. 46. She explained that she controlled for selectivity, enrollment, SAT scores, grades, high school grade point average, pre-test measures, and parental income and level of education. In other words, the HBCU students and African-American TWI students in her sample are comparable with regard to these factors. For example, parental income level would be generally similar for both groups of students. Dr. Kim indicated that she did not control for regional effects, that is, the HBCUs and TWIs in her sample are not found in the same type of locale. They might be located in urban, rural, or suburban areas. Kim written statement, pp. 49–50.

¹⁴⁴ USCCR briefing transcript, May 5, 2006, pp. 45–46; Kim written statement, p. 46.

¹⁴⁵ “Do Black students learn more at Historically Black or Predominantly White Colleges?” by L. Bohr, E.T. Pascarella, A. Nora, A., and P. T. Terenzini in *Journal of College Student Development*, 36(1), 1995, pp. 75–85; “Academic growth in predominantly Negro and predominantly White colleges,” by J. Centra, R. Linn, and M. Parry, in *American Educational Research Journal*, 7(1), 1970, 83–98; and “Additional evidence on the cognitive effects of college racial composition: A research note,” by E. T. Pascarella, M. Edison, A. Nora, L. S. Hagedorn, and P. Terenzini, P. in *Journal of College Student Development*, 37(5), 1996, 494–501. Kim written statement, pp. 46, 56–57.

¹⁴⁶ “Factors influencing Black students' persistence in college,” by P. Cross, P. and H. Astin, in G. Thomas (Ed.). *Black Students in Higher Education*, 1981, pp. 76–90. Westport, CN: Greenwood Press; “Do historically Black institutions of higher education confer unique advantages on Black students: An initial analysis,” by R. G. Ehrenberg, and D. S. Rothstein, Cambridge, MA: National Bureau of Economic Research, 1993, unpublished paper; “The influence of college on self-concept: A consideration of race and gender differences,” by E. Pascarella, J. Smart, C. Ethington, and M. Nettles, in *American Educational Research Journal*, 24 (1), 1987, pp. 49–77. Kim written statement, pp. 46, 56–57.

some previous studies but contradicted others.¹⁴⁷ Dr. Kim viewed her findings of no significant differences in a positive light because attendance at HBCUs or historically white colleges and universities has no effect on African-American students' academic success and early career earnings.¹⁴⁸

With respect to earnings, Fryer and Greenstone's 2007 study may be of interest. The authors reported that "in the 1970s, HBCU matriculation [on the part of African-Americans] was associated with higher wages, relative to attending a traditionally white institution. By the 1990s, however, there was a substantial penalty. In fact, there is a statistically significant 20 percent decline in the relative wages of HBCU graduates between the two decades. [The data] provide some support for the possibility that HBCUs' relative decline is partially due to improvement in traditionally white institutions efficacy in educating blacks, but this evidence certainly [is not] decisive. This question of why HBCUs' performance declined merits further research."¹⁴⁹ One should view these findings with the authors' caveat in mind: "The results [here referring to the sum of their findings] are robust across ... [the] four [statistical] approaches [employed in the study]. However, lacking a randomized experiment or credible quasi-experiment, thorny issues of selection [of cases for study] may remain. Consequently, we urge caution in interpreting the results as causal."¹⁵⁰

Historically Black Colleges and Universities and Student Engagement and Development

Dr. Kim observed that African-American students in HBCUs were more deeply engaged in the academic community than their counterparts at historically white colleges and universities. She also pointed out, as did other panelists, that the environment at HBCUs was strongly supportive of students' academic growth.¹⁵¹ Historically white colleges and universities, on the other hand,

¹⁴⁷ Dr. Kim's finding of no significant difference was reflected in E. Pascarella, J. Smart, and J. Stoecker "College, race and the early status attainment of Black students," *The Journal of Higher Education*, 1989 60(1), pp. 82-107 and R. G. Ehrenberg, and D. S. Rothstein, "Do historically Black institutions of higher education confer unique advantages on Black students: An initial analysis," Cambridge, MA: National Bureau of Economic Research, 1993, unpublished paper.

Research contrary to Dr. Kim's finding of no significant difference includes Roland Fryer and Michael Greenstone, "The Cause and Consequences of Attending Historically Black Colleges and Universities," NBER Working Paper No. 13036, April 2007, pp. 1-53; and J. Baratz, and M. Ficklen, "Participation of recent Black college graduates in the labor market and in graduate education," Research Report, Education Policy Research Institute, Princeton, NJ: Educational Testing Service, 1983. Her finding was also contrary to J. M. Constantine, "The effect of attending Historically Black Colleges and Universities on future wages of Black students," *Industrial and Labor Relations Review*, 48(3), 1995, pp. 531-46. Kim written statement, pp. 46, 56-57.

¹⁴⁸ USSCR briefing transcript, May 5, 2006, p. 46; Kim written statement, p. 46.

¹⁴⁹ Roland G. Fryer, Jr., and Michael Greenstone, "The Causes and Consequences of Attending Historically Black Colleges and Universities," National Bureau of Economic Research Working Paper No. 13036, April 2007, pp. 25-26.

¹⁵⁰ Roland G. Fryer, Jr., and Michael Greenstone, "The Causes and Consequences of Attending Historically Black Colleges and Universities," National Bureau of Economic Research Working Paper No. 13036, April 2007, p. 2.

¹⁵¹ USSCR briefing transcript, May 5, 2006, pp. 45-46; Kim written statement, p. 4.

are able to offer more resources to their students.¹⁵² Thus, she posited that HBCUs and historically white colleges and universities contribute to student learning in different ways.¹⁵³

Historically Black Colleges and Universities Merit Support

In considering whether HBCUs have a significant impact on academic outcomes and early career earnings given students' weaker pre-admission academic profiles and the institutions' severely constrained resources, Dr. Kim believed that the issue merited further investigation.¹⁵⁴ She concluded that the "findings of [her] studies and of other reports lend support to the proposition that HBCUs contribute significantly to higher education in this country and merit strong support."¹⁵⁵

Discussion Summary

Academic Outcomes at Historically Black Colleges and Universities

Commissioner Kirsanow noted that despite HBCU students' generally lower SAT scores, Dr. Kim found no significant differences between HBCUs and historically white colleges and universities in developing the writing, mathematics, and general academic abilities of students.¹⁵⁶ He asked Dr. Kim if her study controlled for the nature of an institution (for example, whether an institution is urban, suburban, or rural), because a significant difference might occur between HBCUs and historically white colleges and universities in urban settings. Dr. Kim stated that she did not control for regional effects, but controlled for institutional selectivity, size of enrollment, SAT scores, high school grade point average, pre-test measures, and parental education and income levels.¹⁵⁷ The lack of a control for regional effects notwithstanding, Commissioner Kirsanow argued that, HBCUs were "doing a much better job than traditionally white universities in educating African-American students"—more than the findings of no significant difference suggest—given the institutions' generally lower funding levels and the academic under-preparedness of their students at enrollment.¹⁵⁸

Dr. Richardson agreed with Commissioner Kirsanow's assessment, but stressed the importance of comparing similar types of institutions. Morgan State University's graduation rate at the end of six years is 43 percent and seemingly modest. Yet when matched against equivalent urban universities, he stated that Morgan State University's retention and graduation rates exceeded theirs.¹⁵⁹ Dean Pierce similarly maintained that institutional comparability remains important in the assessments. For example, he noted that North Carolina Central University School of Law is different from Howard University School of Law and

¹⁵² USCCR briefing transcript, May 5, 2006, pp. 46–47.

¹⁵³ USCCR briefing transcript, May 5, 2006, p. 47.

¹⁵⁴ USCCR briefing transcript, May 5, 2006, p. 47; Kim written statement, p. 47.

¹⁵⁵ USCCR briefing transcript, May 5, 2006, p. 47; Kim written statement, p. 47.

¹⁵⁶ USCCR briefing transcript, May 5, 2006, pp. 48–49.

¹⁵⁷ USCCR briefing transcript, May 5, 2006, pp. 49–50.

¹⁵⁸ USCCR briefing transcript, May 5, 2006, pp. 48–49, 51.

¹⁵⁹ USCCR briefing transcript, May 5, 2006, pp. 50–51.

equivalent to the Southern University School of Law, Texas Southern University Thurgood Marshall School of Law, and Florida A & M University.¹⁶⁰

Dropout, Graduation, and Performance on National Examinations

Commissioner Kirsanow raised the concern of dropouts from the nation's five black law schools. He noted that 43 percent of enrolled black law students leave without earning a degree.¹⁶¹ Dean Pierce said that North Carolina Central University School of Law has a higher attrition rate particularly among African-American males. He explained that the North Carolina Central School of Law accepts students with lower Law School Admissions Test (LSAT) scores who nonetheless have high college grade point averages. Notably, the institution's law school also enrolls large numbers of students.¹⁶² Likely contributing to the higher attrition rate, Commissioner Kirsanow postulated, is the greater need for financial aid among HBCU students. Some 84 percent of HBCU students compared to 55 percent of white students at traditionally white institutions require financial aid to attend college.¹⁶³

Dr. Sullivan stated that Spelman College's graduation rate of 77 percent exceeds, for example, those of Bates College, Colby College, University of California at Berkeley, University of California at Los Angeles, University of Michigan, Claremont College, and Carnegie-Mellon University—all of which are [predominantly] white institutions with greater financial resources. He also pointed out that students at the Morehouse School of Medicine performed better on the U. S. Medical Licensing Examination than all other medical students in the nation despite lower SAT scores on entry. Part of the reason, according to Dr. Sullivan, is recognition that student potential may not have been developed, frequently because of the high schools attended.¹⁶⁴

Commenting on a different national-level examination, Dean Pierce stated that in 2005, the first-time bar passage rate of North Carolina Central University School of Law's graduates was 81 percent, tying with Duke University School of Law. The law school produced this achievement despite fewer resources and enrolling students whose pre-entry academic profiles predicted lower achievement.¹⁶⁵

¹⁶⁰ USCCR briefing transcript, May 5, 2006, p. 52.

¹⁶¹ USCCR briefing transcript, May 5, 2006, pp. 51–52.

¹⁶² USCCR briefing transcript, May 5, 2006, p. 52.

During his review of this draft report, Dean Pierce elaborated on his statements: "North Carolina Central University School of Law has a comparatively higher attrition rate amongst the HBCU Law Schools. NCCU School of Law also has the highest bar passage rate amongst the HBCU Law Schools and one of the highest bar passage rates for African-Americans amongst all law schools in the nation. NCCU School of Law continues its mission as a school of opportunity and admits many students with comparatively lower Law School Admission Test (LSAT) scores and lower grade point averages (GPAs). Grading is tough at the Law School for first year students. Students not achieving a minimum 2.0 GPA at the end of the first year are academically dismissed." See Dean Pierce's comments on the Summary of Proceedings, Nov. 30, 2007, p. 2.

¹⁶³ USCCR briefing transcript, May 5, 2006, pp. 52–53.

¹⁶⁴ USCCR briefing transcript, May 5, 2006, p. 53.

¹⁶⁵ USCCR briefing transcript, May 5, 2006, p. 54.

Historically Black Colleges and Universities as Pipeline to Graduate School

Vice Chair Thernstrom expressed admiration for HBCUs. Several years ago, she visited Savannah State University and found that many of its African-American students had limited academic skills on entry, a reflection of the “racial gap in academic achievement at the end of high school.”¹⁶⁶ Savannah State University’s dedicated efforts to improve students’ academic abilities impressed Vice Chair Thernstrom, particularly the quality of education that the institution offered.¹⁶⁷

Vice Chair Thernstrom recalled that perhaps nine of the 10 top institutions sending African-Americans to graduate education were HBCUs. Commissioner Kirsanow said that the top 20 institutions in sending African-Americans to graduate school were HBCUs. He added that the figure varied by academic discipline. Among the STEM disciplines, such as biology, 12 of the 15 institutions sending the largest number of African-Americans to graduate school were HBCUs, while in the physical sciences, the comparable figure was 14 or 15 out of 15. Such statistics, Vice Chair Thernstrom said, affirmed HBCUs’ quality of education.¹⁶⁸

Historically Black Colleges and Universities, STEM, and Teacher Education Programs

Commissioner Kirsanow found it striking that HBCUs awarded 40 percent of all black graduate STEM degrees.¹⁶⁹ He noted that the top 30 HBCUs graduated the largest numbers of blacks that enrolled in STEM doctoral programs, despite variations by gender.¹⁷⁰ Panelists offered several suggestions for this phenomenon. Dr. Sullivan speculated that faculty commitment played a role. He pointed to Xavier University, which, despite marginal resources, sent more black graduates to medical schools than any other institution in the country, black or white. He referred to a long-time Xavier faculty member, Professor Carmichael, who was renowned for spending an “inordinate amount of time” with Xavier University students. Such faculty members are the reason for Xavier University’s success, he suggested.¹⁷¹ Mr. Merisotis said that HBCUs are open access institutions responsive to market and community needs. Thus, they channel students into STEM programs in which the labor force need is great.¹⁷²

Dr. Richardson stated that the culture on HBCU campuses is a critical factor in their remarkable productivity in the STEM fields. Although both HBCUs and non-HBCUs provide academic support programs to assist minority students, he observed that predominantly white schools offer more of a collection of individual programs. HBCUs, on the other hand, integrate such programs into a nurturing culture that permeates the entire university. Dr. Richardson discerned that HBCUs send a message that the institution will help students every step of the way. This

¹⁶⁶ USCCR briefing transcript, May 5, 2006, pp. 57–58

¹⁶⁷ USCCR briefing transcript, May 5, 2006, pp. 57–58.

¹⁶⁸ USCCR briefing transcript, May 5, 2006, pp. 58–59.

¹⁶⁹ USCCR briefing transcript, May 5, 2006, pp. 77.

¹⁷⁰ USCCR briefing transcript, May 5, 2006, pp. 77.

¹⁷¹ USCCR briefing transcript, May 5, 2006, p. 78.

¹⁷² USCCR briefing transcript, May 5, 2006, pp. 78.

fosters a campus culture that reaffirms that dedicated students can and will succeed, regardless of their SAT scores.¹⁷³

Role modeling, Dr. Richardson stated, also helps explain HBCUs' success in the STEM disciplines. Dr. Richardson said HBCUs convey to students that their professors and administrators come from similar economic backgrounds, and if the professors and administrators succeeded, so too can the students.¹⁷⁴ Dr. Kim also emphasized the importance of role modeling. She observed that on HBCU campuses, African-American teaching assistants and professors in engineering, mathematics, and science serve as "special role models" to students. Of interest here is Dr. Kim's research finding that undergraduate African-American students on HBCU campuses are approximately 1.5 times more likely to be involved in faculty members' research than their counterparts in historically white colleges and universities.¹⁷⁵

Mr. Merisotis shifted the discussion to HBCUs' role in teacher education. Almost half of the African-American teachers in today's schools trained in such institutions, but this accomplishment has not been sufficiently acknowledged, he said.¹⁷⁶ The need for African-American and minority teachers is greater than ever, given current and predicted future demographic trends. Mr. Merisotis called for investment in HBCUs to ensure their success in educating African-American teachers.¹⁷⁷

Historically Black Colleges and Universities as Catalyst for Change

According to Dr. Richardson, HBCUs not only prepare students for graduation but also serve as catalysts for systemic change in higher education. In 1980, for example, Maryland had graduate engineering programs located at Johns Hopkins University, the United States Naval Academy, and the University of Maryland, all of which are non-HBCUs. Yet, he noted that in 1981 about 20—less than 1 percent—of the engineers in the state were African-American. Today, the comparable figures are about 150 or 19 percent. Dr. Richardson attributed the increase to the state establishing an engineering program at Morgan State University in 1984. Notably, Morgan's program graduated about 100 of the 150 African-American engineers.¹⁷⁸

Dr. Richardson pointed out that historically, scholars explained the dearth of African-American engineers by the paucity of African-Americans who could successfully complete an engineering program. According to him, by its action and achievement, Morgan State University compelled non-HBCUs to "find ... blacks and [enroll] them in [their] engineering schools."¹⁷⁹

¹⁷³ USCCR briefing transcript, May 5, 2006, pp. 81–82.

¹⁷⁴ USCCR briefing transcript, May 5, 2006, p. 82.

¹⁷⁵ Kim written statement, Table 1, p. 50.

¹⁷⁶ USCCR briefing transcript, May 5, 2006, p. 79.

¹⁷⁷ USCCR briefing transcript, May 5, 2006, p. 79.

¹⁷⁸ USCCR briefing transcript, May 5, 2006, pp. 82–83.

¹⁷⁹ USCCR briefing transcript, May 5, 2006, p. 83.

A Nurturing Environment

Chairman Reynolds commented that HBCUs as well as some TWIs enroll students who lack an academically rigorous education, yet traditional white schools seem to have a much higher attrition rate.¹⁸⁰ He postulated that these institutions might use different teaching models. Chairman Reynolds asked whether “it could make a significant difference if a student, especially a student who has not received a rigorous preparation, [enrolls] in a college that focuses on research [and makes heavy use of] teaching [assistants] as opposed to [one in which] students are [principally taught by professors].”¹⁸¹

Dean Pierce stated that HBCUs, both historically and presently, provide a nurturing environment in which a culture dedicated to engaging students within and outside the classroom flourishes. He said such an environment enabled North Carolina Central University School of Law to match Duke University School of Law’s bar passage rate in 2005, despite its students’ lower LSAT scores. Consequently, Dean Pierce deliberately encouraged his faculty members to spend more time engaging with students to improve student performance than on producing scholarly articles for law journals.¹⁸²

The Elliott, et al., article reported that “... persistence is not just a matter of average preparation, but of competitive position as well: a reasonably well-prepared student at an HBCU ... would be in a strong competitive position in his or her institution[al environment] ...” and thus more likely to succeed.¹⁸³ The article concluded that HBCUs have a stronger record of producing science graduates at the undergraduate and doctoral levels than more elite, predominantly white institutions. This success occurred despite evidence that black students enrolling in HBCUs are, on average, less prepared than those entering elite institutions.¹⁸⁴

Vice Chair Thernstrom asked Dr. Sullivan if any curriculum distinction existed between Morehouse School of Medicine and other medical schools. Dr. Sullivan responded that the critical factor is not curricular, but rather the medical school faculty members’ commitment to student success. One indication of this is the enormous amount of time faculty members spend with students. Another factor, Dr. Sullivan stated, is an environment that encourages students to

¹⁸⁰ USCCR briefing transcript, May 5, 2006, pp. 54–55. According to Dr. Kim, African-American degree completion rate at HBCUs was 55 percent compared to 63 percent at HWCUs. USCCR briefing transcript, May 5, 2006, p. 45. At first glance, Chairman Reynolds and Dr. Kim’s statements seem contradictory. Note, however, that Chairman Reynolds was referring to the attrition of poorly prepared students at TWIs. Dr. Kim, on the other hand, addressed national-level degree completion rates for African-American students at both types of institutions regardless of their academic preparation level.

¹⁸¹ USCCR briefing transcript, May 5, 2006, p. 55.

¹⁸² USCCR briefing transcript, May 5, 2006, pp. 56–57.

¹⁸³ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), “The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions,” *Research in Higher Education*, Vol. 37, No. 6, pp. 701–702.

¹⁸⁴ Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott (1996), “The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions,” *Research in Higher Education*, Vol. 37, No. 6, p.684.

“take risks, [including the] risk [of] asking question[s]” without fear of embarrassing themselves. The learning process demands not only a good teacher, but also a student who is willing to engage. He said successful HBCUs create an environment that encourages student participation. Yet another factor, one that made the Morehouse School of Medicine distinctive, is encouraging students to think of themselves as leaders. Dr. Sullivan stated that all of these factors are found at other HBCUs.¹⁸⁵

Chairman Reynolds suggested that perhaps HBCUs teach at the pace of their students. He observed that the basis for this suggestion was that at schools that are traditionally white, the white students’ generally higher level of academic preparedness permitted faculty members to teach at a faster pace, which had a negative consequence on the black students who are less academically prepared. He suggested the pace of teaching at HBCUs was more in sync with black students’ level of academic preparation.¹⁸⁶ Dr. Sullivan agreed, noting that he would have to modify his earlier statement of no curricular difference between the Morehouse School of Medicine and other medical schools. First year medical students arrive on campus in mid-July, the earliest opening date of any medical school. He said this gave the institution time to raise the level of academic preparedness of students with deficiencies. The medical curriculum itself begins in September and is similar to those of other medical schools. Dr. Sullivan added that faculty members often help students that experience academic difficulty, highlighting again the criticality of faculty commitment.¹⁸⁷

Lack of Parity between HBCUs and Non-HBCUs

Vice Chair Thernstrom asked Dr. Richardson to clarify what he meant when he spoke of “... creating a parity between black and white institutions.” Dr. Richardson explained that parity involved provision of “equitable resources ... [that are] consistent with the magnitude of the task.” He stated that the average education cost per student is higher at HBCUs than at white institutions, giving rise to the perception that HBCUs have more resources than white institutions. Dr. Richardson was emphatic that this was manifestly incorrect. The task of educating academically under-prepared students imposes a heavier workload on faculty members and staff from the moment of their admission.¹⁸⁸ He offered four examples to debunk the notion of more resources at HBCUs.

Subsidizing Student Tuition

First, Dr. Richardson stated that African-American students enrolled in HBCUs almost always need extensive financial assistance. The only source of support for many of them is the federal Pell Grant that today supports less than half the total cost of college attendance. Dr. Richardson said that some HBCUs use monies collected from tuition and fees to make up the difference so that students are able to enroll. The institution would ordinarily use these funds for operating costs, he pointed out. Subsidizing tuition is indispensable for student retention, but reduces the

¹⁸⁵ USSCR briefing transcript, May 5, 2006, pp. 59–61.

¹⁸⁶ USSCR briefing transcript, May 5, 2006, p. 61.

¹⁸⁷ USSCR briefing transcript, May 5, 2006, pp. 62–63.

¹⁸⁸ USSCR briefing transcript, May 5, 2006, pp. 63–64.

funds available to operate the institution. This seriously undermines necessities, such as hiring more faculty members and purchasing new equipment.¹⁸⁹

Greater Staff Workload

Second, Dr. Richardson argued that staff workload at HBCUs is greater than that at historically white campuses of similar size and levels of staffing and resources. Because of their limited financial resources, many students who attend HBCUs lack access to the Internet to apply, register, and pay tuition and fees. Thus, students complete each of these processes manually and generate a “horrendous” need for staff time. The situation is exacerbated when staff must repeat the payment process monthly because almost all HBCU students participate in installment payment plans. Such time-intensive payment methods, Dr. Richardson said, are less common at comparable majority institutions. Their students are more likely to come from middle and upper middle class families and hence have the financial capability to use the Internet for application, registration, and payment of tuition and fees. Majority institutions’ need for staff time to manage such processes is consequently less. The nature of disparity between HBCUs and majority institutions is not always readily apparent.¹⁹⁰

Lack of Adequate Facilities

Third, Dr. Richardson stated that facilities at HBCUs are not adequate. The State of Maryland has two state-supported architectural programs, one at a traditionally white institution, housed in a state-of-the-art building, and the other at Morgan State University. The 30-year old architectural program at Morgan State University does not have its own facility and, according to Dr. Richardson, was moved to different buildings on campus to ensure its accreditation. He noted that this disparity denies architectural students at Morgan State University an equal opportunity to experience state-of-the-art facilities.¹⁹¹

Lack of Technology Transfer and Commercialization Centers

Fourth, Dr. Richardson pointed out that in the State of Maryland, engineering and business programs have well-established technology transfer and commercialization centers. Two such centers are on the majority institution campuses with engineering and business programs. Dr. Richardson stated that Morgan State University’s engineering program, despite being the most recently established, graduates the largest number of baccalaureate and doctoral African-American engineers in the state. Morgan State University also has the proper combination of engineering and business programs, but despite the institution’s request, the state has not provided faculty, facilities, or other support comparable to what it makes available to the other two public campuses with similar engineering/business program combinations.¹⁹²

¹⁸⁹ USSCR briefing transcript, May 5, 2006, pp. 64–65.

¹⁹⁰ USSCR briefing transcript, May 5, 2006, pp. 65–67.

¹⁹¹ USSCR briefing transcript, May 5, 2006, p. 67.

¹⁹² USSCR briefing transcript, May 5, 2006, pp. 67–68.

Faculty Salaries

Vice Chair Thernstrom raised the question of HBCU faculty salaries. Dr. Richardson said that faculty salaries are dependent on the amount of resources available. In the main, HBCU faculty salaries still lag behind those of majority institutions, even when the comparison is within a similar institutional classification.¹⁹³ Morgan State University's faculty salaries fit this pattern, but they compare favorably with other HBCUs. Dr. Richardson stated that most of Morgan State University's faculty members have doctoral degrees from the same prestigious universities as faculty members at any other school, but limited financial resources prohibit the institution from offering competitive salaries. This is a significant obstacle to the institution as it competes for the best faculty minds with better-endowed schools in similar institutional classifications.¹⁹⁴

The Right to Exist

Vice Chair Thernstrom noted that academic scholarship on elementary and secondary education still calls for integration, including the use of busing to achieve this goal. She suggested that proponents of such views would have serious reservations about the continued existence of HBCUs.¹⁹⁵ She asked Dean Pierce if any "politically significant voices" still challenge the need for racially identifiable colleges and universities.¹⁹⁶

Dean Pierce replied that he discounted such voices. Segregation (i.e., racially identifiable schools) at the kindergarten through secondary school levels is distinct from racially identifiable institutions in higher education because students in the former are assigned to schools by district, whereas college attendance is voluntary. However, the resources available at colleges competing for the best applicants influence students' decisions about college attendance.¹⁹⁷

Vice Chair Thernstrom further asked if the civil rights community, particularly among black spokespersons, was split on integration when the Supreme Court decided *Fordice* in 1992.¹⁹⁸ Dean Pierce responded that many within the civil rights community expressed some concern that the Supreme Court decision in *Fordice* might result in states placing the burden of higher education desegregation on HBCUs.¹⁹⁹

Dean Pierce stated that Supreme Court Justice Clarence Thomas' concurring opinion in *Fordice* illustrated this tension. On the one hand, Justice Thomas opposed the creation of HBCUs as "enclaves" for the black community. At the same time, he pointed out how unfair it is for HBCUs, which bore the burden of segregation in the past, to again shoulder responsibility for

¹⁹³ The reference here is to the Carnegie Classification of institutions. For example, disparity in faculty salary still prevails even when comparing, for example, HBCU teaching institutions to TWI teaching institutions.

¹⁹⁴ USSCR briefing transcript, May 5, 2006, pp. 69–70.

¹⁹⁵ Vice Chair Thernstrom noted that Harvard faculty Gary Orfield is a "leading spokesman for integrated schools," USSCR briefing transcript, May 5, 2006, p. 70.

¹⁹⁶ USSCR briefing transcript, May 5, 2006, p. 70.

¹⁹⁷ USSCR briefing transcript, May 5, 2006, p. 71.

¹⁹⁸ USSCR briefing transcript, May 5, 2006, pp. 71, 89. *United States v. Fordice*, 505 U. S. 717 (1992).

¹⁹⁹ USSCR briefing transcript, May 5, 2006, pp. 72, 90.

present day desegregation efforts. Dean Pierce remarked that some voices continue to argue that removal of the vestiges of past segregation requires merging or shutting down HBCUs. Fortunately, federal policy now directs OCR to “strictly scrutinize any state effort to close or merge an historical black college or university in the desegregation process ... as long as [there are] outstanding Title VI violations.” Dean Pierce recognizes that the qualification is necessary and that state fiscal considerations might force the merger or closure of some public colleges in the future.²⁰⁰

Struggle Over State Funding and Program Duplication

Remarking on Vice Chair Thernstrom’s earlier reference to politically significant voices “arguing against HBCUs,” Dean Pierce claimed to have heard such opinions in the state assemblies and legislatures.²⁰¹ They are not arguing against the existence of HBCUs *per se*, because these institutions are segregated by choice rather than by law. According to him, the belief that HBCUs have funds that traditionally white institutions need underlies these voices. For example, “Ohio State University needs [the] money that Central State University has, or the University of Mississippi needs [the] money that Alcorn State has, or the University of Georgia needs [the] money that Savannah State has.”²⁰² Higher education, Dean Pierce remarked, is a very costly enterprise and competition for limited state funds is aggressive.²⁰³

Vice Chair Thernstrom asked whether racially identifiable schools were an element in the public argument against HBCUs’ existence. Dean Pierce assented but deemed such an argument as misleading.²⁰⁴ He pointed out that students choose Savannah State University because the school offers a nurturing environment and a better chance of graduating, not because, for example, the University of Georgia barred the attendance of blacks, as it did in a different era.²⁰⁵ He said that state legislators claim that Savannah State University is a segregated institution and should not be maintained as such. The real issue, he said, is the reduced funding for higher education. According to Dean Pierce, legislators resolve this situation by “back[ing] off agreement[s] to enhance or strengthen historically black colleges and universities so that more money [is available] for the traditionally white institutions.” He submitted that state legislatures and assemblies duplicate programs to diminish the effectiveness of HBCUs and build up traditionally white institutions to further support the argument for closing black colleges.²⁰⁶ This explains the growing program duplication that is contrary to established federal policy and case law.²⁰⁷ He also mentioned that the State of Georgia is replicating an academic program that Savannah State University has in a geographically proximate public two-year community college, thus placing the university’s unique attraction for good students “under a significant

²⁰⁰ USCCR briefing transcript, May 5, 2006, pp. 90–91.

²⁰¹ USCCR briefing transcript, May 5, 2006, p. 73.

²⁰² USCCR briefing transcript, May 5, 2006, p. 73.

²⁰³ USCCR briefing transcript, May 5, 2006, p. 73.

²⁰⁴ USCCR briefing transcript, May 5, 2006, p. 74.

²⁰⁵ USCCR briefing transcript, May 5, 2006, p. 74–75.

²⁰⁶ USCCR briefing transcript, May 5, 2006, pp. 75–76.

²⁰⁷ USCCR briefing transcript, May 5, 2006, p. 75.

threat.” In addition, program duplication now threatens Morgan State University, Bowie State University, Kentucky State University, and other institutions.²⁰⁸

Commissioner Taylor stated that while serving in the Attorney General’s Office in the State of Virginia, he resolved a case involving a review of program duplication in state higher education institutions.²⁰⁹ He discovered that when resources enabled the creation of excellent and highly desirable academic programs, states rarely placed them on an HBCU campus.²¹⁰ Commissioner Taylor also said that the discussions at public hearings on such programs had no “adversarial racial motive” and the parties involved were not persons of “bad will.” “[P]ure, raw economics in competition,” according to him, drove the dialogue. It made sense, for example, to locate a program in an institution with better infrastructure and that could “maximiz[e] [gains from limited] state resources.”²¹¹ Dr. Richardson interjected that an institution could not have *better* infrastructure if facilities were never built.²¹² Bypassing such institutions denies them opportunities to improve their infrastructure. In turn, this diminishes the chances of placing excellent programs on their campuses. Dr. Richardson stressed that this was “a vicious cycle.”²¹³

Commissioner Taylor asked if any states circumvent program duplication.²¹⁴ The states of Oklahoma and Kentucky, according to Dean Pierce, successfully avoided program duplication. Kentucky State University, an HBCU, is the only state-supported institution that offers a master’s level public administration program. White students seeking this degree enroll in large numbers even though Kentucky State University is an HBCU. Dean Pierce opined that if the University of Kentucky, a geographically proximate traditionally white institution, secured a master’s level program in public administration, white students undoubtedly would leave Kentucky State University for the former, leading to educational apartheid. He noted that Florida A & M University, an HBCU, and nearby Florida State University, a traditionally white institution, duplicate an engineering program and wondered rhetorically which of the two institutions draws the most students.²¹⁵

Dean Pierce stated that the State of Oklahoma located a School of Physical Therapy at Langston University, an HBCU. Most of the program’s students were white. The fact that Langston University is an HBCU apparently was of little consequence since student interest lies in earning the degree in physical therapy. Dean Pierce also noted that the State of Virginia had circumvented program duplication. However, he reiterated that when funding for higher education is tight, as is the case in the States of Georgia, Maryland, Ohio, and Tennessee, the present state of affairs in Oklahoma and Kentucky might not continue to prevail. He emphasized

²⁰⁸ USCCR briefing transcript, May 5, 2006, pp. 72–73.

²⁰⁹ USCCR briefing transcript, May 5, 2006, pp. 83–84.

²¹⁰ USCCR briefing transcript, May 5, 2006, pp. 84–85.

²¹¹ USCCR briefing transcript, May 5, 2006, p. 85.

²¹² USCCR briefing transcript, May 5, 2006, p. 111.

²¹³ USCCR briefing transcript, May 5, 2006, p. 111.

²¹⁴ USCCR briefing transcript, May 5, 2006, p. 85.

²¹⁵ USCCR briefing transcript, May 5, 2006, pp. 86, 87.

again that the critical action occurs in the state legislatures. Depending on states' economic circumstances and available funding for higher education, state legislatures are HBCUs' "greatest threats or ... greatest champions."²¹⁶

A Complementary System of Higher Education

Against many states' backdrop of shrinking revenue sources and looming Social Security and Medicare crises—difficulties which are expected to grow over time—and the heavy dependence of public and private HBCUs on state and federal funding, Chairman Reynolds asked if HBCU officials have discussed any alternative funding models.²¹⁷

Dr. Richardson agreed that one could not ignore the severe budget reality. In fiscally difficult times, the higher education community must deliver particularly efficient quality education. He proposed a complementary system of higher education in which institutions' high quality academic programs are not unnecessarily duplicative. This system requires states to identify "high-demand, unique programs" that are key to workforce development and strategically place them in a few geographically dispersed colleges and universities. Efforts to avoid duplication would naturally not extend to core liberal arts programs.²¹⁸

Dr. Richardson reported that the State of Maryland initiated such a complementary higher education system for a short time in the late 1970s and early 1980s. For example, the state started an engineering program at Morgan State University in 1984 and did not immediately duplicate it in nearby white institutions. However, Dr. Richardson pointed out that even before the state had fully invested in the program to ensure growth and excellence, it created redundant programs endowed with better facilities in geographically proximate white institutions. In Dr. Richardson's judgment, an efficient solution to budgetary constraints is "greater efficiency in the way ... programs [are distributed] across [a state's] universe of institutions."²¹⁹

Commissioner Yaki commented that a current debate at the University of California (UC) system concerns programmatic specialization by campus. For example, some UC campuses would specialize in engineering, others in architecture, and additional ones in alternative disciplines. Raising his question in the context of program duplication and resource allocation, he wondered if HBCUs' administrators had similar discussions about academic specializations within their states.²²⁰ Dr. Richardson pointed out that resource distribution within any state concerns the entire higher education system. The crux of the issue is the disparity between already underresourced black colleges and white colleges. According to him, the most efficient is a complementary or nonduplicative state system of higher education that distributes resources according to state needs.²²¹

²¹⁶ USSCR briefing transcript, May 5, 2006, pp. 87–89.

²¹⁷ USSCR briefing transcript, May 5, 2006, pp. 91–92.

²¹⁸ USSCR briefing transcript, May 5, 2006, pp. 92–93.

²¹⁹ USSCR briefing transcript, May 5, 2006, pp. 93–95.

²²⁰ USSCR briefing transcript, May 5, 2006, pp. 94–96.

²²¹ USSCR briefing transcript, May 5, 2006, p. 99.

Commissioner Yaki asked about the process by which a state allocates academic programs to institutions. Specifically, he inquired whether the Commission should examine or encourage OCR to review the Title VI implications of program duplication and the allocation process.²²² Dean Pierce reaffirmed the political nature of program distribution and the critical role of state legislatures. For example, in Georgia, officials of the influential University of Georgia or Georgia Institute of Technology would lobby legislators for budget and academic programs. Representatives of HBCUs, such as Albany State University or Fort Valley State University, were seldom involved in the dialogue.²²³

Dean Pierce also argued that Title VI violations had occurred. *Adams v. Richardson* and *Adams v. Califano* cited program duplication as a remnant of segregation and as violating the federal policy of equal protection for people of color attending publicly funded institutions of higher education. He said the federal circuit court and later the Supreme Court accentuated this point in *Fordice*. Based on the holdings in *Adams* and in *Ayers*, OCR adopted a policy that similarly opposed program duplication.²²⁴

Dr. Richardson commented that the failure to enforce Title VI with respect to program duplication has a negative effect on desegregation in higher education. He explained that in the early 1970s, Morgan State University was “unique,” being the only institution in the Baltimore area to offer several graduate programs. Consequently, a little over 50 percent of its graduate enrollment was white. By the early 1980s, with program duplication and the state’s refusal to invest in Morgan State University’s graduate programs, the graduate enrollment became overwhelmingly black.²²⁵ Dr. Richardson emphasized that state and community workforce needs should drive the establishment of new academic programs. States should locate similar programs on a small number of geographically dispersed campuses enabling students to obtain a quality education in their particular fields regardless of which of the dispersed institutions they choose to attend. In such a scenario, an institution’s program -- and not the racial composition of its student population -- serves to draw students. Such a complementary system at the state level, Dr. Richardson asserted, would dismantle a dual system of higher education.²²⁶ He added that the State of Maryland is again investing in programs duplicative of those at Morgan State University at a close-by white college, even before it has fully funded those at the HBCU.²²⁷

Dr. Richardson anticipated that OCR would shortly review Maryland’s progress in desegregating its public higher education system. He said that the level of desegregation at HBCUs had decreased because of excessive focus on enrolling black students in white institutions. The final measure of whether desegregation has been successful, Dr. Richardson emphasized, is if the higher education community and the state have given students “a choice to

²²² USCCR briefing transcript, May 5, 2006, p. 95.

²²³ USCCR briefing transcript, May 5, 2006, pp. 96–97.

²²⁴ USCCR briefing transcript, May 5, 2006, pp. 96–97.

²²⁵ USCCR briefing transcript, May 5, 2006, pp. 97–98.

²²⁶ USCCR briefing transcript, May 5, 2006, pp. 93, 98.

²²⁷ USCCR briefing transcript, May 5, 2006, pp. 98–99.

[enroll in] black ... or white institutions [that does not entail] ... sacrifice [of] the quality of [campus] life or [academic] programs.”²²⁸

Dean Pierce noted that states remaining under federal higher education desegregation agreements are required to submit reports periodically to OCR. OCR should use those reports to monitor progress and determine states’ efforts towards compliance with Title VI.²²⁹ However, Dean Pierce was clear that OCR does not enforce Title VI with regard to unnecessary program duplication.²³⁰

Dearth of Black Male Undergraduates at TWIs

Commissioner Kirsanow commented on the dearth of black male undergraduates at white institutions. Of note, at some institutions 80 percent of the black student population is female. The numbers of black male and female undergraduates are somewhat more balanced at HBCUs. With respect to STEM programs, however, the enrollment is disproportionately male. This is true at other institutions as well, but the gender imbalance is pronounced at HBCUs.²³¹

Dr. Richardson said the absence of black males on campus, whether HBCUs or white institutions, is bewildering. At Morgan State University, 58 percent of the undergraduate students are females and 42 percent males. In addition, black males generally graduate at reduced rates compared to black females; thus, to the extent that HBCUs have increased their proportions of black males, their overall graduation rate is lower.²³²

Policy Initiatives to Support HBCUs

At the culmination of the panelists’ presentations and discussions with Commissioners of the educational effectiveness of HBCUs, Commissioner Kirsanow asked for suggestions of federal policy initiatives that might sustain and enhance these institutions.²³³ Panelists offered recommendations in the following five areas.

Complementarity in Academic Programming

Dr. Richardson recommended that the states return to complementary academic programming among institutions within a higher education system while avoiding unnecessary program duplication in geographically proximate HBCUs and their white counterparts.²³⁴

Continued Enhancement of HBCUs

²²⁸ USCCR briefing transcript, May 5, 2006, pp. 99–100.

²²⁹ USCCR briefing transcript, May 5, 2006, p 103.

²³⁰ USCCR briefing transcript, May 5, 2006, pp. 102–104.

²³¹ USCCR briefing transcript, May 5, 2006, p. 80.

²³² USCCR briefing transcript, May 5, 2006, pp. 80–81.

²³³ USCCR briefing transcript, May 5, 2006, p. 110.

²³⁴ USCCR briefing transcript, May 5, 2006, p. 110.

Dr. Richardson also advised states to continue to enhance HBCUs to the point of comparability with their white counterparts. Federal investment in HBCUs, for example, to build up and augment graduate programs, would make HBCUs more competitive in federal grant applications.²³⁵ Other benefits of such investment include higher numbers of African-American students enrolling in and graduating from STEM programs.²³⁶

Enforcement of Federal Civil Rights Laws

Dean Pierce stressed that OCR must enforce federal civil rights laws in order to ensure the continued vitality of HBCUs. Enforcement is particularly critical in seven states (Ohio, Pennsylvania, Florida, Kentucky, Maryland, Texas, and Virginia) that have been found to be in violation of Title VI of the Civil Rights Act of 1964. Their violations have not yet been corrected. Dean Pierce believed that addressing these critical states will prompt others to examine if their own program allocations are within the law.²³⁷

Increase Title III Support for HBCUs

Mr. Merisotis called for a substantial increase in funds for Title III of the Higher Education Act of 1965. Title III has been significant in the success of HBCUs over the last 20 years.²³⁸

Increase in Financial Aid

Mr. Merisotis supported an increase in student financial aid, especially in the form of grants. HBCU students are “about twice as economically disadvantaged as students in other institutions.”²³⁹

Threats that Imperil HBCUs

Commissioner Kirsanow also asked panelists to identify critical threats that undermine the viability of HBCUs.²⁴⁰ Panelists identified threats in the following three areas.

Program Duplication

Dean Pierce emphasized that unnecessary program duplication is an arch-enemy of HBCUs.²⁴¹

Declining Financial Resources

Mr. Merisotis identified declining financial resources as a major threat to HBCUs. HBCUs are increasingly serving educationally and economically disadvantaged students. They thus require

²³⁵ USCCR briefing transcript, May 5, 2006, p. 110.

²³⁶ USCCR briefing transcript, May 5, 2006, p. 111–112.

²³⁷ USCCR briefing transcript, May 5, 2006, pp. 112–113.

²³⁸ USCCR briefing transcript, May 5, 2006, p. 114.

²³⁹ USCCR briefing transcript, May 5, 2006, p. 114.

²⁴⁰ USCCR briefing transcript, May 5, 2006, p. 110.

²⁴¹ USCCR briefing transcript, May 5, 2006, p. 112.

additional resources to meet the substantial academic support and financial needs of these students.²⁴²

Right to Exist Questioned

Mr. Merisotis said HBCUs are the only group of institutions whose right to exist is frequently questioned. This adds to the challenges HBCUs face daily as they strive to teach educationally unprepared and economically disadvantaged students.²⁴³

²⁴² USCCR briefing transcript, May 5, 2006, p. 113.

²⁴³ USCCR briefing transcript, May 5, 2006, pp. 113–114.

STATEMENTS

Louis W. Sullivan, M.D., Chair of The President's Board of Advisors on Historically Black Colleges and Universities

Contributions of Historically Black Colleges and Universities to the Nation

For more than two centuries the United States has struggled with the social and economic consequences of former systems of legally sanctioned slavery of its Black citizens in Southern states followed by legally-sanctioned segregation and discrimination, based upon race.

The majority of the nation's 106 Black colleges were created in the second half of the nineteenth century, following the emancipation proclamation by President Abraham Lincoln, which abolished slavery on January 1, 1864. Many of these colleges were created by religious organizations and others by state governments.

With passage of voting rights legislation in the 1960s and other legislation designed to eliminate the vestiges of segregation and discrimination, the question has arisen about the need for and the educational effectiveness of historically Black colleges and universities. For most young people entering college, this is their first experience away from home for an extended period. It is a time of socialization, of developing a clear identity and a time for reinforcing their values. It is during this time that young people move from the familiar protected environment of home to the new, more open, challenging and less secure ambience of the college campus.

For some African-American young people, this interplay of academic, social and personal development which occurs on the campus of Historically Black Colleges and Universities (HBCUs) during their personal transition from home to the wider world can have a profound influence on their development as scholars, future family members, members of the country's workforce and as responsible citizens. An example of this is illustrated by the number and percentage of the graduates of some HBCUs who are successful in gaining entry to, and graduation from, schools of medicine, engineering, law and other fields. For a number of HBCUs these percentages are equal to or exceed the outcomes achieved by the African-American students and graduates from predominantly white colleges and universities which are often older and wealthier.

Among the HBCUs that have demonstrated this level of success in their graduates are Xavier University, Spelman College, Morehouse College, Florida A&M University, North Carolina A&T University, Jackson State University and others.

This phenomenon may also be seen at the professional school level. I wish to share with you our experience at Morehouse School of Medicine, (MSM), a predominantly African-American Medical School which was founded in 1975 by Morehouse College, to increase the

number of African-American (and other minority) physicians in Georgia and the nation. MSM began with modest financial resources, admitting its first class as a two-year school of medicine in 1978, becoming a four-year medical school in 1981 and receiving full accreditation of its M.D. program in 1985.

Among MSM's 800 M.D. alumni today are (1) a state health commissioner, (2) a vice president of a large medical school, (3) the personal physician of the president of South Africa and (4) physicians who are providing care in previously-underserved rural and urban areas in Georgia and around the nation.

Today, MSM's students pass national examinations given to medical students at or above the passing rates of medical students nationwide, although MSM is one of the youngest medical schools in the United States and does not yet have the level of financial resources of most U.S. medical schools.

What accounts for this experience of the students and the graduates of HBCUs? There are multiple factors, including (1) the dedication of the faculty to their teaching responsibilities, (2) the supportive social environment, (3) the strong encouragement given to the students to explore a full range of career possibilities (including leadership roles) in business, the sciences, public service, education and other fields and (4) the role models for students among the faculties of the HBCUs.

As U.S. citizens, all of us look forward to the day when the lingering vestiges of segregation and discrimination will no longer be present in our society. But, our experience as a nation has shown us that to reach that goal will require the sustained and dedicated efforts of all of us that includes the contributions of HBCUs to our nation's higher education community and the effectiveness of HBCUs in facilitating the academic, social and personal development of a significant number of our African-American (and other minority) citizens.

Earl S. Richardson, President, Morgan State University

Since the Civil Rights Act of 1964 and the first serious efforts by the federal government to enforce that legislation beginning in the early 1970s, there has been a continuing discussion about the role that historically Black campuses should play in contemporary higher education. Before that legislation, the role of HBCUs was clear—they were open to anyone of any race or ethnicity, but they were essentially the only place that African-Americans could obtain a college education in the Southern states. Because of the high concentration of Blacks in the South, a very high percentage of the prominent African-Americans in public life and the professions nationally have obtained their degrees from HBCUs. This is the case in the state in which Morgan is located; Morgan graduates have, among other accomplishments, been the first Black judge in Maryland, the first Black congressman, the first Black state senator, and the first Black official to hold any statewide office.

The Civil Rights Act changed the rules of the game. Now, Black students for the first time could attend a traditionally white campus, if they qualified. And the traditionally white schools, under legal pressure to increase minority enrollments, provided inducements, particularly financial ones, to Black students who in most instances could barely afford college, if at all. By contrast, HBCUs, by design, had been neglected. It had been the philosophy in segregated states to limit the educational opportunities available to Blacks at all levels of education, and neglect of HBCUs was part of this philosophy. Any campus president will tell you that it takes decades of hard work and adequate resources to build a quality institution. By the time the Civil Rights Act was enforced, most HBCUs were nearly a century behind their white counterparts. It is not surprising then that when the federal government began to enforce the Civil Rights Act, the HBCUs were not in a position to compete for their traditional constituency, much less for white students. When people have choices, they choose their best alternative and, in most instances, HBCUs were not attractive options.

The initial impact of federal desegregation enforcement was devastating to Black educational institutions. At the K-12 level, Black schools were so poorly funded that most closed and their staffs were terminated as the students who would historically have attended them enrolled in formerly segregated predominantly white schools. At the college level, the movement of students was almost entirely in one direction, from HBCUs to formerly segregated predominantly white campuses. Morgan lost so many Black students after the early 1970s that it has been only recently that it has again enrolled students in comparable numbers. As the white campuses developed, HBCUs also usually lost their white enrollment. At Morgan, which had non-duplicated graduate programs in the Baltimore area until the early 1970s, we went from a large graduate student body that had a slight majority of white students to one that was almost entirely Black ten years later. There is little question as to why the future of HBCUs was suspect.

However, unlike the K-12 experience, a number of factors have intervened to keep most HBCUs in business. Because initial federal desegregation efforts were focused on moving minority students to historically white campuses, HBCUs suffered enrollment declines.

Therefore, the federal government subsequently began to require states to enhance their HBCUs if they were to conclude acceptable desegregation plans. This helped many of these campuses. Second, there remained and remains today a strong core of students who want to attend an HBCU. Third, demographic trends since the 1960s have been more favorable for the young Black population than for the young white population. This began to translate into increasing numbers of college-age Blacks in the mid-1980s, a period when the white college-age population would still be declining for another decade. While we are in a temporary period of increases for all racial groups of college age, in a few more years, the white college-age population will again decline. Finally, there has been the attraction of prestige. Whether due to rankings published in *U.S. News and World Report* and elsewhere or other factors, growing numbers of predominantly white campuses have given priority to increasing the academic profile of their entering classes. This has negatively affected Black students, who on the average, score lower on standardized tests and other measures of pre-college academic achievement than white students. HBCUs, other liberal admissions campuses, and community colleges have become their campuses of choice in recent years. For the most part, their enrollments have increased significantly as a result.

While the role of HBCUs has been of significance in providing access to the growing young minority population, measures of educational outcomes suggest a role of continuing importance. It is clear we have a long way to go and will probably have to change our priorities if we are to ever approach educational equity for Blacks and whites in our country. This goal is important not only from a social justice perspective but from the perspective of our global competitiveness. To a greater extent than at any time in our history, advanced education is important for our national well-being and we need to utilize the talents of as many of our citizens as possible in this environment.

Perhaps the single best indicator of how well we have been educating our young population is the percentage of the 25-29 age group holding at least a bachelor's degree. I am going to use 1970 as a base year because that is the period during which we began to emphasize educational equality between the races and affirmative action. This emphasis has resulted in numerous high profile programs to improve minority educational attainment. Coincidentally, it is the period during which the value of a high school degree relative to a college degree began to decline. The news is not good. While higher percentages of both Black and white young adults hold college degrees than in 1970, the gap between the races has grown due to a more rapid increase in white college degree attainment. In 1970 the difference in the percentages of young Black and white adults holding a college degree was 10 percentage points. Now it is 17 percentage points, and the size of the population is much larger. This translates into a very large numerical difference. In 1970 about 160,000 more Blacks in the 25-29 age group would have had to hold a college degree to have achieved parity with the white population. Today, that gap amounts to over 400,000 persons in this age group. This means that we have to almost double the number of baccalaureates awarded to Blacks each year to achieve parity among young adults. This is a huge task.

Some might argue that we need to be patient in our expectations for equality in degree attainment. We have to start at the lower grade levels. The news is not good here, either. On most measures of educational progress at the K-12 level, the gap has not been closing. Over

the past decade white SAT scores have risen more rapidly than Black SAT scores, even though they were much higher to begin with. While I would agree that there is a great deal of potential for improving the qualifications of minority students in the educational pipeline, I also would argue that we cannot wait. We have been waiting for over three decades without visible signs of progress. Instead we need to be concerned about how we can take college-age students where they are and improve their chances of obtaining a degree.

To illustrate how pre-college academic indicators affect admissions at selective colleges it is useful to look at how many students score in various ranges on the SAT. Most people know that whites score some 200 points higher on the combined math and verbal portions of the SAT. At the upper ranges, where majority campuses increasingly recruit, the differences are stark. Whereas 6 percent of whites score 1400 or higher on the SAT M+V, fewer than 1 percent of Blacks do so. Fewer than 5 percent of Blacks score 1200 or higher compared to 24 percent of whites. This is the range in which both moderately and highly selective campuses recruit. Fewer than one-quarter of Blacks score over 1000 on the SAT while 60 percent of whites do so. It is no wonder that the lack of lower income and minority students at selective campuses has been the topic of so many articles and conferences in recent years. These campuses simply cannot mirror the increasingly diverse population of the nation if they remain so selective. Under current circumstances, they would have to tolerate a large disparity in pre-college credentials between the races to achieve anything approaching a student body that is representative of the college-age population. ***This is why the selective campuses recruit from each other's pool rather than expanding the size of the pool of minority students enrolling in college.*** Hence, less selective campuses, including HBCUs, offer the only realistic option for significant increases in the numbers of minority students enrolling in and graduating from college.

A useful rule of thumb is that campuses that are relatively selective graduate student bodies that have only about half the percentage of African-Americans as the relevant population from which they recruit. For example, the Ivy League campuses, as a group, are national universities and have a graduating class that is 7 percent Black. This is about half the national representation of Blacks. UCLA and Berkley have graduating classes that are only 4 percent Black, half the African-American representation in the state's population. The University of North Carolina – Chapel Hill graduates a class that is 11 percent Black, about half the Black representation in that state. Hence, there is little that such campuses can do to significantly increase the representation of Blacks among degree holders nationally.

One might also argue that there are many minority college students who could be admitted to more selective institutions if non-traditional measures of academic potential were utilized. The facts show a different picture. In most states, once you look beyond the flagship campus(es), you see relatively low graduation rates for African-Americans. Morgan, for example, has a graduation rate of 43 percent. While this sounds like it is just average, it is well above average for African-Americans at urban universities across the country. Hence, it is unlikely that selective campuses are likely to double the percentage of African-Americans in their graduating classes by recruiting from the pool from which less selective campuses in their states recruit.

This leads one to look at the productivity of liberal admissions campuses as a source of African-American graduates. The HBCUs stack up well on this measure. For example, 24 HBCUs graduate as many Black students as the University of Michigan and the University of North Carolina-Chapel Hill. My campus graduates almost as many Black students as all of the Ivy League campuses combined. Southern University graduates more. Howard University and Florida A & M graduate more Black students than the total University of California System, the largest public system in the nation. Thus, because the size of the degree attainment gap is so large and HBCUs are quite productive in the overall picture, they should be an integral part of any strategy for increasing the number of graduates nationwide.

One reason that HBCUs are effective in increasing the number of minority graduates is their tradition of providing a nurturing environment. These campuses always have had to educate many students who are not as well prepared for college as is desirable. For different reasons than in the past, there remains a large pool of under-prepared minority students of college age. A support system that is part of the campus culture, rather than a programmatic appendage, is a real advantage in addressing student academic needs, particularly when relatively large numbers may be in need of extra assistance. About 10 years ago, Morgan was one of two HBCUs in a national study in which gains in student achievement were measured at various points during college. Even though a number of the campuses in the study were considerably more selective than the two HBCUs, the gains in educational achievement were greater for African-Americans at the HBCUs than at the other campuses. The researchers conducting the study attributed this to the supportive environment found at the HBCUs.

On other measures of educational outcomes our campus does well even though we are an access-oriented institution whose graduates must compete with other graduates who typically began their college careers with stronger records of preparation. Our annual follow-up surveys of graduates find that the employment measures of our graduates are equal to statewide averages. Our graduate and professional school going rates are consistently above the state average. We are one of the leading producers of Fulbright scholars in the region, and near the top nationally on a size-adjusted basis.

While I think that Morgan as well as other HBCUs do a pretty good job of making students from difficult backgrounds into productive middle class citizens I think that a lot of other access-oriented campuses do so as well. I include most regional college and universities, urban institutions, and community college in this group. However, the general public and many in the higher education community associate effectiveness with having a well-credentialed entering freshman class. I would submit that the intellectual distance your students travel while they are enrolled at your campus is a better measure. I think that until we face the fact that our current strategies have not closed the educational achievement gap between the races, many will continue to be preoccupied with input rather than output.

In summary, the magnitude of the educational attainment gap is large. The trend in recent decades has been a widening of this gap. Campuses which are relatively selective do not increase the size of the pool of African-Americans going to college. Rather they recruit from the relatively small pool of students who would be successful wherever they enrolled. Access-oriented campuses such as HBCUs have the greatest impact on degree attainment for

students of all races. It is these campuses where additional resources will have the most impact because they have the ability to increase the size of the pool of students enrolling and completing college.

Jamie P. Merisotis, President, Institute for Higher Education Policy

Mr. Chairman and Members of the Commission:

Thank you for this opportunity to appear at this Commission briefing regarding the educational effectiveness of Historically Black Colleges and Universities (HBCUs).

I would like to begin with a brief introduction to the Institute for Higher Education Policy and our role in the policy process. Established in 1993, the Institute is a non-profit, non-partisan research and policy organization whose mission is to foster access and success in postsecondary education through public policy research and other activities that inform and influence the policymaking process. The Institute's work addresses an array of issues in higher education, ranging from technology-based learning to quality assurance to student success. However, the Institute is probably best known for its studies and reports concerning higher education financing at all levels. These studies and reports address topics ranging from federal and state student financial aid to state funding formulas to trends in institutional expenditures and revenues. We also have worked on higher education financing issues in the international context, especially in Southern Africa and Eurasia.

The Institute's independent voice on these issues is well known. Our primary funding is derived from major foundations that are interested in supporting higher education research and analysis. We also have conducted a fair amount of analytic work at the behest of state governing and coordinating boards for higher education, as well as national governments outside the U.S.

In addition to this independent analytic work, the Institute also plays a unique role as facilitator and convener of the Alliance for Equity in Higher Education, a groundbreaking collaborative established in 1999 by the American Indian Higher Education Consortium (AIHEC), the Hispanic Association of Colleges and Universities (HACU), and the National Association for Equal Opportunity in Higher Education (NAFEO). Combined, these three organizations represent over 350 colleges and universities that serve more than one-third of all students of color in the United States. As institutions educating the nation's emerging majority populations, these minority-serving institutions (MSIs) of higher education represent the vanguard of the nation's future potential and promise.

As the Alliance's facilitator, the Institute has served in two key roles: we have conducted research that examines the unique context of MSIs in areas such as teacher education and the use of technology, and we have functioned as a manager of programs that address common issues of concern to MSIs. Our program management responsibilities include a program to train future presidents of HBCUs and other MSIs (MSI Leadership Fellows), supported by the W.K. Kellogg Foundation; a program to enhance the data and analytic capacities of MSIs committed to increasing student learning and success (Building Engagement and Attainment of Minority Students [BEAMS]), supported by Lumina Foundation for Education; and an initiative to disseminate knowledge learned as the result of a decade-long investment to improve undergraduate education in Science, Technology, Engineering, and Mathematics

(Model Institutions for Excellence), jointly supported by the National Science Foundation and the National Aeronautics and Space Administration. The Alliance also recently has assumed leadership and management of the National Articulation and Transfer Network (NATN), a major national initiative designed to increase enrollment, retention, and graduation rates for minority students.

Improving the educational effectiveness of higher education continues to be one of the most important contributions that the federal government, states, individuals, and the private sector can make to our national well-being. The simple fact remains that increasing educational opportunities for all Americans results in tremendous public private social and economic benefits. As the chart at the conclusion of my testimony points out, going to college is much more than just a process of enhancing one's personal economic status. The combination of societal and individual benefits of higher education must continue to motivate what we do at many levels, and I hope it will be an important consideration for the Commission as it takes up this important issue of the educational effectiveness of HBCUs.

At this briefing you will be hearing from many distinguished leaders from the community of HBCUs, individuals who speak with a great deal of authority and experience. I will not take time to cover territory about the historical and contemporary role of HBCUs as key drivers of educational effectiveness, since these other witnesses are highly qualified to do so. Instead, as a complement to their testimony, I will focus my remarks on several issues regarding the effectiveness of HBCUs that draw from the Institute for Higher Education Policy's combined work as both an independent research and analytic organization and as an organization that manages programs on behalf of HBCUs and other minority-serving institutions.

My remarks address four areas concerning the educational effectiveness of HBCUs. These are somewhat lesser known, but nonetheless critically important, ways in which we should be viewing the educational effectiveness of HBCUs. They are:

- HBCUs as leaders in student engagement;
- HBCUs as community-based institutions that promote civic engagement and service learning;
- HBCUs as drivers of educational attainment for low-income, first generation, and disabled students; and
- HBCUs as examples of success in the national effort to improve the quality of science, technology, engineering, and mathematics (STEM) education and research.

In each case, I will point to a specific example of success of the effectiveness of HBCUs in this area. This information is illustrative of the types of accomplishments we have seen at HBCUs in recent years.

HBCUs and Student Engagement

One of the most important trends in higher education in the last decade has been an effort to document how well institutions engage in effective educational practices—that is, activities that are empirically related to desired learning and personal development outcomes of college. Perhaps the best example of this is the work that has been conducted by the National Survey of Student Engagement (NSSE), administered by the Indiana University Center for Postsecondary Research. NSSE is designed to obtain information from colleges and universities nationwide about student participation in programs and activities that institutions provide for their learning and personal development. The results provide an estimate of how undergraduates spend their time and what they gain from attending college. Nearly 1,000 higher education institutions have administered NSSE since it began national administration in the year 2000.

The NSSE survey questions focus on the frequency with which students participate in effective educational practices. For example, students are asked how often they discussed ideas with faculty outside of class, participated in a community-based project as a part of a course, and used an electronic medium for an assignment. In addition, the survey asks students to identify the degree to which their courses emphasize different mental processes (such as memorizing and analyzing), how many hours per week they spend studying, working, or participating in co-curricular activities, as well as how they would characterize their relationships with people on campus. All of these factors have been shown through prior research to influence student retention and graduation.

According to 2004 and 2005 data collected by NSSE at 37 HBCUs, African-American students at HBCUs report more frequent interactions with faculty than African-American students at predominantly white institutions (PWIs). HBCUs also generally appear to provide more supportive learning environments for students, including more contact with faculty. Students at these HBCUs report a greater belief that their institutions contribute to their personal spiritual growth, and report a higher likelihood that they will vote compared to their counterparts at PWIs.

These data from NSSE, combined with a significant body of research undertaken by others, suggest that HBCUs provide a superior level of student engagement, and therefore offer an educational experience that enhances the intellectual gains and accomplishments of students. This increased engagement of students is an important indicator of the effectiveness of HBCUs that deserves closer examination and study by those seeking to enhance the payoffs of the investment in HBCUs.

HBCUs and Civic Engagement/Service-Learning

A key national issue is the extent to which institutions of higher education contribute to civic engagement and participation in our democratic institutions, such as voting, volunteering, and community involvement. In general, we know that higher educational attainment is highly correlated with increased civic engagement. For example, a 50-state study of the benefits of higher education published last year by the Institute for Higher Education Policy found that 36 percent of Americans over the age of 25 with a bachelors degree volunteer,

compared to just 21 percent of those with a high school diploma. Similarly, voting rates in national elections for individuals with a bachelor's degree are nearly 50 percent higher than for those with a high school diploma. Clearly higher education makes a profound difference in terms of our national civic well-being.

The question for higher education institutions is what specifically they may be doing to foster those values and goals. While there are many ways in which colleges and universities can contribute to the development of civically-engaged citizens, one way is through the use of service-learning or other activities that integrate service and democratic engagement into the curriculum of the institution.

According to the National Campus Compact, which represents over 950 colleges and universities committed to the civic purposes of higher education, HBCUs and other MSIs do a remarkable job of civically engaging students. The 2004 Campus Compact membership survey found that these institutions are more likely than others to require service and service learning for graduation. They also found that HBCUs and other MSIs are more likely than other colleges and universities to have a community service or service-learning office; to have a director of community service or service learning on their campus; and to have partnerships with local K-12 schools and faith-based organizations.

These intentional strategies by HBCUs to engage their students at the community or civic level are not well documented in the national literature about service learning and civic engagement, but clearly deserve further exploration. As an example of the effectiveness of institutions, they point to a profoundly different approach to student success than what is seen at many other colleges and universities.

HBCUs and Success for Low-Income, First Generation, and Disabled Students

Another indicator of the effectiveness of HBCUs is the degree to which they have committed to the educational advancement of low-income, first generation, and disabled students. HBCUs are well known for the opportunities they provide to students who come from educational and economically disadvantaged circumstances. In so doing, these institutions work hard to provide these students with additional support, guidance, and mentoring that will improve their opportunities to get into, and succeed in, college. For example, the federal government has long supported increased opportunity for these populations through the federally funded TRIO programs. These programs, authorized under the Higher Education Act, provide a continuum of services from pre-college to pre-graduate level study for the nation's low-income, first-generation, and disabled students. In FY 2006, the \$828 million in funding for TRIO programs supported more than 850,000 students in over 2,700 distinct TRIO programs.

There are a total of seven TRIO programs. The pre-college programs include Talent Search, which provides counseling and information about college admissions requirements and student financial aid to young people in grades six through 12, and Upward Bound, which works with students starting in the 9th grade to provide instruction in literature, composition, mathematics, and science on college campuses after school, on Saturdays and during the summer. In addition, Upward Bound Math Science helps students from low-income families

to strengthen math and science skills, frequently providing research opportunities for underrepresented students, while Veterans Upward Bound provides intensive basic skills development and short-term remedial courses for military veterans to help them successfully transition to postsecondary education.

At the college level, Student Support Services programs provide tutoring, counseling, and supplemental instruction to help students stay in college through the completion of a degree, and in the case of community colleges, assist them in the transfer process. The Ronald E. McNair Post-Baccalaureate Achievement programs are designed to encourage low-income students and minority undergraduates to consider careers in college teaching as well as prepare for doctoral study. Students who participate in this program are provided with research opportunities and faculty mentors. Finally, the Educational Opportunity Centers located throughout the country primarily serve displaced or underemployed workers from low-income families.

According to the Council for Opportunity in Education, nearly three quarters of all HBCUs have TRIO programs, serving nearly 70,000 students. This compared to less than one quarter of all other colleges and universities. The more than \$70 million in support provided by these programs to serve students at HBCUs goes a long way toward increasing the odds of student success than students who do not have the benefit of these programs.

HBCUs and Science, Technology, Engineering and Math (STEM)

The final example of ways in which HBCUs are educationally effective is the role that they play in improving the quality of STEM education and research. At the national level, investments in science, technology, engineering, and mathematics have been universally accepted as a national imperative. The President's proposed 2007 Budget, for example, advocates significant new investments in these efforts as key drivers of the nation's global competitiveness and economic capacity. However, research indicates that African-Americans are significantly underrepresented both as a percentage of the national STEM workforce and as a proportion of those enrolling and succeeding in STEM programs at colleges and universities.

An interesting example of a program that is designed to increase the quality of STEM education and research at HBCUs is the Historically Black Colleges and Universities-Undergraduate Program (HBCU-UP) at the National Science Foundation (NSF). HBCU-UP provides an array of support to institutions to help strengthen STEM education and research. This includes curriculum enhancement, faculty professional development, undergraduate research, academic enrichment, and infusion of technology to enhance STEM instruction, collaborations with research institutions and industry, and other activities that meet institutional needs.

According to NSF, Math gatekeeper passing rates—including in Algebra, Pre-Calculus, and Calculus I—have improved at 14 HBCU-UP grantee sites that have had projects in place for five years. Improvements have also been seen in other STEM gatekeeper courses, such as Biology I and Physics I. These improvements correlate to the faculty development and course revision and enhancement activities that are implemented by HBCU-UP projects. Similarly,

several indicators of research and professional development activity have increased as a result of HBCU-UP—such as the number of refereed journal articles and other publications, conference presentations, and proposals submitted for external funding. This reflects increased research opportunities at HBCU campuses for undergraduates to experience either in their classes or as researchers. Approximately 25 percent of STEM graduates from these HBCUs now have had an undergraduate research experience that better prepares them for success in graduate school.

These brief examples of the educational effectiveness of HBCUs are not intended to be definitive or inclusive. Rather they are designed to illustrate that the educational effectiveness of HBCUs has many dimensions that go beyond the simple calculation of aggregate graduation rates, retention rates, or job placements. In assessing the educational effectiveness of HBCUs, it is critical to consider a wide array of information and data that paint a more complete portrait of effectiveness than might be indicated by more narrowly drawn measures. This more comprehensive picture of educational effectiveness can then be used to provide a fair assessment of HBCU performance and, in so doing, help to improve the targeting of strategies to continuously upgrade quality and performance at these nationally essential institutions of higher learning.

Thank you again for this opportunity to appear before the Commission on this important issue. I would be pleased to answer any questions you may have.

THE ARRAY OF HIGHER EDUCATION BENEFITS

	<i>Public</i>	<i>Private</i>
<i>Economic</i>	<ul style="list-style-type: none"> *Increased Tax Revenues *Greater Productivity *Increased Consumption *Increased Workforce Flexibility *Decreased Reliance on Government Financial Support *Reduced Crime Rates *Increased Charitable Giving/Community Service 	<ul style="list-style-type: none"> *Higher Salaries and Benefits *Employment *Higher Savings Levels *Improved Working Conditions *Personal/Professional Mobility *Improved Health/Life Expectancy *Improved Quality of Life for Offspring
<i>Social</i>	<ul style="list-style-type: none"> *Increased Quality of Civic Life *Social Cohesion/ Appreciation of Diversity *Improved Ability to Adapt to and Use Technology 	<ul style="list-style-type: none"> *Better Consumer Decision making *Increased Personal Status *More Hobbies, Leisure Activities

Raymond C. Pierce, Dean and Professor of Law, North Carolina Central University

Failure of the Federal Government to Enforce Federal Civil Rights Laws: A Real Threat to Historically Black Colleges and Universities

The value of Historically Black Colleges and Universities (HBCU) to our nation is clear. Our nation or any nation benefits from an educated population. HBCUs continue to provide educational opportunities for African-Americans in significant numbers. There is no indication that closing public HBCUs would create a comparable shift in African-American student enrollment in and graduation from traditionally white institutions. The case has been made for HBCUs in terms of their effectiveness and contribution toward the education of the people of this nation. This presentation, however, focuses on a real and continuing threat to HBCUs in large part due to the federal government's refusal to enforce federal civil rights laws as they relate to African-Americans attending HBCUs. This threat puts in jeopardy the significant contribution HBCUs provide in allowing our nation to be competitive in a world where higher education is necessary for participation in a fast moving global economy.

For the most part federal civil rights activity in higher education involving HBCUs followed school desegregation litigation in the wake of *Brown v. Board of Education*. In the area of higher education, the *Adams* cases of the 1970s tied equal protection for African-Americans in the Southern and border states to state treatment of publicly funded HBCUs. Nineteen states were involved in what can be called higher education desegregation activity. Higher education desegregation actually involved legal actions brought by private individuals seeking equal funding for HBCUs in relation to traditionally white institutions. These actions were coupled with federal efforts through intervention to desegregate state systems of higher education that were created with an apartheid approach to providing public higher education.

In the *Adams* cases Southern and border states with public HBCUs were determined by a federal agency (the Office for Civil Rights of the Department for Health Education and Welfare) to be in violation of Title VI of the 1964 Civil Rights Act. Essentially these states continued to operate HBCUs with resources and standards substantially below traditionally white institutions. Private individuals (*Adams*) alarmed by the executive branch of the federal government's refusal to address violations of federal civil rights laws turned to the federal courts. The *Adams* litigation involved actions against the Office for Civil Rights (OCR) for its failure to enforce federal civil rights laws. States found in violation of federal civil rights laws continued to receive federal funding to support state systems of higher education that were wrought with vestiges of the system of apartheid. The federal government's OCR was not requiring these states to submit plans to bring themselves into compliance with Title VI, nor was OCR crafting guidelines for any such plans. The result of the *Adams* cases was a finding against OCR, the development of federal guidelines for desegregating state systems of higher education, and Southern and border states entering into desegregation plans (Agreements) with the federal government designed to bring about compliance with Title VI.

The Agreements with the various states designed to bring about Title VI compliance was based on 1978 federal civil rights policy derived in part from the court decisions in *Adams*. The federal civil rights policy for desegregating state systems of higher education was basically in two parts: 1. Strengthening HBCUs and 2. Affirmative Action at Traditionally White Institutions (TWIs).

Strengthening or enhancing HBCUs was aimed at accomplishing two things: providing expanded educational opportunities for African-American students and attracting white students to form a more diverse student population. The history of HBCUs includes significant constriction in the educational programming offered at these institutions. Further, the physical facilities were limited consistent with the limited educational programs. The federal policy for desegregation included the placement of attractive educational programs at HBCUs to address the history of limited educational programming and thus offer expanded educational opportunities to African-Americans attending these institutions. In addition, this enhancement was intended to attract a more diverse student population seeking quality educational programs. The design was for students to select public colleges based on educational offerings and not solely on a legacy of racial congregation.

The second component of the federal higher education desegregation policy was one of affirmative action at the Traditionally White Institutions. The affirmative action here was not affirmative action in admissions but affirmative action in recruitment and affirmative action in scholarships, both targeting African-American students. The intent was to attract more African- American students to become enrolled in the public Traditionally White Institutions.

Enhancing HBCUs to provide expanded educational opportunities and attract a more diverse student population combined with affirmative action programs at TWIs designed to attract African-American students together formed the policy intended to do away with white colleges and Black colleges and create one system of colleges. That was the plan.

Most of the 19 states entered into compliance plans. Five states did not enter into agreements. Four of these states proceeded to federal court litigation. One state, Ohio, was prepared for litigation but pleadings prepared by the U.S. Department of Justice were never filed in court. Louisiana, Tennessee, Alabama and Mississippi all went to court with the Mississippi case going all the way to the U.S. Supreme Court. It was the Supreme Court decision in the Mississippi case that would produce the foundation for new federal civil rights policy on higher education desegregation that was published in 1994.

In 1988, the U.S. Secretary of Education, William Bennett, directed OCR to conduct reviews of those states that had entered into the Agreements and make determinations as to whether or not those states had brought themselves into compliance with Title VI. Using a checklist analysis OCR concluded that eight of the 19 states had performed according to the Agreements and that those states were now in compliance with Title VI. Reviews were not conducted for the remaining six states at that time (Virginia, Pennsylvania, Florida, Maryland, Texas and Kentucky). In 1994 OCR published new federal policy for higher education desegregation that was based on the U.S. Supreme Court decision in *Ayers* (the Mississippi case). The 1994 policy created a higher standard for compliance. Whereas the

1978 policy was based on a checklist analysis (e.g., did the states enhance the public HBCUs and implement affirmative action procedures at the TWIs), the 1994 policy was based on a vestiges analysis which places on states an affirmative duty to remove all vestiges of the past practice of segregation that have present day effects to the greatest extent practicable.

Pursuant to the higher standard contained in the 1994 policy the remaining six states plus Ohio entered into new five year plans (New Agreements) designed to bring about Title VI compliance. In addition, there was some debate within OCR as to whether or not the eight states that were closed out in 1988 under the old 1978 standard should be reviewed for Title VI compliance using the newer standard contained in the 1994 policy. The five year plans focused mainly on further enhancement of the public HBCUs in the seven states.

The problem we are faced with today is almost a re-visitation of the situation that led to the *Adams* cases in the 1970s. There is substantial indication that many of the seven states have ceased performance pursuant to the New Agreements. In some of the states (Ohio in particular) there is actually action being taken to revert back to a policy of constraining HBCUs in their ability to offer attractive educational programs. Clearly in many cases in these states there is no focus on compliance with federal civil rights laws. In addition, there is strong evidence that HBCUs in some of the states that were closed out in 1988 are being negatively impacted by state actions that are in direct contradiction of federal higher education desegregation policy. The most egregious of these state actions is unnecessary program duplication. Duplication of programs in colleges within close proximity was historically done for apartheid purposes. Courts and federal civil rights policy have cited the unnecessary duplication of programs as being segregative and violative of Title VI. Unnecessary program duplication in a highly competitive business of higher education poses serious threats to HBCUs particularly with respect to their ability to compete in the arena of masters and doctorate level programs.

There is every indication that OCR will continue its non-enforcement of the Agreements of which it entered into with the various states for Title VI compliance purposes. At the same time it is clear that states will continue with initiatives, primarily at the legislative level, that encroach upon the vitality and strength of HBCUs. This is all going on while at the same time federal funds are being provided to these very states that continue to have outstanding violations of federal civil rights laws. This is in many respects the situation that existed that ultimately launched the *Adams* cases.

I submit that litigation against the federal government's OCR be initiated similar to that litigation that formed the basis of *Adams*. As in *Adams*, declaratory and injunctive relief should be sought to both obtain a statement from the federal courts as to the constitutional obligations of the states in this matter and to also prevent further state actions that will have damaging effects on HBCUs. Federal court involvement is also needed as in *Adams* to declare the responsibility of OCR in this matter and to direct that agency to conduct compliance reviews of the various states with respect to the Agreements and in light of federal civil rights and higher education desegregation policy. There is some debate as to legal strategies to pursue such claims, including whether or not case law subsequent to *Adams* would even allow such causes of action. These issues must be resolved and the

appropriate litigation commenced. Otherwise there is no real preventative measure against what clearly are real threats to higher educational opportunities for significant numbers of African-Americans.

**Mikyong Minsun Kim, Associate Professor of Higher Education,
Graduate School of Education and Human Development, The
George Washington University**

Thank you for the opportunity to testify before the Commission. My name is Mikyong Minsun Kim, and I am an Associate Professor of Higher Education at The George Washington University. Former posts include faculty positions at the University of Arizona–Tucson and the University of Missouri – Columbia. I have also served as a grant panelist and consultant for the National Science Foundation.

While I have a wide range of scholarly interests, a great deal of my focus has been on the impact and effectiveness of Historically Black Colleges and Universities (HBCUs) on African-American students. Therefore, my testimony will focus on research findings concerning the effectiveness of these institutions. (As a possible point of interest, I have studied the effectiveness of women-only colleges as well.)

First, I will briefly compare the institutional and student characteristics of HBCUs with those of Historically White Colleges and Universities (HWCUs). Second, I will review the findings of my studies on the effectiveness of HBCUs and compare my findings with those of other studies. Third, I will discuss how HBCUs contribute to the learning opportunities of African-American students and the higher education community. Fourth, I will discuss whether and why HBCUs merit strong support.

Institutional and Student Characteristics at HBCUs versus HWCUs

There are 103 HBCUs in this country (National Center for Education Statistics [NCES], 1996, 2003), and about 30 percent of the BA degrees earned by African-Americans annually are awarded by the 89 four-year (41 public and 48 private) HBCUs (NCES, 1996, 2003). Among African-American college graduates, a high percentage of political leaders, lawyers, doctors, and PhD recipients have graduated from HBCUs (Jackson, 2002; Willie and Edmonds, 1978).

Nevertheless, HBCUs have relatively fewer resources than HWCUs. HBCUs, on average, tend to have academically less prepared students and poorer institutional resources than HWCUs (e.g., physical facilities, expenditure per FTE student, and average faculty salary), and students' parents are less affluent. The findings of students' poor academic preparation and low parental socioeconomic status are consistent with Allen's findings (1992).

On the other hand, HBCUs tend to have a lower student-faculty ratio, lower enrollment, and somewhat higher student-faculty interaction, all of which are positive predictors of student development in general (Pascarella and Terenzini, 1991, 2005; Astin, 1993). From the mean comparison of Table 1, African-American students are more likely to be involved in faculty's research projects at HBCUs, and this involvement is a positive predictor for degree completion. The information in Table 1 was drawn from my recent HBCU study, published in *Research in Higher Education*.

Effectiveness of HBCUs versus HWCUs

Let me share with you some of my findings. I used national longitudinal data sets (from the Higher Education Research Institute at UCLA), institutional effectiveness models, and rigorous multi-level statistical techniques (hierarchical linear and non-linear modeling) for the design and analysis of my HBCU studies. Hierarchical linear and non-linear models have well-established methodological advantages over standard regression techniques for evaluating the effectiveness of schools and colleges and handling multi-level nested data sets (Raudenbush and Bryk, 2002).

Initially, the finding of no significant difference between HBCUs and HWCUs throughout three academic outcomes (overall academic ability, writing ability, and math ability) was rather surprising. I found the same pattern of “no significant difference” between HBCUs and HWCUs in their graduates’ early career earnings as well as the probability of obtaining a baccalaureate degree. In what follows, I will explain how my findings are consistent with or contrary to the previous studies on HBCUs.

Academic Development and Success

My research finding that attending HBCUs is not more beneficial in developing Black students’ overall academic ability, writing ability, and math ability than attending White institutions is somewhat consistent with previous studies by Central, Linn, and Parry (1970), Bohr, Pascarella, Nora, and Terenzini (1995), and Pascarella, Edison, Nora, Hagedorn, and Terenzini (1996).

The finding of no differential effect of HBCUs on obtaining a bachelor’s degree is somewhat inconsistent with previous studies (Cross and Astin, 1981; Pascarella, Smart, Ethington, and Nettles, 1987; and Ehrenberg and Rothstein, 1993). Although the degree completion rates for African-American students are 55 percent for HBCUs and 63 percent for HWCUs, college GPAs of African-American students did not differ between the two institution types.

Early Career Earnings

My findings show that HBCUs are doing as well as HWCUs in producing African-American graduates who are financially successful—at least in the early part of their careers. The finding of no difference in HBCUs impact on their graduates’ early income is consistent with that of Pascarella, Smart and Stoecker (1989) and with that of Ehrenberg and Rothstein (1993), but it is contrary to Constantine’s study (1995), which found significant economic benefits associated with attendance at HBCUs. It is also contrary to Baratz and Ficklen (1983), who found that graduates of HBCUs have lower earnings than their counterparts at HWCUs. The finding is also partly contrary to Solnick (1990), who reported that HBCU graduates started with high salaries but received smaller wage increases and fewer promotions than HWCU graduates.

We should take the finding of “no significant difference” as a positive sign that African-American students, as a group, now benefit equally in their academic success and early career earnings whether they attend HBCUs or HWCUs. By way of explanation, I speculate

that the discriminatory climate at HWCUs might have eased since the desegregation movement.

How Do Students' Learning Opportunities Differ between HBCUs and HWCUs?

African-American students at HBCUs are more actively and deeply involved in the academic community than are their counterparts at HWCUs. As the previous studies contend, HBCUs seem to provide a more academically supportive and engaging environment for African-American students. One of my studies also indicates less satisfying and more difficult academic experiences among African-American female students at HWCUs. Although HWCUs provide African-American students with equal access (or even preferential treatment) in admissions, they may still be less likely to include African-American students in their academic communities. For example, my previous study of HBCUs revealed that helping more undergraduates participate in professors' research projects is a good strategy for improving African-American students' retention and graduation rates. The same study also suggested that African-American students had many more chances (1.5 times) to participate in professors' research projects at HBCUs. Judging by the findings of my studies, as well as those of previous investigators' studies, there are obvious compensating factors, and the two types of institution contribute to student learning in different ways: HWCUs provide more visible monetary resources and prestige, while HBCUs offer greater humane support and deeper involvement.

Conclusion and Recommendation

How are HBCUs able to have such an impact with relatively few resources and with students whose pre-college performance was poorer than that of their counterparts at HWCUs? How they manage to produce the same level of student outcomes as HWCUs in spite of poorer academic and financial resources needs to be investigated further in future studies. Based on numerous research findings, HBCUs appear to be more cost-effective in achieving their mission of educating Black students. Given that HBCUs are significantly underfunded relative to HWCUs, the findings of my studies and of other reports lend support to the proposition that HBCUs contribute significantly to higher education in this country and merit strong support.

Thank you for this valued opportunity to participate.

Table 1


Comparing Student and Institutional Characteristics of HBCUs and HWCUs: Means, Standard Deviations, and Correlation Coefficients

	HWCU		HBCU		r with Black college
	Means	SD	Means	SD	
Student characteristics					
Degree completion	0.63	0.48	0.55	0.50	−0.08
Respondent's early earnings	4.23	1.76	3.97	1.65	−0.08
Parental income	6.96	3.28	6.25	3.21	−0.11 *
High school GPA	5.55	1.67	4.56	1.69	−0.29 *
College GPA ²	3.67	0.95	3.79	1.04	0.06
Institutional characteristics					
Global characteristics					
Selectivity in admission	1105.00	120.63	724.80	77.32	−0.73 *
Total enrollment	14486.94	10864.51	1823.40	1002.92	−0.67 *
Internal characteristics					
Student-faculty ratio	20.88	5.76	15.80	2.78	−0.42 *
Percentage: research project with faculty	22.96	7.23	31.89	5.77	0.50 *
Student-faculty interaction	7.92	0.18	8.06	0.16	0.27 *
Average faculty salary	42751.94	6579.04	26814.00	5470.87	−0.68 *
Percentage: faculty with a Ph.D.	84.53	6.19	62.80	12.20	−0.68 *
Percentage: total instruction-related expenditure	73.13	11.61	72.35	8.80	−0.03
Instruction-related expenditure per FTE student	9246	5306	6506	1208	−0.25 *
Percentage: students transferring	12.25	7.48	15.71	6.41	0.22 *
Percentage: undergraduates receiving aid	53.53	13.18	84.00	11.10	0.67 *

Note: ¹ The correlation coefficients are Spearman's rho; * p < 0.05 (two-tailed)

² The information of the variable was much reduced, and the available samples of college GPA for mean, SD, and correlation analyses were only 280.

Most of the comparative data were drawn from Kim (2002) and Kim and Conrad (2006).
Power Point Presentation



The Effectiveness of Historically Black Colleges and Universities

United States Commission on Civil Rights
Washington D.C.
May 5, 2006

Testimony of Mikyong Minsun Kim
Associate Professor of Higher Education
Graduate School of Education and Human Development
The George Washington University

1



Demographic Information

- There are 103 Historically Black Colleges and Universities (HBCUs) in the U.S.
- About 30 percent of the BA degrees awarded to African American students are from the 89 four-year (41 public and 48 private) HBCUs (NCES, 1996, 2003).
- Among African American college graduates, a high percentage of political leaders, lawyers, doctors, and PhD recipients have graduated from HBCUs.

2



Institutional and Student Characteristics

- HBCUs tend to have academically less prepared students and poorer institutional resources than HWCUs.
- HBCUs tend to have a lower student-faculty ratio, lower enrollment, and somewhat higher student-faculty interaction.

3



Institutional and Student Characteristics

- African American students are more likely to be involved in faculty's research projects at HBCUs (almost 1.5 times).
- The degree completion rates for African American students are 55% for HBCUs and 63% for HWCUs, but college GPAs of African American students did not differ between the two institution types.

4



Effectiveness of HBCUs

- No significant difference between HBCUs and HWCUs throughout three academic outcomes (overall academic ability, writing ability, and math ability).
- The same pattern of “no significant difference” between HBCUs and HWCUs in their graduates’ early career earnings as well as the probability of obtaining a baccalaureate degree

5



Effectiveness of HBCUs

- ***Academic development.***

My finding that attending HBCUs is not more beneficial in developing Black students’ overall academic ability, writing ability, and math ability than attending White institutions is somewhat consistent with previous studies by Centra, Linn, and Parry (1970), Bohr, Pascarella, Nora, and Terenzini (1995), and Pascarella, Edison, Nora, Hagedorn, and Terenzini (1996).

6

Effectiveness of HBCUs

■ *Degree completion.*

The finding of no differential effect of HBCUs on obtaining a bachelor's degree is somewhat inconsistent with previous studies (Cross and Astin, 1981; Pascarella, Smart, Ethington, and Nettles, 1987; Ehrenberg and Rothstein, 1993).

7

Effectiveness of HBCUs

■ *Early career earnings.*

The finding of no difference in HBCUs impact on their graduates' early income is consistent with that of Pascarella, Smart and Stoecker (1989) and with that of Ehrenberg and Rothstein (1993), but is contrary to Constantine's study (1995) and Baratz and Ficklen (1983).

8



Effectiveness of HBCUs

- We should take the finding of "no significant difference" as a positive sign that African American students, as a group, now benefit equally in their academic development whether they attend HBCUs or HWCUs.

9



Students' learning opportunities

- African American students at HBCUs are more actively and deeply involved in the academic community than are their counterparts at HWCUs
- One of my studies also indicates less satisfying and more difficult academic experiences among African American female students at HWCUs.

10



Reasons for “no difference”

- There are obvious compensating factors, and the two types of institution contribute to student learning in different ways: HWCUs provide more visible monetary resources and prestige, while HBCUs offer greater humane support and deeper involvement.
- In addition, the discriminatory climate at HWCUs might have eased since the desegregation movement.

11



Conclusion

- HBCUs appear to be more cost-effective in achieving their mission of educating black students. How they manage to produce the same level of outcomes as HWCUs in spite of poorer academic and financial resources needs to be investigated further.
- Given that HBCUs are significantly underfunded relative to HWCUs, the findings of my studies and of other reports lend support to the proposition that HBCUs contribute significantly to higher education in this country and merit strong support.

12

Table 1.
Comparing Student and Institutional Characteristics of HBCUs and HWCUs:
Means, Standard Deviations, and Correlation Coefficients

	HWCU		HBCU		r with Black college
	Means	SD	Means	SD	
Student characteristics					
Degree completion	0.63	0.48	0.55	0.50	−0.08
Respondent's early earnings	4.23	1.76	3.97	1.65	−0.08
Parental income	6.96	3.28	6.25	3.21	−0.11 *
High school GPA	5.55	1.67	4.56	1.69	−0.29 *
College GPA ²	3.67	0.95	3.79	1.04	0.06
Institutional characteristics					
<i>Global characteristics</i>					
Selectivity in admission	1105.00	120.63	724.80	77.32	−0.73 *
Total enrollment	14486.94	10864.51	1823.40	1002.92	−0.67 *
<i>Internal characteristics</i>					
Student-faculty ratio	20.88	5.76	15.80	2.78	−0.42 *
Percentage: research project with faculty	22.96	7.23	31.89	5.77	0.50 *
Student-faculty interaction	7.92	0.18	8.06	0.16	0.27 *
Average faculty salary	42751.94	6579.04	26814.00	5470.87	−0.68 *
Percentage: faculty with a Ph.D.	84.53	6.19	62.80	12.20	−0.68 *
Percentage: total instruction-related expenditure	73.13	11.61	72.35	8.80	−0.03
Instruction-related expenditure per FTE student	9246	5306	6506	1208	−0.25 *
Percentage: students transferring	12.25	7.48	15.71	6.41	0.22 *
Percentage: undergraduates receiving aid	53.53	13.18	84.00	11.10	0.67 *

Note: ¹ The correlation coefficients are Spearman's rho; * $p < 0.05$ (two-tailed)

² The information of the variable was much reduced, and the available samples of college GPA for mean, SD, and correlation analyses were only 280.

Most of the comparative data were drawn from Kim (2002) and Kim and Conrad (2006).

References

- W. Allen, "The color of success: African-American college student outcomes at Predominantly White and Historically Black public colleges and universities," *Harvard Educational Review*, vol. 62(1) (1992), pp. 26–44.
- A. W. Austin, *What Matters in College: Four Critical Years Revisited*. (San Francisco: Jossey-Bass, 1993).
- J. Baratz, and M. Ficklen, *Participation of recent Black college graduates in the labor market and in graduate education* (Research Report, Education Policy Research Institute). (Princeton, NJ: Educational Testing Service, 1983).
- L. Bohr, E. T. Pascarella, A. Nora, and P. T. Terenzini, "Do Black students learn more at Historically Black or Predominantly White Colleges?" *Journal of College Student Development*, vol. 36(1) (1995), pp. 75–85.
- J. Centra, R. Linn, and M. Parry, "Academic growth in predominantly Negro and predominantly White colleges," *American Educational Research Journal*, vol. 7(1) (1970), pp. 83–98.
- J. M. Constantine, "The effect of attending Historically Black Colleges and Universities on future wages of Black students." *Industrial and Labor Relations Review*, vol. 48(3) (1995), pp. 531–46.
- P. Cross, and H. Astin, "Factors influencing Black students' persistence in college," in *Black Students in Higher Education*, ed. G. Thomas (Westport, CN: Greenwood Press, 1981), pp. 76–90.).
- R. G. Ehrenberg, and D. S. Rothstein, "Do historically Black institutions of higher education confer unique advantages on Black students: An initial analysis" (Cambridge, MA: National Bureau of Economic Research, 1993). Unpublished paper.
- D. H. Jackson, "Attracting and retaining African-American faculty at HBCUs," *Education*, vol. 123(1) (2002), pp. 181–185.
- M. M. Kim and C.F. Conrad, "The Impact of Historically Black Colleges and Universities on the Academic Success of African-American Students," *Research in Higher Education*, vol. 47 (4) (2006), pp. 399–427.
- M.M. Kim, "Historically Black vs. White Institutions: Academic Development among Black Students," *The Review of Higher Education*, vol. 25(4) (2002), pp. 385–407.
- E. Pascarella and P. Terenzini, *How College Affects Students* (San Francisco: Jossey-Bass, 1991).
- E. Pascarella, M. Edison, A. Nora, L. S. Hagedorn, and P. Terenzini, "Additional evidence on the cognitive effects of college racial composition: A research note," *Journal of College Student Development*, vol. 37(5) (1996), pp. 494–501.
- E. Pascarella, J. Smart, C. Ethington, and M. Nettles, M, "The influence of college on self-concept: A consideration of race and gender differences," *American Educational Research Journal*, vol. 24(1) (1987), pp. 49–77.
- E. Pascarella, J. Smart, and J. Stoecker, "College race and the early status attainment of Black students," *The Journal of Higher Education*, vol. 60(1) (1989), pp. 82–107.
- S. Raudenbush and A. Bryk, A. *Hierarchical Linear Models: Applications and Data Analysis Methods* (2nd ed.) (Thousand Oaks, CA: Sage Publication, 2002).
- L. M. Solnick, "Black college attendance and job success of Black college graduates," *Economics of Education Review*, vol. 9(2) (1990), pp. 135–148.
- C. V. Willie, and R. R. Edmonds, *Black Colleges in America: Challenge, Development, Survival* (New York: Teachers College Press, 1978).

It has been Commission practice to include summaries of all panelist statements and Commissioner remarks in briefing reports. This briefing report includes two additional scholarly research articles which several of the Commissioners recommended as providing further insight on the performance of HBCUs in furthering student educational objectives. The article by Rogers Elliott is reprinted by permission of the copyright holder.

The Role of Ethnicity in Choosing and Leaving Science in Highly Selected Institutions

From *Research in Higher Education*, Vol. 37, No. 6, 1996

Authors: Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier, and Jannah Scott

(Foreword: This study sought to assess the role of ethnicity in both initial choice of, and persistence in, science majors. Standardized test scores, high school records, initial concentration preference, college grades, and final majors of all the white, Asian, black, and Hispanic students who enrolled in 1988 at four highly selective institutions provided the database. Despite relative deficits in scores on measures of preparation and developed ability, blacks entered college with a strong interest in majoring in science. Black students interested in science also suffered the highest attrition from it; Asians were lowest, with whites and Hispanics near the average attrition of 40%. Ethnicity did not add significantly to ability and achievement variables in predicting attrition from science. The results are discussed in terms of two main issues: first, the effect of different standards of selection for the various groups on their success in science curricula; and second, the relevance of various well-known intervention strategies to the problems of minority attrition in science in highly selective institutions.)

The question of why much larger proportions of non-Asian minorities leave the science pipeline than do whites or Asians has long concerned all persons and organizations interested in the vitality of science and in equality of opportunity to become a scientist. Science is a rewarding career for those inclined to pursue it, and many of the world's serious problems cannot be solved without science and technology. If large pools of potential scientists are being shut out by action of educational institutions themselves, that fact needs to be known, and the problem needs to be described and examined, so that effective ameliorative policies might be devised.

Our first reports (Strenta et al., 1993, 1994) concerned general issues about choice of, persistence in, and attrition from science, along with the way gender affected those issues in our population. Here we will examine these questions with respect to ethnicity.¹ Our strategy and goal is as it was with gender: to describe and analyze the predictors of initial interest in science, and then the predictors of persistence in science—that is, actually majoring in science—in terms of variables measuring intellectual achievement and developed ability.

The situation with respect to minorities differs from that for women very likely in several ways, but surely in one important respect: minorities are at least as interested in pursuing science as whites (Astin and Astin, 1993; National Science Board, 1993; White, 1992), and the attitude toward science, at least for African-Americans, is very positive—more positive, other things being equal, than that of whites (Dunteman, Wisenbaker, and Taylor, 1979; see also citations in Oakes, 1990). In large unselected samples of college-bound students, just about a fifth of the whites, blacks, and Hispanics taking the SAT or filling out a student information form in their first college term intended to major in science or engineering (College Board, 1988a, or any recent year; National Science Board, 1993), with whites being slightly lower in rate of interest than blacks or Hispanics; over a third of Asians

intended to major in science. In the somewhat more selective longitudinal sample reported by Astin and Astin (1993), the rates of initial interest were higher but in similar ethnic order: Asians, 53%; whites, 27%; Hispanics (Chicanos), 36%; and blacks, 34%.

Recent accounts (Oakes, 1990; Suter, 1993; White, 1992) of race, ethnicity, and science make it clear that non-Asian minorities are relatively low on most measures of preparation and developed ability, and that these deficits begin early in their schooling careers. They are considerable just before the point of entrance to college. Both the average SAT mathematics (SATM) scores and the math and science proficiencies of twelfth-grade blacks are about a standard deviation (S.D.) behind, and those of Hispanics are about .75 S.D. behind, those of whites (Suter, 1993). Thus, black grade 12 achievement in math is about the same as, and in science a little worse than, white grade 8 achievement. And while blacks and Hispanics are a little closer to whites on scores on College Board Achievement Tests and Advanced Placement (AP) tests, that is in part because very small and selected proportions of those minority groups take such tests (White, 1992).

Partly for these reasons, not many minority students actually enter science in higher education, and many who do drop out along the way. White (1992) and the National Science Board (1993) have reported that blacks received about 5.3% of the bachelor's degrees in science in 1989 and 1991, though they constituted about 13% of the population and about 9% of the higher education enrollment; Hispanics, who were about 7% of the general population, and 5% of the higher education enrollment, had 4% of the science degrees. Asians (9%) and whites (82%) together had 91% of the science baccalaureates given in 1991, with Asians obviously greatly overrepresented.

The recent study by Astin and Astin (1993) illustrates the disproportionately large losses of blacks and Hispanics (in their case, Chicanos). The final pool of blacks in science was only 47% of the size of the pool of those initially intending to major in science, and of Hispanics only 37%, whereas the corresponding percentages for Asians and whites were 68% and 61%, respectively (all these figures are overestimates of persistence rates, because there was some recruitment from nonscience pools into science). This result occurred even though in the original pools of those initially interested in science and engineering as freshmen, as shown above, blacks and Hispanics had just over a third of their numbers declaring initial interest in science majors and were 7-8% more likely to do so than whites. Other large and possibly more representative samples (National Science Foundation, 1990) have found persistence rates of only 21% for minorities, compared with 43% for majority students. And Hilton, Hsia, Solorzano, and Benton (1989) reported persistence rates for the high school and beyond database (high school seniors who had intended to go to college and major in science or engineering and who were in college still doing or intending to do science 2 years after graduation) as 54% for Asians, 44% for whites, 36% for blacks, and 29% for Latinos; considering only those students who had actually gotten to college and remained there, the corresponding rates were 61%, 58%, 54%, and 48%. Finally, in Phillips's recent report (1991) of a large representative sample of engineering students from predominantly white schools, the 5-year graduation rates were as follows: for whites, 67%; for Hispanics, 47%; and for blacks, 36%.

Rates of persistence depend on its definition—they are lower measured in the senior than in the sophomore year of college, and lower in less selective pools—but it appears that of students who actually begin their first year in college and intend a science major, Asians will have the highest proportion, they will be best prepared (White, 1992), and they will persist most strongly; whites will have the lowest proportion of students interested in science, but those will be well prepared and about as highly persistent; blacks will be strongly represented in initial interest, but they will be the least well prepared and over half will leave science; and Hispanicsⁱⁱ will be represented as much as, and a little better prepared than, blacks, but slightly more likely to drop out.

There is some evidence, however, indicating very substantial persistence rates among non-Asian minority students. Hilton et al. (1989), studying gifted (i.e., SATM scores of 550 or more) students interested in science, found that the persistence of non-Asian minority students in math and science fields in (usually) the spring of their second year beyond high school was higher than that of matched whites (61% vs. 55%). Because the black and Hispanic samples of this study were, like our own, highly selected, we will have more to say about them below; but the study certainly supports the view that equally developed ability among students interested in science predicts equal persistence, regardless of ethnic or racial affiliation. Finally, historically black colleges and universities (HBCUs) have a strong record of B.S. (and, later, science Ph.D.) production, more so than more elite, predominantly white institutions (Culotta, 1992; Thurgood and Clarke, 1995), despite student bodies that are on average much less well prepared than black students in elite institutions.

This last fact makes clear that persistence is not just a matter of average preparation, but of competitive position as well: a reasonably well-prepared student at an HBCU who would be in a strong competitive position in his or her institution would be in a far less strong one at an elite institution. The context for judging equality of developed ability is at least as salient within institutions as between them. At white-majority institutions non-Asian minorities are, by virtue of race-preferential admission policies, at an often serious disadvantage with respect to validly predictive indices of talent, and if equally developed ability predicts equal persistence, unequally developed ability should predict differential persistence. For example, Ramist, Lewis, and McCamley-Jenkins (1994) have shown that for thousands of students in various racial and ethnic categories, from dozens of predominantly white institutions of higher learning, blacks averaged nearly 100 points and Hispanics nearly 50 points lower than whites in SATM, a strong predictor of science and math performance (Astin and Astin, 1993; Ramist, Lewis, and McCamley-Jenkins, 1994; Strenta et al., 1993), and the differences were larger for more selective schools. Since the standard deviation of SATM within their institutions was 85 to 90 points (and less than that in highly selective institutions), these are substantial differences.

Not only SATM but other preadmission indicators (SATV, high school grades, achievement tests) are significant predictors of success in science courses. Basic science courses are difficult, fast-paced, impersonal, and competitive (Hewitt and Seymour, 1991; Manis et al., 1989; Tobias, 1990), and the more selective the school, the more this is likely to be the case. Science is also hierarchical, so that relative failure at the basic levels is not only discouraging but to some extent incapacitating for the next courses. We would expect, for the

foregoing reasons, that the relative deficit in preparation and ability-achievement measures of the black and Hispanic students who go to very selective and predominantly white schools will be especially damaging to their prospects in science. There have been dozens of studies showing associations between ethnic differences in SAT scores and corresponding differences in college grades. We know of none, however, in which both the high school and college grades of different ethnic groups have been separated into science and nonscience categories for differential prediction of science-relevant outcomes. Such a level of analysis is important, we think, to a more complete understanding of differential persistence in science.

It is sometimes alleged that predominantly white institutions are difficult for blacks and Hispanics to deal with for reasons that go beyond achievement and ability. In a recent special report on minorities in science (Gibbons, 1992, p. 1194), Treisman is quoted as follows: "There is a belief that [minority] kids that are strong will make it anyway. In fact, national data show that's false. If you control for socio-economic background and class rank in high school, black kids still do less well than nonminorities. These [lower performances] are measures of institutional inhospitality." The controls Treisman mentions, however, do not control for SAT total scores: matching on parental income or education preserves from 75% to 90% of the mean black-white population difference of about 200 points on SAT (e.g., College Board, 1988a). High school grades are moderately correlated with SAT scores (about $r = .55$ in the whole population, and less in selective schools; see Ramist, 1984; Ramist et al., 1994; Strenta et al., 1993). However, SAT scores contribute more to the prediction of individual course grades, especially at selective colleges, than do high school grades (Ramist et al., 1994). In the Ramist et al. sample, blacks were only .36 S.D. lower than whites in high school grades, and Hispanics were actually slightly higher than whites, which means that with respect to freshman grade-point average, on which those groups were .7 and .4 S.D.s lower than whites, both groups were greatly overpredicted by high school grades. (They were overpredicted by the SAT as well, but only by about half as much.)

A test of whether there is an "inhospitality" effect or any other ethnic effect is to use a regression analysis of persistence with ethnicity as a predictor, along with high school grades and test scores—if there is no ethnicity effect, there is nothing to explain in terms that go beyond the preadmission measures. Both Hilton et al. (1989) and Astin and Astin (1993) have done such analyses, with no reported ethnic effects, but their students were attending an enormous number and variety of institutions. We wished to study institutions that were very much alike in being high in selectivity and high in the production of scientists and science practitioners. We have chosen for study four Ivy League schools that are so similar in admission practices and academic standards that they may be treated, as we do here, as one superinstitution with four campuses.

The group of students we are investigating here, especially those initially interested in science, is obviously representative of students in highly selective private research universities, of which the present four are a part. These four alone are collectively an important producer of scientists, even though the 1,625 science majors in this group represent only 1% of the total science B.A. degrees given by U.S. institutions (National Science Board, 1993: about 165,000 degrees in natural sciences, math and computer science, and engineering were conferred in 1991, or about a sixth of all baccalaureates). But however

highly selected these students are, and however elite their institutions, we think that they are not very different from natural science and engineering majors at other selective colleges or public research universities. There are some 30 private universities and technical schools with average SAT totals of about 1,200 or more, and about 25 smaller colleges that are similarly selective. We believe that 8-9% of the total science degrees is a reasonable estimate of their production.

There are at least 15 great public research universities, where the culture, curricula, and standards of high-level science are similar to those that prevail in the ones we are investigating here. Though they are less selective overall than the highly selective private universities, they are closer to them in science than in other areas, because the degree of selection for developed ability in the science departments of selective public research universities is severe: smaller proportions of students enter such institutions initially interested in science, and persistence rates are lower (see the review in Strenta et al., 1993). But the select few who remain include many very talented students. Thus, for example, Humphreys and Freeland (1992) have shown that the SAT scores for four successive groups entering the UC Berkeley School of Engineering are very close to the average for the engineering schools or departments of the group of schools we are studying (Strenta et al., 1994). These public universities are huge by private standards, a fact that offsets to some extent the smaller proportions of science concentrators in them. We assume that they give at least another 10-12% of the total of science degrees. Finally, we assume that these degrees represent the best of science education of students in the high end of the ability range, so that the roughly 20% under discussion will constitute a far larger percentage of postbaccalaureate science, engineering, and medical students.

In short, though our argument rests heavily on plausibility grounds, we would not expect the major factors affecting choice of and persistence in science to be very different at such public research universities as Washington, Michigan, Berkeley, Illinois, San Diego, Texas, UCLA, Wisconsin, Virginia, or North Carolina than they are at Rice, Stanford, Notre Dame, Duke, Chicago, Northwestern, Tufts, Georgetown, Carnegie-Mellon, Washington University, or Johns Hopkins. Chipman and Thomas (1987, p. 425), noting that high-ability students were not much studied, went on: "Yet they are the population of real interest with respect to participation in mathematics and science. It would be particularly important to study minority students of high ability." That is what we do here.

METHOD

Subjects

In 1988 an average of about 13,000 students applied to each of the four highly selective institutions whose data are combined here for analysis. These institutions accepted between a fifth to a quarter of them, and matriculated about half of those. The population of students under investigation was thus highly selected by the institutions, and also highly self-selected in applying.

With respect to the four ethnic groups targeted here for study, an average of 8,250 whites, averaging a total SAT of 1,268, applied to each institution; 22% were selected, yielding a

group of white matriculants with an average SAT of 1,325. Similarly, an average of 735 black students applied to each institution, averaging a SAT score of 1,089; 35% of them were selected, with a resulting group of matriculants having an average SAT of 1,160. Of the 1,620 Asian applicants per institution, with an average SAT of 1281, 23% were selected, producing a matriculant group averaging 1,345; and of the 490 Hispanic applicants per institution (SAT = 1,152), 29% were selected, resulting in a matriculant group with a 1,219 average SAT. The matriculant groups averaged 410 points above their respective population 1987-88 SAT means, ranging from 390 for whites to 425 for blacks.

Measures

The basic data came from high school transcripts, admissions office data, and college transcripts through June 1992. We employed the following pre-matriculation measures in many of our analyses: SAT verbal score and SAT math score (SATV and SATM); the average of the best three achievement tests (ACH); the number of high school science and mathematics courses (NSCI); average grade earned in these courses (HSSCI); average grade in high school nonscience courses (HSNON); stated initial interest (INT) in a major (the first stated if more than one), coded 0 for nonscience and 1 for science, where science is defined as natural science and engineering. Students who were undecided or wrote nothing were classified as nonscience. Other prematriculation measures occasionally employed were the standard measures used by admission departments: the high school percentile rank in class converted to a normal deviate with mean 500 and standard deviation 100 (CRS, or converted rank score), and the Academic Index (AI), which is one-tenth the sum of (a) the average of the two SAT scores (e.g., 670), (b) the ACH (e.g., 680), and (c) the CRS (e.g., 690 for someone who was third in a class of 100); in the examples, the AI would be 204. Finally, we coded participation and performance in high school science courses.

College performance measures included the grade-point average for science and mathematics courses taken during the first 2 years (SGPA), the counterpart measure for nonscience courses (NGPA), and the broad area of actual concentration (MAJ, coded, like INT, as 0 or 1 for nonscience and science, respectively). Other measures occasionally used were the yearly and cumulative GPAs.

We were conservative in what we classified as science, not including history of science, cognitive science, psychology, environmental science, science and ethics, biology and society, or other interdisciplinary concentrations, which were placed into social science (usually) or humanities as seemed most appropriate. We were interested in analyzing science concentrations like those that are traditionally part of natural science divisions: hierarchical, laboratory-based disciplines with several prerequisites, usually including many mathematics courses, and usually with heavy workloads and frequent assignments.

RESULTS AND DISCUSSION

Preparation

The top panel of Table 1 shows the percentage of each group that took the indicated Advanced Preparation (AP) science course, and the average group grade for each course. The most frequently recorded course was AP Biology, closely followed by AP Chemistry;

AP Physics and AP Calculus BC were substantially less often chosen. With but three exceptions for grades and one for percent participation, the order of grades and participation was Asian, white, Hispanic, and black. Regardless of these differences, the overall participation in advanced high school science courses was well above the national average (College Board, 1988b). Group differences on these variables, as on those of the lower panel, were highly significant, which simply means that much of the effect of ethnicity occurred prior to college matriculation. We take such differences into account in examining whether there were further ethnic effects during college.

The bottom panel of Table 1 shows the values of the preadmission variables used in various analyses. Most of the preadmission data are standard, but we have included as a variable the number of science and math courses (NSCI), and disaggregated the overall high school GPA into science (HSSCI) and non-science (HSNON) components. The standard predictors, SATM, SATV, and Achievement Test average (ACH), are shown in rows 4-6; as noted, these, along with high school record, make up the Academic Index (AI—shown in row 7), which is the chief predictor of grades used by the admission departments of these schools. In this population, AI correlated $r = .50$ with first-year GPA, and .45 and .46, respectively, with NGPA (the average grade in courses outside the science division in the first 2 years) and SGPA (the average grade in science division courses in the first 2 years). The eighth row indicates the percentage of each group that expressed an intention to major in science or engineering.

These credentials shown in the bottom panel are the ones that admissions officers look at, and they manifested extensive course work in science and math, very good high school grades, and high scores on standardized tests. As the introduction and the AP science course data suggest, the Asian students showed the greatest preparation and the most highly developed ability, especially with respect to science-related scores, averaging just over a third of an S.D. above the general average on those. Asians and whites together constituted about 77% of the students who were initially interested (and 82% of the students who finally majored) in science, with blacks and Hispanics together making up about 11% of those interested (and 7% of those who finally majored) in science. (The remainder was made up predominantly of foreign students, many of them Asian, and students of unknown ethnicity, many of them white.) From the point of view of the non-Asian minorities, then, their colleagues and competitors in science classes were overwhelmingly whites and Asians, and we take the combined white-Asian mean as the reference for non-Asian minority disadvantage in preadmission and college performance variables.

For blacks, that disadvantage was a third of an S.D. in number of high school science courses taken (NSCI), and four-fifths of an S.D. in high school science grades (HSSCI). On SATM, ACH, and AI, blacks were 1.3 to 1.5 S.D.s behind. The relative disadvantage for Hispanics was about half that for blacks on the most science-relevant variables—HSSCI, SATM, ACH, and AI. Note, as Ramist et al. (1994) showed (particularly at selective colleges of the sort under study here), that high school grades evinced far smaller disadvantage for blacks and, especially, for Hispanics, than SAT scores. Note also that nearly all of these minority disadvantages would be larger if measured against the Asian-white standard deviation.

TABLE 1. Preadmission Data by Ethnic Group

A: Advanced Placement Science Courses: Percent Participation and Grades										
AP Courses	Asian N = 582		White N = 3534		Hispanic N = 216		Black N = 355		M Total N = 4687	
	%	GPA	%	GPA	%	GPA	%	GPA	GPA	SD
Biology	33.2	3.71	22.5	3.64	21.5	3.44	26.4	3.52	3.63	0.47
Chemistry	33.4	3.65	20.0	3.70	17.0	3.55	14.7	3.19	3.65	0.52
Physics	23.6	3.52	17.7	3.61	12.5	3.43	5.2	3.29	3.56	0.58
Calc (BC)	22.4	3.62	14.3	3.50	5.0	3.30	4.3	3.19	3.51	0.57

B: Admission Data										
Variables	Asian		White		Hispanic		Black		M Total	
	M	S.D.	M	S.D.	M	S.D.	M	S.D.	M	S.D.
NSCI	9.91	1.33	9.29	1.39	9.25	1.37	8.94	1.37	9.34	1.40
HSSCI	3.75	0.31	3.62	0.38	3.52	0.44	3.33	0.46	3.61	0.39
HSNON	3.75	0.51	3.67	0.52	3.59	0.62	3.44	0.59	3.66	0.54
SATM	712.	54	692	62	641	73	597	73	685	68
SATV	633	79	633	70	578	81	563	75	625	75
ACH	680	57	663	62	628	70	577	64	657	67
AI	208.4	11.8	204.6	13.2	193.7	14.0	183.6	14.2	203.1	14.5
& Interest in Science	55.0		41.4		44.0		44.2		43.4	

Note: Panel A includes the percent of students in each ethnic group taking indicated high school AP courses and their mean grade point average. In Panel B, NSCI is the mean number (M) and standard deviation (S.D.) of all math and science courses taken in high school; HSSCI is the high school science GPA; HSNON is the nonscience GPA; SATM and SATV are the math and science portions of the SAT; ACH is the mean of the highest three Achievement Tests; AI is the Academic Index; and % Interest is the percentage of each group expressing an intention to major in science or engineering. Mean totals are weighted. Ns listed are maxima; some data re missing in every cell.

Apart from the Asians, these differences in preparation and developed ability for science did not affect the proportion of each group having an initial intent to major in science (row 8 of the lower panel of Table 1), with blacks and Hispanics having been a little more interested initially than whites, despite relative deficits in high school preparation, performance, and test scores. Such a result implies an ethnic effect of the sort suggested in the literature: blacks, especially, aspire to be in science, all other measures held equal (Duntelman, Wisenbaker, and Taylor, 1979; Oakes, 1990). This implied finding is important, because intention to concentrate in science is by far the strongest predictor of actually doing so (in our group overall, the *phi* correlation was .55).

The implication of an ethnic effect was tested by analyzing the residuals from the multiple regression equation predicting initial interest (Science = 1; Nonscience = 0). In the predictive equation, all the preadmission variables were highly significant ($p < .0001$), with $R^2 = .20$; number of high school courses in math and science (NSCI), the average grade in them (HSSCI), and SATV were by far the most powerful predictors, the last one being negative. High school nonscience grades (HSNON), SATM, and ACH were weaker predictors, with the first being negative. Analysis of variance of the residual scores by ethnic group yielded a significant ethnic effect ($F(3, 3662) = 5.05, p < .002$). Blacks were more likely than predicted to express an intention to major in science (mean residual, .10), and, by Bonferroni t-tests, were more likely than the other groups (whose mean residuals were .00, .00, and — .01 for Asians, Hispanics, and whites, respectively) to do so.³ The interactions of ethnicity with the preadmission variables were separately assessed by the tests for covariate by-treatment interactions outlined by Stevens (1992, pp. 344-355). No single covariate-by-treatment interaction was significant, nor was the lumped covariate-by-treatment interaction.

It does appear, once more, that blacks would be very well represented in science if intention to be a scientist were the decisive controlling variable. The present data on rates of initial interest in natural science and engineering agree with data cited in the introduction: Asians and whites are high and low in interest, with blacks and Hispanics close together in the middle.

Performance

Table 2 shows data for the same variables shown in the lower panel of Table 1, now subdivided by initial interest in either science or nonscience majors; and it adds data on college performance variables of interest. These are grades in the first two undergraduate years in science courses (SGPA), courses not in science (NGPA), and the percentages of each group who finally majored in science. The chief differences between the two major interest groups were, understandably, on three variables very strongly predictive of interest in science—number of and grades in high school science courses (NSCI and HSSCI), and SATM, where the differences exceeded a half standard deviation—and on ACH, where the difference amounted to a third of an S.D. Because grades in nonscience high school courses were nearly the same in each major group, and SATV scores only moderately favored those not initially interested in science, the students initially interested in science had a modestly though significantly higher AI, a common result (Green, 1989; White, 1992) with

Table 2. Preadmission and College Performance Variables by Ethnic Group and Initial Interest

Variables	Asian		White		Hispanic		Black		Total	
	M	S.D.	M	S.D.	M	S.D.	M	S.D.	M	S.D.
A: Initial Interest in Science										
N	320		1462		95		157		2034	
NSCI	10.24	1.26	9.89	1.20	9.58	1.33	9.47	1.22	9.90	1.23
HSSCI	3.80	0.25	3.75	0.29	3.62	0.37	3.44	0.31	3.73	0.31
HSNON	3.74	0.51	3.67	0.54	3.51	0.62	3.46	0.55	3.66	0.55
SATM	721	52	714	52	653	74	607	72	704	63
SATV	621	81	627	68	563	84	541	78	617	76
ACH	685	58	677	58	630	78	573	66	669	66
AI	208.6	12.0	206.9	12.1	193.2	15.4	182.4	15.0	204.9	14.2
SGPA	2.94	0.64	2.99	0.70	2.46	0.68	2.21	0.71	2.89	0.72
NGPA	3.23	0.48	3.23	0.52	2.97	0.63	2.85	0.58	3.19	0.54
% Sci. Major	70.0		60.6		55.8		33.8		60.00	
& Terminated	4.0		4.1		10.5		14.6		5.2	
B: Initial Interest Not in Science										
N	262		2070		121		198		2653	
NSCI	9.50	1.30	8.85	1.35	8.98	1.35	8.53	1.34	8.90	1.36
HSSCI	3.68	0.35	3.53	0.41	3.44	0.47	3.24	0.49	3.52	0.43
HSNON	3.76	0.52	3.68	0.52	3.65	0.61	3.42	0.56	3.67	0.53
SATM	701	54	677	63	632	71	589	74	670	69
SATV	648	74	637	71	590	76	579	69	632	74
ACH	673	55	653	63	626	63	580	62	648	66
AI	208.1	11.5	202.9	13.7	194.1	13.0	184.5	13.6	201.6	14.5
SGPA	3.08	0.75	3.02	0.82	2.73	0.92	2.22	0.96	2.96	0.85
NGPA	3.32	0.39	3.25	0.49	3.08	0.54	2.80	0.55	3.22	0.51
% Sci. Major	14.9		8.6		5.8		2.5		8.6	
& Terminated	4.6		4.7		10.7		11.1		5.5	

Note: For both Panels, N = sample size. Total sizes exclude unknown ethnicity and foreign students. NSCI is the mean number (M) and standard deviation (S.D.) of all math and science courses taken in high school; HSSCI is the high school science GPA; HSNO is the nonscience GPA; SATM and SATV are the math and science portions of the SAT; ACH is the mean of the highest three Achievement Tests; AI is the Academic Index; SGPA is the grade point average for science courses in the first two undergraduate years; NGPA is the average for nonscience courses in the first two years; % Sci Major is the percentage of each group who majored in science or engineering; and % Terminated is the percentage of each group no longer matriculated in the 1991-92 year (i.e., students who left or were separated).

respect to the relatively high overall quality of academic preparation among science students.

Despite these differences, science grades in the first two college years were slightly greater for the group not initially interested in science than for the group that was. We analyzed this anomaly in the earlier paper (Strenta et al., 1994): science departments offer fairly easy courses for nonscientists and do not grade them as rigorously as courses that are part of their majors. Here, however, we are primarily concerned with ethnic differences, in particular differences in persistence among the students who came to their colleges intending to concentrate in science. Some can be accounted for by differences in preadmission measures of preparation and developed ability; whatever cannot be so accounted for may be fairly attributable to ethnicity or to variables associated with it.

Of the students initially interested in science, the relative position of blacks and Hispanics on science-relevant variables was worse than it was among all students (as was shown in Table 1), another example of the rule that the more rigorous the selection from groups differing at the mean, the greater the relative disadvantage of the groups with the lower means. The deficits were particularly large on the Academic Index (AI), about 1.7 and 1 S.D., respectively, below the average of similarly interested white and Asian students. There were somewhat smaller but still substantial deficits in high school science grades (HSSCI of about 1.0 and 0.5 S.D.s, respectively) and ACH (about 1.6 and 0.7 S.D.s), so that the deficits in the Academic Index were about the same as in SATM (in these comparisons we have used as divisors for units of effect size the S.D.s for the students interested in science, since they are the ones populating the serious introductory science classes—if the white-Asian S.D.s are used, the differences grow by 15% to 20%).

Persistence

The expected consequences of these differences on science-relevant variables are differences in persistence, the proportion of students initially interested in science who actually majored in science, shown in the next-to-last row of the top panel of Table 2. Such persistence varied predictably: the rate for Asians, at 70%, was twice that for blacks (34%); and rates for whites (61%) and Hispanics (55%) were intermediate. The differences shown in percent who majored in science were highly significant ($\chi^2 = 58.99$, $df = 3$, $p < .0001$), as were the ethnic differences, in the same order as just given, in rate of recruiting to science majors (next to last row of the lower panel) from those students who had not expressed an initial intent to major in it ($\chi^2 = 23.37$, $df = 3$, $p < .001$). The high rates for Asians and whites resemble those given in the High School and Beyond (in Hilton et al., 1989) and the Astin and Astin (1993) data discussed in the introduction.

The most serious form of nonpersistence, leaving school altogether, manifested similar differences (final row of each panel). For students initially interested in science, the ethnic termination rates were significantly different ($\chi^2 = 37.91$, $df = 3$, $p < .001$), as were the differences among the highly similar termination rates among those students not initially interested in science ($\chi^2 = 21.40$, $df = 3$, $p < .001$). By national standards, of course, the termination rates shown in Table 2 are very low loss rates.

Hispanics appear to have persisted more, and blacks less, than preadmission variables might have indicated. The R^2 for the regression of persistence on preadmission variables was .10, with the strongest predictors being number of, and grades in, high school science courses (NSCI and HSSCI), ACH, and (negatively) SATV (all $p < .0001$). We again analyzed the residuals from this regression by ethnic group. The F-ratio (2.54, $df = 3, 1631$, $p < .06$) was nonsignificant. Blacks averaged a residual score of $-.08$ (they persisted less than predicted); Hispanics averaged $.09$ (they persisted more than predicted); whites ($-.01$) and Asians ($.04$) averaged closer to prediction.^{iv} The interactions of preadmission variables with ethnicity were again assessed for covariate-by-ethnicity interactions (Stevens, 1992), which were again nonsignificant.

The marginal ethnic effect of the main analysis perhaps warrants some speculation. The decrement for blacks may be to some degree the complement of the "excess" initial interest beyond what preparation and developed abilities would have predicted. The Hispanic increment over the predicted rate may have to do with the uncommonly large proportion, over 50%, of their science-interested group who wanted to go into engineering, the science area where persistence is highest. These speculations notwithstanding, however, the main result of this analysis of ethnic group residuals is not significant: preadmission variables accounted for a significant fraction of the variance of persistence decisions and ethnicity did not. This lack of ethnic effects on persistence echoes similar noneffects in the Hilton et al. (1989) and Astin and Astin (1993) regression analyses.

Overview

For our subjects, the combined effects of persistence, recruiting, and termination left 45.2% of the entire incoming group of Asians, 30.1% of whites, 27.8% of Hispanics, and 16.6% of blacks still majoring in science after 4 years. By comparison, a recent NSF report (National Science Board, 1993) gives corresponding percentages of all science degrees (among all bachelor's degrees given in 1991) as 33.1% for Asians, 14.0% for whites, 10.3% for Hispanics, and 12.4% for blacks. Astin and Astin (1993) reported corresponding figures of 35.9%, 16.6%, 13.1%, and 16.1%. The Asians, whites, and Hispanics in our selective sample did much better, but the blacks, though also highly selected, did not.

Figure 1 shows the conventional grade-point averages (GPAs) of the different ethnic groups, for each year and by kind of major: science in panel A and nonscience in panel B. As is typical, grades in humanities and social sciences were generally higher than those in science, even though the average Academic Index (AI) in the nonscience majors was significantly lower, by 0.4 S.D., than that in science. Grades in nonscience majors rose more steeply from the first to the final year; indeed, grades of science majors did not on average rise at all in the second year, and for minority groups they fell. The ordering of the ethnic groups was the same, regardless of year or category of major.

We used these data to test a common hypothesis, the "late bloomer" hypothesis: that is, that non-Asian minority groups will close the initial gap with whites and Asians after they have made their adjustments to a putatively strange, unsettling, elite, largely white collegiate world. The dependent measure was the difference between first- and fourth-year GPA, by group and category of final major. The effect of major category was very large

(FBI, 4186) = 64.5, $p < .0001$), the effect of ethnic group nonexistent ($F < 1$), and the interaction of ethnicity and major category marginal ($F_{(3, 4186)} = 2.37$, $p < .07$). This last

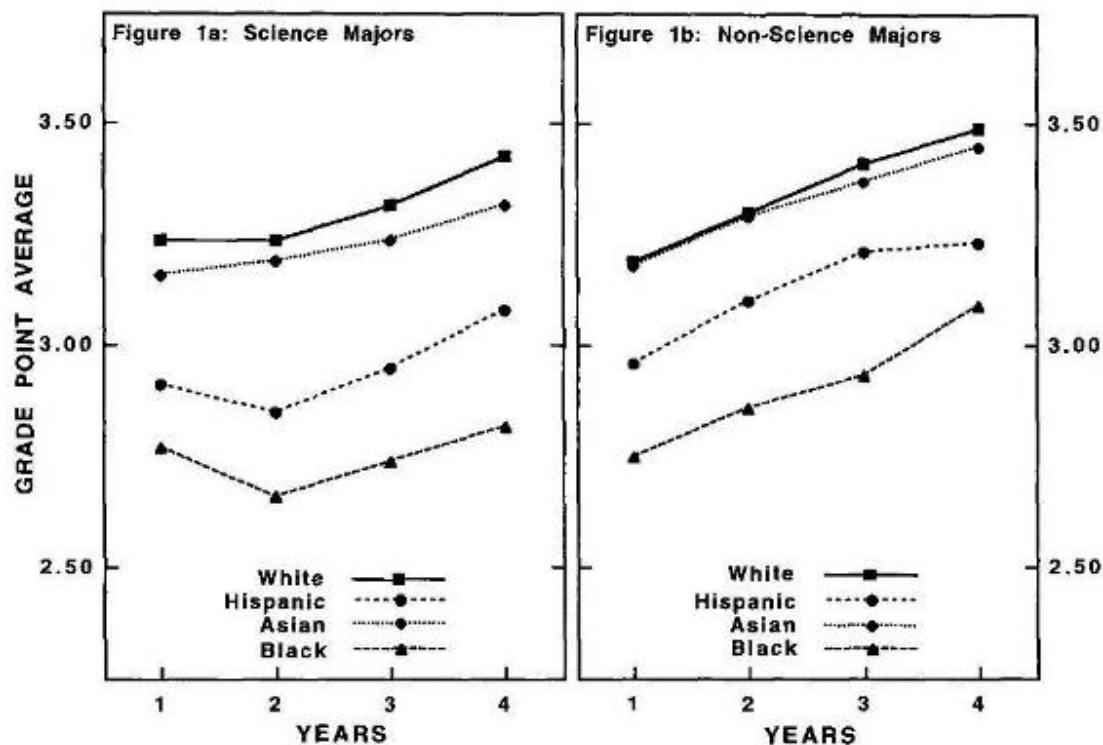


FIG. 1. Average grades by year, ethnic group, and division.

result arose from the very small net upward shift over years for blacks who majored in science, and it may have something to do with the fact that their average science grade in the first 2 years (SGPA = 2.40) was 1.3 S.D.s lower than the average SGPA of white and Asian science majors (3.16), a very difficult competitive position. But the chief result here was one found in every longitudinal test of the "late bloomer" hypothesis we know of (Elliott and Strenta, 1988; Wilson, 1980, 1981): non-Asian minorities do not catch up with whites and Asians over time. Astin and Astin (1993) reported, in fact, that the African-Americans in their longitudinal sample had lost relative ground on quantitative tests (e.g., from SATM to GREQ) over 4 years, probably because they were less likely to have studied in quantitative areas.

Many discussions of choice of, and persistence in, science do not employ many of the variables used here—achievement test scores and scores derived from high school transcripts—because they are unavailable or difficult to get. But many investigators do have SAT scores for analysis. We therefore present a more detailed analysis of the SATM scores—their relation to various choices and their distribution—to facilitate comparisons with other work. Figure 2 illustrates the general relation between SATM scores and the rate, at any score level, of majoring in science in this sample. For scores below 640 the rate was low and moderately rising. Above 640, there was a steep increase in rate with score level until at the top two score levels over half the students majored in science. Indeed, 89% of all

science majors had SATM scores of 650 or more, and 70% had scores at or above 700. The implications of these figures for the representation in science majors of Hispanics and blacks, of whom only 53% and 25%, respectively, had scores of 650 or more, are negative.

The leftmost panel of Table 3 shows the SATM score distribution for each ethnic group, as proportions of each group falling within three broad score categories: <550, 550-640, and 650-800. The middle and rightmost panels show the proportions within each score category

ETHNICITY IN CHOOSING AND LEAVING SCIENCE

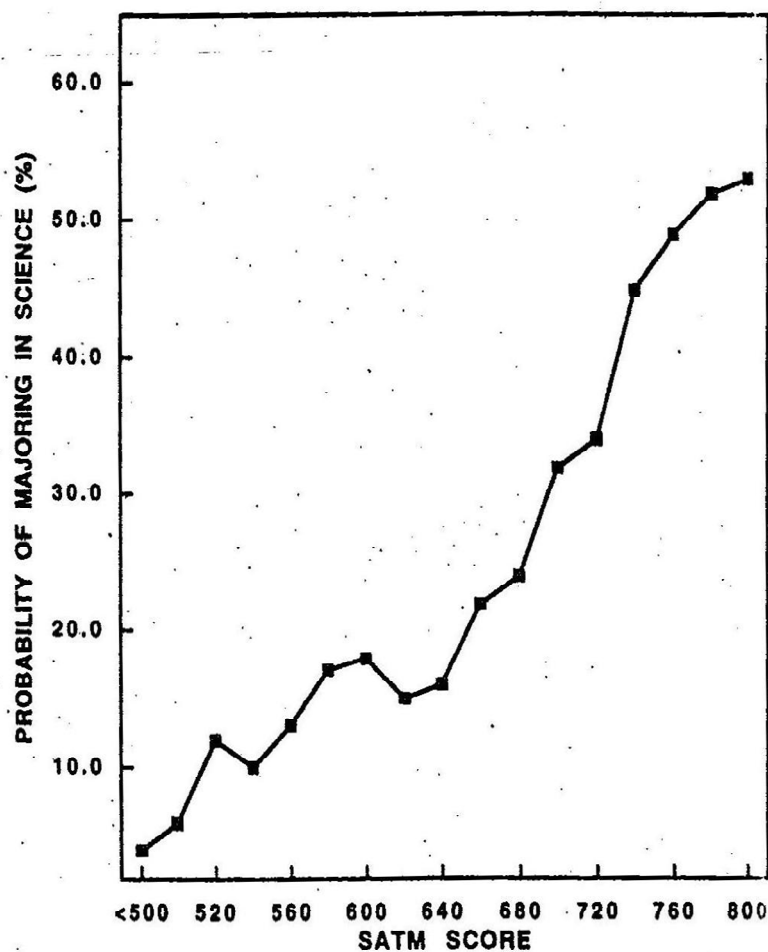


FIG. 2. Probability of majoring in science given a particular SATM score.

who were interested in or who majored in science, respectively. The rightmost panel shows that, given a score of 650 or better, the Asians were more likely than all others to major in science^v ($\chi^2 = 32.2$, $df = 3$; $p < .001$); the proportions for the other groups were not different. Given a middling score of 550-640, both Asians and Hispanics were relatively

more likely to major in science ($\chi^2 = 25.3$, $df = 3$, $p < .001$) than blacks and whites, and within each of those pairs there was no difference. Particularly noteworthy is the fact that, score level for score level, roughly the same proportions of blacks as whites majored in science, and at the highest level where the vast majority of the majors came from, Hispanics were also the same as blacks and whites.

TABLE 3. Distribution of SATM Scores and Science Choice by Ethnic Group

Group	Percent in Each Score Category								
	Of All Students			Interested in Science			Who Majored in Science		
	<550	550-640	>640	<550	550-640	>640	<550	550-640	>640
ASIAN	— ^a	10.0	89.1	— ^a	36.8	57.3	— ^a	26.3	47.6
WHITE	2.1	18.8	79.1	11.3	22.3	47.4	5.6	13.0	35.4
HISP.	10.0	37.0	53.1	23.8	46.2	46.4	4.8	32.1	29.5
BLACK	23.8	51.0	25.2	33.3	46.6	48.8	7.4	13.2	30.2
TOTAL	3.9	21.0	75.1	24.2	29.6	48.9	6.7	15.4	36.9

^aCell size <10.

These data may assist us in dealing with the most obvious disparity in results concerning persistence in science among talented non-Asian minority students. We refer to the results of Hilton et al. (1989) on students who aspired to major in science or engineering and had SATM scores of 550 or better. Our persistence rates of 70% for Asians, 61% for whites, and 55% for Hispanics are similar to the corresponding rates of 70%, 55%, and about 60% for the groups of students studied by Hilton et al., but their rate for persistence by blacks was nearly double ours, 62% vs. 34%. Can this disparity be reconciled?

Whether it can be completely or not, we think the size of the discrepancy is more apparent than real, for several reasons.

First, to mention probably the smallest contribution to it: over half the non-Asian minority subjects in Hilton et al. (1989) were prospective engineers (compared with 42% of our black and Hispanic science intenders), and engineering is the field of highest persistence. Second, their subjects were selected from SAT takers who had SATM scores of 550 or higher in

1984-85, intended to major in science or engineering, and were later asked, in February 1987, what they were doing. Of the half who responded to the questionnaire, 61% were in a 2-year or 4-year college or university and either majoring or intending to major in science or engineering: i.e., they were persisters. But a few of those persisters had less than a year of higher education, and virtually none would have completed more than three semesters. Persistence in sciences, especially outside of engineering, can by no means be assumed at that point in a career—there is a substantial outflow from the science pipeline after the second year (NSF, 1990; Massey, 1992). In a large-scale study of persistence in engineering, for example, a third of black and a fifth of Hispanic attrition occurred after four semesters (Phillips, 1991). Thus, the 61% overall figure would probably have diminished in the next 2 to 3 years by some nontrivial amount.

Third, and most challenging, Hilton et al. (1989) give the figures for black persisters in six Ivy League schools, including three of those studied here, and they show 58% persistence,

well above our 34%. Perhaps the postsophomore attrition just mentioned would bring the figures together, but so might other influences. The 93 black students in those institutions in the Hilton et al. sample were, we estimate, about a third of all the black students on those campuses interested in science, and they may well have been among the best ones, both because none were below 550 in SATM, and because, within the study sample, self- and institutional selection may have worked to that end. In our sample, nearly a quarter of the black students had SATM scores below 550, and while a third of that group were initially interested in science, only a fifth persisted. At the other end, the persistence rates of blacks in our sample with SATM scores of 650 or more was 59%, about the same as the figure of 61% for whites.

Finally, Phillips (1991), reporting on engineering students who began higher education, as most of Hilton et al. (1989) students did, in 1985, and who also had SATM scores of 550 or more, gave graduation rates as of 1990 as 62% for blacks, 58% for Hispanics, and 83% for nonminority students (these high rates for all groups presumably result from engineering being the science under investigation). Here, in very large samples going well past the third semester, the majority-minority persistence difference reasserts itself, even in talented groups. Whites and Asians in such selected groups will still have higher means on SAT scores and high school grades, as they did in the Hilton et al. samples, and can be expected therefore to persist more.

We believe, in short, that the Hilton et al. (1989) results are unusual: the facts that their sample was truncated at the low end, and that their students attended a wide range of institutions and were very early in their college careers when they responded, complicate the comparison with other results, including our own.

GENERAL DISCUSSION

Though non-Asian minority students in this sample had strong interests in pursuing science as a concentration, their persistence in that choice was below average, by a small amount for Hispanics and a large one for blacks. It was the preadmission variables describing developed ability—test scores and science grades—that accounted chiefly both for initial interest and for persistence in science, though being black clearly added something to initial interest. These results—the noneffects of ethnicity on persistence—echo those of Hilton et al. (1989) and Astin and Astin (1993), who in predicting persistence using elaborate regressions with large data sets found no significant ethnic effects. Even so, the persistence of blacks was in our case very low.

Why are so many talented minority students, especially blacks, abandoning their initial interests and dropping from science when they attend highly selective schools? The question has many possible answers, but we will begin with the factor we think most important, the *relatively* low preparation of black aspirants to science in these schools, hence their poor competitive position in what is a highly competitive course of study. As in most predominantly white institutions, and especially the more selective of them (Ramist, Lewis, and McCamley-Jenkins, 1994), whites and Asians were at a large comparative

advantage by every science-relevant measure (see Table 2), and on the composite predictor, the Academic Index, they were at a 1.75 S.D. advantage.

That it is the comparative rather than the absolute status of the qualifications is clear from two strands of evidence. First, students at historically black colleges and universities (HBCUs) have quite low average SAT scores and high school grades (*The College Handbook*, e.g., College Board, 1988c, or any recent edition; *Barron's Profiles of American Colleges*, e.g., 1988, or any recent edition), but they produce 40% of black science and engineering degrees with only 20% of total black undergraduate enrollment (Cullotta, 1992; Phillips, 1991). For example, with SATM scores averaging about 400, half the students at Xavier University are reported to be majoring in natural science (Cullotta, 1992); with scores somewhat higher (about 450), Howard University is the top producer of black undergraduate science and engineering degrees (Suter, 1993; Cullotta, 1992). It may be that many of these students will not progress to higher degrees in science in the same proportions that students with an Ivy League science education do; but it is a virtual certainty that no one goes on in science without either majoring in it or taking a well-prescribed premedical (or predental or preveterinarian) science program. You can't play if you don't stay, and leaving science or premed for education or history usually means leaving science or premed forever.

And enough of the graduates of HBCUs do go on in science to establish an interesting and significant fact: of the top 21 undergraduate producers of black Ph.D.s during the period 1986-1993, 17 were HBCUs and none were among the 30 or so most selective institutions that so successfully recruit the most talented black secondary school graduates (Thurgood and Clarke, 1995, Table 5). Cullotta (1992) quoted a biology professor from one of the HBCUs: "The way we see it, the majority schools are wasting large numbers of good students. They have black students with admission statistics [that are] very high, tops. But these students wind up majoring in sociology or recreation or get wiped out altogether." In fact, at our institutions, non-Asian minority students tend to shift out of science rather than to drop out altogether.

We think it certain that more of the black students in our sample would have persisted in science had they been, say, at Howard, but more of them would also have persisted at any of several majority white institutions as well, and that brings us to the other strand of evidence for the competition argument. It appears in Table 4, which we calculated from data tapes kindly supplied to us by Warren Willingham from the data sets on nine private colleges he studied for his book, *Success in College* (1985). We have added the data of two others. The table shows how science degrees are distributed within each institution as a function of terciles of the SATM distribution; institutions are listed in descending order of average SATM score. Thus, in institution A, over 53% of all the science degrees given were earned by students whose SATM scores were in the top third of its SATM distribution, averaging 753. A similar percentage of all the science degrees given in institution J were earned by students in the top tercile of *their* SATM distribution, but the average of that tercile was much lower, at 591. That figure lies just below the figure for black students in our sample (Table 1), but it is also just above the score of 581 that characterizes the bottom tercile of Institution A, where only 15% of the science degrees were awarded.

The table makes clear two things about these and presumably similar schools: first, the proportions of science degrees awarded, by terciles of the SATM distribution, are about 54%, 31%, and 15%. Second, the same SATM score may be associated with any of these terciles, depending on the selectivity and general level of developed ability that may characterize an institution. Put concretely, a student with an SATM score of 580 who wants to be in science will be three or four times more likely to persist at institutions J and K, where he or she is competitive, than at institutions A and B, where he or she is not. Institutions F—K are only about half as likely to give science degrees—with only about 15% of their degrees in science—as institutions A—E, which average 28% science degrees. Still, a 54% chance of getting one

TABLE 4. Percentage of Earned Degrees in the Natural Sciences as a Function of Terciles of the SATM Distribution in 11 Institutions

Institution	Tercile 1		Tercile 2		Tercile 3	
	% Degrees	SATM	% Degrees	SATM	% Degrees	SATM
Institution A	53.4	753	31.2	674	15.4	581
Institution B	57.3	729	29.8	656	12.9	546
Institution C	45.6	697	34.7	631	19.7	547
Institution D	53.6	697	31.4	626	15.0	534
Institution E	51.0	696	34.7	624	14.4	534
Institution F	57.3	688	24.0	601	18.8	494
Institution G	62.1	678	22.6	583	15.4	485
Institution H	49.0	663	32.4	573	18.6	492
Institution I	51.8	633	27.3	551	20.8	479
Institution J	54.9	591	33.9	514	11.2	431
Institution K	55.0	569	27.1	472	17.8	407
Medians	53.6		31.4		15.4	

Note: Percentages indicate the proportion of natural science degrees awarded to students as a function of terciles of the SATM score distribution. SATM numbers are mean scores for each tercile, which vary depending on the selectivity and general level of developed ability that characterizes an institution. SATM is the score on the mathematical reasoning section of the Scholastic Assessment Test.

of the 15% of the degrees that are in science is nearly twice as good as a 15% chance of getting one of the 28% of degrees that are in science. Our institutions are collectively like A: 51.6% of the science degrees were given to top tercile students, 31.5% to middle tercile students, and the rest, 16.9%, to the bottom tercile. The associated mean SATM scores were, respectively, 753, 695, and 607, the last figure being exactly the mean score for blacks interested in science in our sample.

The gap in developed ability between the white-Asian majority and non-Asian minorities, especially blacks, especially in science, results from institutional policies of preferential admission from pools differing in measures of developed ability and achievement at the point of entry into higher education, as the Method section (see Subjects) made clear. These policies subserve the several goals collectively categorized as diversity or affirmative action goals, and these institutions are firmly committed to these admissions practices. That being the case, non-Asian minority students initially aspiring to science will continue for some time to bear a cost in lower grades and in altered academic and vocational goals. It may well be a cost such students regard as worth bearing in return for benefits in quality of

education, variety of points of view, richness of social experience, prestige of degree, or enhancement of career prospects. Still, it is a serious cost that should be acknowledged, and minimized if possible.

There are several methods and combinations of methods that have been proposed to reduce the gap, and they can be categorized into three general groups: direct inducements to, or requirements for, greater study, more general support (mentoring, advising, group work and meetings, internships, and monetary incentives), and the elimination of institutional racism. It is possible that some features of some of the better-known intervention programs designed to increase the number of minority scientists are transportable to highly selective institutions. We discuss three of them briefly.

The Meyerhoff scholars program (Gibbons, 1992; Hrabowski and Maton, 1995; Mercer, 1994) at the University of Maryland, Baltimore County (UMBC), selects some 40 bright African-American students (who must have a B average and, currently, a minimum SATM of 600, and whose average SATM is 650) from among some 600 applicants from schools throughout the state; offers tuition, fees, room and board, and a stipend; requires a 6-week program of science and math courses in the summer prior to matriculation; requires a B average to be maintained (this motivational device could not be employed at our schools, which give only need-based aid); provides a program community, including group meetings and common housing; encourages group study and the use of tutoring; links the students with scientists and engineers as mentors; and provides summer internships in various labs.

The program appears to be very successful both in grade performance (no student had gotten a grade below C) and persistence (only three had left the program, which began in 1989) as of the June, 1994, report in the *Chronicle of Higher Education* by Mercer. A recent study of its first three cohorts (Hrabowski and Maton, 1995) found the Meyerhoff scholars getting freshman GPAs averaging 3.5, while a historical comparison group of black science students (most of whom who had entered UMBC between 1980 and 1989), matched on SAT and high school grades, averaged only 2.8, with the biggest part of the difference coming in science courses, particularly calculus and chemistry. There are some problems with historical comparisons, as the authors recognize. Also, Meyerhoff students may get special instruction in calculus and chemistry in their summer program, and perhaps be graded somewhat less rigorously in summer.

Still, it is easy to believe that the Meyerhoff scholars are doing well, and it would be easy to believe that they are doing somewhat better than they would have done without the program features that exercise and reward the further development of their talent for science. But UMBC is not an unusually selective institution (the white students there average well below 650 SATM): an SATM average of 650 characterizes African-Americans at such places as Harvard and MIT, but virtually nowhere else. So the competitive advantage of the Meyerhoffs should not be taken lightly as a contributor to their success. The program is selective and voluntary, which makes control for motivation by random allocation nearly impossible. The hypothesis that the white-black performance gap, at least in the case of the Meyerhoff scholars, has been eliminated at UMBC simply by eliminating any gap in entering developed abilities cannot, therefore, be rejected on any evidence given so far.

One of the public technical schools vying for the enrollment of talented non-Asian minority students is Georgia Institute of Technology (Georgia Tech), which also has a well-known program, the Challenge Program, devoted to the recruitment and retention of black and Hispanic scientists and engineers. In its present form, as described by Smothers (1994), this voluntary program begins with a 5-week summer program of the study of calculus and chemistry, with an option to take a credit course in psychology in order to reduce the regular fall term course load. There are also provisions for mentoring and counseling, and an annual awards banquet, but before the introduction of the summer program in 1990, these had done little to improve grades and retention. A report of the program's results (Hume, 1994) shows that the black participants now get grades that are better than those of their black nonparticipating compeers, and nearly as good as those of all Tech students (primarily whites, but including the minority students). Retention rates for classes entering in 1990 and 1991 appear to be higher than those of all Tech students entering in those years. For the Hispanic students, the Challenge program has made little difference, but their grades and retention rates appear to equal or surpass the average for the institution anyway. The advantage for the program participants in GPA is highest in the first term, and drops off to varying degrees thereafter, a fact that points to the summer session as perhaps the chief contributor to program success. (The somewhat longer summer session of the Meyerhoff program may have played a similar role in its effect on freshman grades, cited above. We do not know whether the advantage conferred by that program, however large it might be, also fades with time.)

Again, it is difficult to tell how much is contributed by the Challenge Program without knowing the data on the level of developed ability brought to it by the various groups. Because participation is voluntary, a random allocation study is unfeasible, so motivation would remain uncontrolled; but a regression of retention or GPA on preadmission scores and grades, with program status added as a predictor, might indicate how much might be due to the program itself. It looks to us as if the largest effect in both of these programs, Meyerhoff and Challenge, may be on retention. Why might that be?

A relatively ill-prepared student has a higher than average likelihood of getting one or more shockingly bad grades, perhaps his or her first bad grades, in a rigorous college science course in the first term. One response is to leave school or leave science. But if the student has just finished a 5- or 6-week summer course emphasizing the very materials offered in that first term, or making possible a reduced first term course load, there is less chance for such failure, and less defection from science. The improvement in grades may fade—after all, there will be no more preparatory summer programs—but the student will have gotten over the first and most difficult hurdle. In data cited by Massey (1992), 40% of black students entering college immediately after high school left in the first year, and the figure for science aspirants may well have been higher. The summer sessions of these two programs are ideally suited to provide help when it is most needed. An important feature of them, emphasized by both sponsoring institutions, is that they demand hard work on college-level material.

How might such a program be adapted for our institutions? To require it of non-Asian minority-aspiring scientists below some level of preparation would be coercive and might be stigmatizing and unpopular. If the program were voluntary, and were minority only, it might have some of the effect of the Challenge or Meyerhoff programs, though such exclusiveness might be neither necessary nor wise. In our sample, the number of students initially interested in science, and who had SATM scores less than 600, was 139-67 blacks, 42 whites, 23 Hispanics, and 7 Asians—or about 35 per institution. It might be feasible to offer these students such a summer session, and if voluntary and multiracial, it would scarcely be stigmatizing. There might be equity problems near the border—What about students scoring 600 or 620 or even 640—but even if the cutoff were raised to 650, there would be only 81 students eligible per institution (46% black and Hispanic), and many would not come. At the higher cutoff, because of the increased numbers, there is some tension between the ideals of compensation (minorities only) and integration (all students who are eligible) when money is, as it usually is, tight, but the lower cutoff at 600 might serve most goals quite well. Similar calculations could be done by any majority white selective school.

Most of the other features of the two programs considered seem to us less useful than working on essential course material—nothing is quite so motivating to a student as succeeding at the serious business of learning. For that reason, any method of encouraging continued hard work would be important. One of the best-known methods of encouraging hard work among minority students was devised by Treisman (1992; see Fullilove and Treisman, 1990, for an evaluation), who recruited black and Hispanic students at Berkeley and later at Texas to special sections of calculus classes where they put in an extra 4 hours beyond what they would ordinarily have done, spent in small groups working on challenging problems, inevitably teaching and learning from each other and doing whatever remedial work might be necessary in that context. Calculus is prerequisite to most sciences, so that its successful completion is critical to advancement in science.

Such selected students had stated an interest in a science or math career, had been specially invited to "honors" sections, and had accepted. Clearly they were more motivated than the average student in their comparison groups, and they also had slightly but not significantly higher SATM scores than those who elected not to participate, with both groups having medians in the 470-540 range. That they did significantly better than their comparisons, both in grades and in persistence, is no surprise. More persuasive of the program's power is the evidence that the nonparticipant minority controls performed the same as all the minority students (the comparisons reported were exclusively concerned with black students) had done prior to the intervention, which means that the program was offering a new way of enlisting the motivation and realizing the potential of at least some substantial fraction of the black population.

A later evaluation of the method (Bonsangue, 1994), done on a largely Hispanic population of beginning science students at California Polytechnic State University, arrived at similar conclusions and added data on comparisons with white and Asian students not in the program. Again, minority students who volunteered for the program did far better in the first quarter of calculus, by close to a full grade, than nonprogram minority students with

similar SAT scores and high school grades. They also scored half a grade better than the large group of whites and Asians taking calculus, even though the latter averaged 70 points higher on SATM. Some of the gains faded in the second year, when the program group got slightly lower calculus grades than the white-Asian group, but the 3-year persistence rate of the program students was far better than that of any other comparison group.

The relevance of the Treisman model to highly selective institutions is uncertain. Certainly the establishment of so-called "honors" sections exclusively for blacks and Hispanics would have doubtful merit—the white-Asian "nonhonors" students in calculus would average over 700 on the SATM. But making available sections devoted to workshop problem solving would be undoubtedly useful for those of any ethnicity who volunteered for them. We do not feel that excluding all or most white or Asian volunteers from such groups is a good idea, particularly at private institutions. Race relations are difficult enough without keeping majority students from access to curricular methods of presumed efficacy. There seems every reason to encourage, though little to require, students to attend such groups; they would appear to be especially effective for students who are highly motivated and near some threshold of advanced understanding.

In sum, we believe there are some grounds for considering that prematriculation summer sessions, as described, and the provision of group problem-solving sessions associated with calculus and perhaps other science courses, would palliate the effects of relatively poor preparation for science. It seems especially important that these curricula be demanding and not remedial. The white-black gap is sufficiently large and these interventions are sufficiently small in scope and unproven in effect that we would anticipate continued large differences in persistence, though a little smaller than what now obtains. In addition, we can repeat a suggestion we gave in our report on science and gender (Strenta et al., 1994): Let secondary schools know quite specifically what sort of preparation typical successful science majors at these institutions have had. Black and Hispanic students in our sample took far fewer AP courses in physics, chemistry, and calculus than did whites and Asians, and they should learn early in their high school careers what they ought to be taking if they aspire to study science in highly selective institutions.

Finally, with respect to the question of institutional or any other sort of racism, it was in our sample remarkable for its absence. The only significant ethnic effect in our analyses of full-sample data was in initial interest, a measure that preceded matriculation. On a questionnaire^{vi} answered by 33 black and 25 Hispanic science majors, and 36 black and 26 Hispanic dropouts from science, only one (a defector from science alleging a lack of support for a woman of color engineer) said anything about racism. Neither these comments nor anything else in the questionnaire seemed to us to constitute even a small indictment of these institutions as being inhospitable, much less racist. The chief problems for non-Asian minority students aspiring to science majors would appear to be not institutional racism, but rather a relative lack of preparation and developed ability.

Acknowledgments. We especially thank John Jalowiec, Ph.D., who was the indispensable central figure in organizing, coding, and entering the vast quantities of data that flowed into his files; and the deft constructor of the tables and figures of this report. Many others provided essential assistance on this project: Oscar Larsen (Cornell) and Mark Gloria (Brown) formatted data files at their respective institutions; Kathleen Gemmel

(Cornell) provided feedback on early versions of the questionnaire survey instrument; and George Wolford and Jay Hull (Dartmouth) gave generously of their statistical advice. This work was supported by grants from the National Science Foundation (RED 93 53 821) and from the Alfred P. Sloan Foundation.

NOTES

1. "Ethnic" includes "racial" in our discussion. We omit Native Americans as a group because there were too few of them (34, with only 9 interested in science) for analysis. Also excluded were foreign students ($N = 266$) and "others" ($N = 333$).
2. The precise mix of Mexican Americans, Cubans, Puerto Ricans, and others will usually not be known. Because of the varying subgroup composition of Hispanic samples, their place in relation to other groups will vary from study to study.
3. The same result was found when a MaxR^2 stepwise regression model was employed. The variable "black" entered after the six preadmission variables, was significant ($p < .0001$), and raised the R^2 from .203 to .207. Neither "Hispanic" nor "Asian" was significant.
4. MaxR^2 regression analysis produced a similar result: in the nine-variable model (six preadmission variables plus the three nonwhite ethnic groups), "black" was marginally significant ($p < .10$) and the other groups were not.
5. This fact does not contradict the lack of an ethnic effect on persistence, since it is based on SATM alone, with regard neither to initial interest nor to the several other predictors employed in that analysis.
6. The analysis of the questionnaire, contained in a report of these data to NSF, is available from the authors.

REFERENCES

- Astin, A. W., and Astin, H. S. (1993). *Undergraduate Science Education: The Impact of Different College Environments on the Educational Pipeline in the Sciences*. Los Angeles, CA: Higher Education Research Institute, UCLA.
- Barron's Profiles of American Colleges, 16th ed. (1988). New York: Barron's Educational Series.
- Bonsangue, M. V. (1994). An efficacy study of the calculus workshop model. *Research in Collegiate Mathematics Education 1*: 1-19.
- Chipman, S. F., and Thomas, V. G. (1987). The participation of women and minorities in mathematical, scientific, and technical fields. *Review of Research in Higher Education 14*: 387-430.
- College Board (1988a). *College-Bound Seniors: 1988*. New York: College Entrance Examination Board.
- College Board (1988b). *1988 Advanced Placement Program: National Summary Reports*. New York: College Entrance Examination Board.
- College Board (1988c). *The College Handbook*, 26th ed. New York: College Entrance Examination Board.
- Culotta, E. (1992). Black colleges cultivate scientists. *Science 258*: 1216-1218.
- Dunteman, G. H., Wisenbaker, J., and Taylor, M. E. (1979). *Race and Sex Differences in College Science Program Participation*. Research Triangle Park, NC: Research Triangle Institute.
- Elliott, R., and Strenta, A. C. (1988). Effects of improving the reliability of the GPA on prediction generally and on comparative predictions for gender and race particularly. *Journal of Educational Measurement 25*: 333-347.
- Fullilove, R. E., and Treisman, P. U. (1990). Mathematics achievement among African-American undergraduates at the University of California, Berkeley: An evaluation of the Mathematics Workshop Program. *Journal of Negro Education 59*: 463-478.
- Gibbons, A. (1992). Minority programs that get high marks. *Science 258*: 1190-1196.
- Green, K. C. (1989). A profile of undergraduates in the sciences. *American Scientist 77*: 475-480.
- Hewitt, N. M., and Seymour, E. (1991). *Factors Contributing to High Attrition Rates Among Science, Mathematics, and Engineering Undergraduate Majors*. Report to the Alfred P. Sloan Foundation. Boulder, CO: Bureau of Sociological Research, University of Colorado.
- Hilton, T. L., Hsia, J., Solorzano, D. G., and Benton, N. L. (1989). *Persistence in Science of High Ability Minority Students*. Princeton, NJ: Educational Testing Service.
- Hrabowski, F. A., and Maton, K. I. (1995). Enhancing the success of African-American students in the sciences: Freshman year outcomes. *School Science and Mathematics 95*: 19-27.
- Hume, R. (1994). *The Challenge Program: A Review of Student Retention and Academic Performance*. Georgia Institute of Technology Office of Minority Educational Development.
- Humphreys, S., and Freeland, R. (1992). *Retention in Engineering: A Study of Freshman Cohorts*. Berkeley, CA: University of California, Berkeley.

- Manis, J. D., Thomas, N. G., Sloat, B. F., and Davis, C. (1989). *An Analysis of Factors Affecting Choices of Majors in Science, Mathematics, and Engineering at the University of Michigan*. Ann Arbor, MI: Center for Continuing Education of Women, University of Michigan.
- Massey, W. (1992). A success story and decades of disappointment. *Science* 258: 12001201.
- Mercer, J. (June 22, 1994). Guiding black prodigies. *Chronicle of Higher Education*, pp. A22, A24.
- National Science Board (1993). *Science and Engineering Indicators-1993*. Washington, DC: U.S. Government Printing Office (NSB 93-1).
- National Science Foundation (1990). *Future Scarcities of Scientists and Engineers: Problems and Solutions*. Washington, DC: National Science Foundation.
- Oakes, J. (1990). Opportunities, achievement, and choice: Women and minority students in science and mathematics. *Review of Research in Higher Education* 16: 153-222.
- Phillips, T. R. (1991). *ABET/EXXON Minority Engineering Student Achievement Profile*. New York: Accreditation Board for Engineering and Technology, Inc.
- Ramist, L. (1984). Predictive validity of the ATP tests. In T. F. Donlon (ed.), *The College Board Technical Handbook for the Scholastic Aptitude and Achievement Tests* (ch. 8, pp. 141-170). New York: College Entrance Examination Board.
- Ramist, L., Lewis, C., and McCamley-Jenkins, L. (1994). *Student Group Differences in Predicting College Grades: Sex, Language, and Ethnic Groups*. New York: College Entrance Examination Board (Report No. 93-1).
- Smothers, R. (June 29, 1994). To raise the performance of minorities, a college increased its standards. *New York Times*, p. A21.
- Stevens, J. (1992). *Applied Multivariate Statistics for the Social Sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Strenta, A. C., Elliott, R., Matier, M., Scott, J., and Adair, R. (1993). *Choosing and Leaving Science in Highly Selective Institutions*. Final Report to the Alfred P. Sloan Foundation. Hanover, NH: Department of Psychology, Dartmouth College.
- Strenta, A. C., Elliott, R., Adair, R., Matier, M., and Scott, J. (1994). Choosing and leaving science in highly selective institutions. *Research in Higher Education* 35: 513-547.
- Suter, L. (ed.) (1993). *Indicators of Science and Mathematics Education-1993*. Washington, DC: U. S. Government Printing Office (NSF 93-95).
- Thurgood, D. H., and Clarke, J. E. (1995). *Summary Report 1993: Doctorate Recipients from United States Universities*. Washington, DC: The National Academy Press.
- Tobias, S. (1990). *They're Not Dumb, They're Different: Stalking the Second Tier*. Tucson, AZ: Research Corporation.
- Treisman, U. (1992). Studying students studying calculus: A look at the lives of minority mathematics students in college. *College Mathematics Journal* 23: 362-372.
- White, P. E. (1992). *Women and Minorities in Science and Engineering: An Update*. Washington, DC: National Science Foundation.
- Willingham, W. W. (1985). *Success in College: The Role of Personal Qualities and Academic Ability*. New York: College Entrance Examination Board.
- Wilson, K. M. (1980). The performance of minority students beyond the freshman year: Testing a "late-bloomer" hypothesis in one state university setting. *Research in Higher Education* 13: 23-47.
- Wilson, K. M. (1981). Analyzing the long-term performance of minority and non-minority students: A tale of two studies. *Research in Higher Education* 15: 351-375.

The Causes and Consequences of Attending Historically Black Colleges and Universities

From National Bureau of Economic Research, Working Paper 13036, April 2007

Authors: Roland G. Fryer and Michael Greenstone.

Foreword: We are grateful to David Card, David Cutler, Bryan Graham, Chang-Tai Hsieh, Lawrence Katz, Henry Louis Gates, Jr., Edward Glaeser, Lani Gunier, Caroline Hoxby, Glenn Loury, Enrico Moretti, Andrei Shleifer, Lawrence Summers, colleagues at the Mellon Foundation, and participants in numerous seminars. Fryer is especially thankful to the Michor family in Kritzensdorf, Austria for their support and generous hospitality while working on the paper. This paper makes use of the College and Beyond (C&B) database. The C&B database is a restricted-use database. Researchers who are interested in using the database may apply to the Andrew W. Mellon foundation for access. Sam Schulhofer-Wohl, Sheldon Bond, Jörg Spenkuch, Elizabeth Greenwood, and Paul Torelli provided exceptional research assistance. All errors are our own. The views expressed herein are those of the author(s) and do not necessarily reflect the views of the National Bureau of Economic Research.

© 2007 by Roland G. Fryer and Michael Greenstone. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Abstract

Until the 1960s, Historically Black Colleges and Universities (HBCUs) were practically the only institutions of higher learning open to Blacks in the US. Using nationally representative data files from 1970s and 1990s college attendees, we find that in the 1970s HBCU matriculation was associated with higher wages and an increased probability of graduation, relative to attending a Traditionally White Institution (TWI). By the 1990s, however, there is a wage penalty, resulting in a 20% decline in the relative wages of HBCU graduates between the two decades. We also analyze the College and Beyond's 1976 and 1989 samples of matriculates which allows us to focus on two of the most elite HBCUs. Between the 1970s and 1990s, HBCU students report statistically significant declines in the proportion that would choose the same college again, preparation for getting along with other racial groups, and development of leadership skills, relative to black students in TWIs. On the positive side, HBCU attendees became relatively more likely to be engaged in social, political, and philanthropic activities. The data provide modest support for the possibility that HBCUs' relative decline in wages is partially due to improvements in TWIs' effectiveness at educating blacks. The data contradict a number of other intuitive explanations, including relative decline in pre-college credentials (e.g., SAT scores) of students attending HBCUs and expenditures per student at HBCUs.

Introduction

Historically Black Colleges and Universities (HBCUs) have a proud and storied role in the education and progress of Blacks in America. For nearly a century, Historically Black Colleges and Universities (HBCUs) were practically the only institutions of higher learning open to Blacks in the US. Today, roughly 20% of all college going Blacks chooses to attend one of the 103 HBCUs and these institutions are responsible for 22% of current bachelor's

degrees granted to Blacks. W.E.B. Dubois (Wilberforce), Ralph Ellison (Tuskegee), Martin Luther King, Jr. (Morehouse), Thurgood Marshall (Lincoln), Ruth Simmons (Dillard), and Oprah Winfrey (Tennessee State) headline a long list of famous HBCU alumni. Among Blacks, 40% of all congressmen, 12.5% of CEOs, 50% of professors at non HBCUs, 50% of lawyers, and 80% of judges are HBCU graduates.²⁴⁴

HBCUs' successes are in no small part due to their substantial financial support from federal, state, and to a lesser degree, local governments. Between 1977 and 2001, 61% to 73% of public HBCUs revenues came from public funds. While numbers are smaller for private HBCUs, public support still accounts for nearly a third of total revenues. In the years 1999-2001, annual total public support of HBCUs averaged roughly \$2.65 billion (2005\$) (Provasnik et al. 2004).

Despite their past successes and historical importance, HBCUs are at a crossroads today. In *U.S. v. Fordice* (505 U.S. 717 (1992)), the Supreme Court instructed state legislatures to find "educational justification" for the existence of HBCUs or integrate them; the latter would completely alter their mission. In response, some HBCUs experienced declines in enrollment, others have pursued dramatic increases in the fraction of non-Black students, and a number of HBCUs have seen important declines in their financial positions.²⁴⁵

The Supreme Court's call for an "educational justification" is surely related to the absence of convincing evidence on the causes and consequences of attending an HBCU for Blacks. HBCU proponents claim that they provide an idyllic learning environment that is free from the pressures of discrimination and racism. It is also argued that HBCUs help to build important social capital for Blacks by engendering a strong sense of communal responsibility and civic consciousness and providing networking opportunities for high achieving Blacks (Drewry and Doermann 2001). If these arguments are correct, then HBCUs offer unique opportunities for educational and social development of Black students and the argument for remaining segregated seems justified.

On the other hand, it is possible that HBCUs are inferior to Traditionally White Institutions (TWIs) in preparing Blacks for post-college life. If students are taking less challenging courses from less distinguished faculty, have access to poor resources, or are not investing in the social skills necessary to interact with diverse sets of people, then graduates will perform poorly in the labor market and have inferior non-labor market outcomes. In this scenario, the case for supporting HBCUs with public resources appears weak.

This paper empirically assesses the causes and consequences of HBCU attendance so that the future decisions by governments, students, and parents are based on evidence, rather

²⁴⁴ The data sources are Congressional Black Caucus (congressmen), Black Enterprise (CEOs), US Department of Education, Office of Civil Rights (professors), and Ehrenberg (1996) (Lawyers and Judges).

²⁴⁵ The ruling had an adverse effect on many HBCUs. Alcorn State experienced a 9.9% decrease in enrollment and Mississippi Valley State a 20.1% decrease. Other HBCUs, especially in North Carolina, have shown substantial increases in integration. Elizabeth City State increased from 11% white in 1980 to 23.7% in 1998, Fayetteville State from 11.9 to 22.2, North Carolina Central from 4.1 to 13.4, and Winston Salem from 11.3 to 18.0. In other states, such as Florida, the ruling has been largely ignored; Florida A&M remains 90% black.

than theories and historical anecdotes. We analyze three large data sets with adequate pre and post college information for Blacks that identify the students' choice of college and whether it is an HBCU. The data sets are: the National Longitudinal Survey of the High School Class of 1972 (NLS-72), Baccalaureate and Beyond (B&B), and the College and Beyond database (C&B). The first two datasets provide a snapshot of a nationally representative sample of HBCU students at two points in time: 1972 and 1992. The third dataset contains four HBCUs, Howard, Morehouse, Spelman, and Xavier, allowing us to take a focused look into the most elite HBCUs in 1976 and 1989. Although there are important limitations with each of these data sets, together they provide a rich portrait of the causes and labor market and non-labor market consequences of HBCU attendance. Importantly, these data sets sample college matriculates in the 1970s and 1990s so it is possible to assess how these causes and consequences changed during these two decades of dramatic social change.

The analysis uses four separate statistical approaches to adjust for pre-college differences between HBCU and TWI attendees. We begin by using the rich set of covariates on family background and high school academic achievement (including SAT scores) to fit least squares models. We then use the same pre-college covariates to implement a propensity-score matching estimator to assess the robustness of the results to functional form assumptions about the observables. These approaches are supplemented by methods that are designed to account for selection bias due to missing outcome observations (Heckman 1979) and bias which emerges when colleges admit students based partly on characteristics unobserved in our data that are positively correlated with future outcomes (Dale and Krueger 2002).

The results are robust across these four methods. However, lacking a randomized experiment or credible quasi-experiment, thorny issues of selection may remain. Consequently, we urge caution in interpreting the results as causal.

Together the nationally representative NLS and B&B reveal an important change in the returns to HBCU attendance. In the 1970s, HBCU matriculation was associated with higher wages and an increased probability of graduation, relative to attending a TWI. By the 1990s, however, there is a substantial wage penalty. Overall, there is a 20% decline in the relative wages of HBCU graduates in just two decades. Interestingly, relative pre-college measures of student quality (SAT scores, e.g.) improved among HBCU attendees during this period, so higher achieving students were increasingly choosing these schools at the same time that the returns for attending these schools were falling behind.

The underlying source of the decline in HBCU performance is unlikely to be important for policy reasons, given the high court's stance. Nevertheless, understanding it would be of considerable interest to researchers and educational practitioners. The data fail to contradict, and in at least one specification support, the possibility that HBCUs' relative decline is partially due to improvements in TWIs' effectiveness at educating blacks. In contrast, the data contradict a number of intuitive explanations for the decline in outcomes among HBCU attendees—for example, educational expenditures per student increased more at HBCUs than at TWIs between the 1970s and 1990s.

The C&B provides a rare opportunity to assess the most elite colleges. Here too, there is evidence of a wage decline between the 1976 and 1989 cohorts but it should only be considered suggestive because these estimates are imprecise. There is stronger evidence that the later HBCU matriculates were less satisfied with their choice of college and self-reported developing fewer leadership and social skills that are valuable in post-college life, relative to TWI students. On the other hand, the later cohort was significantly more likely to be involved in political, social, and philanthropic activities.

The paper proceeds as follows. Section II provides a brief history of HBCUS and their important role in the education of blacks in America. Section III reviews some theoretical explanations for why blacks might benefit (or be harmed) by attending a historically black college or university. Section IV presents the data and summary statistics. Sections V and VI report results on the causes and consequences of HBCU attendance. Section VII summarizes the differences between the results from the 1970s and 1990s and assesses alternative explanations for these differences. Lastly, Section VIII concludes. A data appendix describes the details of our sample construction.

II. A Brief History of Historically Black Colleges and Universities

A. Ante-Bellum Period

The 1860 Census counted 4.4 million Black people in the United States, most of whom lived in the Southern states and were held as slaves. Prior to the end of the Civil War, teaching slaves to read or write was prohibited by law (or social custom) in many areas of the South. Still, there were three Black colleges founded before the Civil War: the Institute for Colored Youth (now known as Cheney University) was founded in Pennsylvania in 1837; Lincoln College in Pennsylvania, 1854, and Wilberforce College in Ohio, 1856. All of these universities served secondary and post-secondary students. Formal education for most blacks would not become available until after the Civil War, when the Freedmen's Bureau, black communities and their churches, and private philanthropists organized schools for Blacks (Donohue, Heckman, and Todd 2002).

B. Post-Civil War and the Second Morrill Land Grant

During the period immediately following the Civil War, there was a dramatic increase in the number of educational institutions geared toward blacks, funded primarily through groups like the American Missionary Association, the Freedmen's Bureaus, and southern state governments, especially during the Reconstruction period. Between 1865 and 1890, over two hundred private black institutions were founded in the south. Very few of these early institutions awarded bachelor's degrees. The American Missionary Association, the Freedmen's Bureaus, and other groups that were active in the early education of freed blacks played a large role in establishing some standard of education—most notably literacy—that would be important when degree granting institutions for Blacks opened en masse in the 1890s.

Most public HBCUs trace their history to the second Morrill Act, passed in August 1890. In the next decade, 16 HBCUs opened their doors. The Morrill Act allowed for the creation of a two-tier system of land grant universities, with southern and border states creating

HBCUs principally to gain access to federal funds to develop white land grant colleges. These HBCUs were largely limited to vocational training; well-known agricultural, mechanical, and technical institutions such as North Carolina A&T and Florida A&M were founded during this period.

By 1895, public HBCUs had awarded 1,100 college diplomas to black students. Yet, liberal arts education, as was offered at many public white institutions, remained unavailable to black students. During the Jim Crow era in the south that followed Reconstruction, educational opportunities for white students expanded and blacks were almost completely excluded from white institutions.

In the 1896 decision, *Plessy v. Ferguson* (163 U.S. 537 (1896)), the two-tier system of higher education, based on the incentive structure in the Second Morrill Act, became more firmly set. As a result, HBCUs began to become institutions that primarily trained teachers to teach in segregated public schools. The rapid expansion of black high schools in southern urban areas set in motion a supply-demand chain in which availability of teaching positions, supported by state treasuries, drew more black students into HBCUs to qualify themselves for teaching positions (Roebuck and Murty 1993). There became an interdependence between the public school system and HBCUs.

C. World War II and the Higher Education Act of 1965

HBCUs, as well as other institutions of higher learning, faced a funding crisis in the 1940s due to the budget cuts in educational funding associated with WWII. In 1944, the United Negro College Fund was established, raising \$765,000 for HBCUs in its first funding campaign; three times as much as had been raised by the individual colleges in the previous three years.

The landmark decision in *Brown v. Board of Education* (349 U.S. 294 (1955)) and the legislation developed to implement it improved the plight of many HBCUs. Title III of the Higher Education Act of 1965, which was devoted to “Strengthening Developing Institutions” was interpreted as primarily referring to HBCUs. As a result many HBCUs benefited greatly from the federal funds provided under Title III, funds that could be used for faculty and student exchanges, faculty improvement programs, curriculum improvements, student services, visiting scholars programs, and administrative improvements.

Despite the material gains to the HBCUs arising under the Higher Education Act, the NAACP continued a legal strategy of attacking the two-tier educational system, asking the U.S. Department of Health, Education, and Welfare to enforce the Civil Rights Act of 1964 and prohibit southern states from operating a segregated higher education system. In the 1973 case of *Adams v. Richardson* (356 F. Supp. 92 (D.D.C.), modified and aff’d, 480 F.2d 1159 (D.C. Cir. 1973)), the NAACP won, requiring that states develop desegregation strategies that would allow for a better racial mix of students, faculty, and staff in public colleges, and increase the access and retention of minorities at all levels of higher education. The ruling was primarily aimed at non- HBCUs, however, and the court made it

clear that fulfilling the ruling's mandate should not be accomplished at the expense of or detriment to traditionally black colleges

The *Adams* decision increased funding for HBCUs because the decision stated that states could not meet their mandates by closing HBCUs and that they must instead include "yardsticks" to measure the improvement of black colleges' facilities as well as their academic programs. The court's reasoning was that this was the only way possible to ensure that HBCUs would become desirable institutions for white students.

D. The Unintended Consequences of U.S. v. Fordice

On June 26, 1992, the Supreme Court decided *U.S. v. Fordice*, a decision brought by a black litigant with the chief aim of removing structural differences between HBCUs and traditionally white institutions. The plaintiff, represented by the NAACP, brought the suit because of the disparity in the number and quality of the academic programs, instructional staff, and physical plant facilities, arguing that this resulted from the "historically operated racially segregated dual systems of higher education." The court ruled that it would be wasteful to maintain the two-tier system that had been erected during an era of *de jure* segregation, noting that Mississippi had eight institutions, five white and three black, and that four of them (two white and two black) were within 25 miles of one another. The decision was a victory for civil rights lawyers, ordering Mississippi and 18 other southern states to do more to integrate its HBCUs and traditionally white institutions.

However, the ruling had an adverse effect on HBCUs because the court ordered state legislatures to find "educational justification for the continued existence" of the two parallel education systems. The consequences of this ruling for the future of HBCUs is unclear at this point, but at least three outcomes seem possible: 1) a decision that HBCUs are indispensable for the education of Blacks and an increase in public funding; 2) increased recruitment and matriculation of white students, which has the potential to undermine the unique mission and culture of these institutions; and 3) a decision that they no longer are necessary (or as necessary) and a commensurate reduction in public financial support.

The remainder of the paper assesses empirically the causes and consequences of attending HBCUs, which will help determine their "educational justification."

III. Conceptual Framework

There are at least three theories for why blacks would benefit from racial segregation of institutions of higher education. First, Tatum (1997) argues that racial grouping is a developmental process in response to racism. This argument goes that segregation by race is a positive coping strategy that allows individuals to gather support through shared experiences and mutual understanding. Second, Wilson's (1987) pioneering study of the South Side of Chicago argues that the migration of talented blacks from black neighborhoods had adverse effects on the individuals left behind. A similar phenomenon may exist for segregation across schools – low ability blacks may benefit from segregation through more intensive interactions with their high ability peers. Third, segregated social connections within schools may also reduce adverse peer interactions

resulting from interracial contact. Fryer with Torelli (2006) shows that racial differences in the social price for academic achievement are exacerbated in environments with more interracial contact.

There are also several theories for why racial segregation across colleges and universities may harm blacks. A well developed literature emphasizes the importance of peer groups (Coleman 1966), social interactions (Case and Katz 1991, Cutler and Glaeser 1997), and network externalities (Borjas 1995, Lazear 1999), especially for youths. Many argue that these effects are important in the formation of skill and values and the development of human and social capital. Moreover, segregation across schools may lead to the development of an “oppositional culture” and the enforcement of other negative behavioral norms (Ogbu 1989). Additionally, segregation across schools can prevent positive spillovers between racially defined peer groups (Lazear 1999).

A final disadvantage of the separation of racial groups across universities concerns the importance of interracial contact in mediating stereotypes and promoting understanding and tolerance. Interracial interaction generally leads to positive sentiment (Homans 1950), and fosters the creation of “bonding” and “bridging” capital (Granovetter 1973, Putnam 2000)

It is impossible to identify the separate impact of each of these channels on segregated Blacks’ well being with the available data sets. Instead, this paper’s goal is to produce reliable estimates of the net impact of HBCU attendance. The resulting “reduced form” estimates will likely reflect a number of the channels specified in this section.

IV. Data Sources and Summary Statistics

We analyze three large datasets: The National Longitudinal Study of the High School Class of 1972 (NLS-72), Baccalaureate and Beyond Longitudinal Study (B&B), and the College and Beyond (C&B) database. These data sets have been chosen because of the enormous amount of information each contains on pre-college academic performance, family background, college entry decisions, performance while in college, and later life outcomes.²⁴⁶ Throughout the analysis, the rich set of pre-college and family background variables are used as conditioning variables to adjust for observable differences between HBCU and non-HBCU matriculates in equations for the other variables. We discuss each of these sources and present summary statistics from them.

Before proceeding to this material, Appendix Table 1 provides some summary statistics on the 89 4-year historically black colleges and universities in the United States. Forty-nine of them are private institutions. They are predominantly located in the South. Together their undergraduate enrollment in the Fall of 2005 was 238,911 and there were an additional 37,151 graduate students enrolled. The fourteen historically black 2-year colleges are not included in this table.

²⁴⁶ Two other data sets collected by the National Center for Education Statistics, the National Educational Longitudinal Study 2000 (NELS) and the Beginning Postsecondary Study (BPS), are equipped to answer some of the questions posed here. Unfortunately, however, these data sets do not track individuals long enough after college completion to be useful for understanding later life outcomes.

A. The National Longitudinal Survey of the High School Class of 1972

The National Longitudinal Survey of the High School Class of 1972 (NLS-72) is a nationally representative sample of 23,451 high school seniors in 1972. Participants in the sample were selected in the Spring of 1972, and in a supplementary sample drawn in 1973. The data include a base year survey, and follow-up surveys in 1973, 1974, 1976, 1979, and 1986. Roughly 1,300 high schools are included in the sample, with an average of 18 students per school in the study.

A wide range of data is gathered on the students in the study, as described in detail at the NLS-72 website (<http://nces.ed.gov/surveys/nls72>). There is detailed information on each student's family environment, parent's education and occupation, socio-economic status, and the pre-college characteristics of each student (i.e. high school grades, college admission scores, and so on). There are also detailed records from post-secondary transcripts, collected in 1984, and high school records. Important for our purposes, a six digit identification number was assigned to educational institutions by the Federal Interagency Committee on Education (FICE) to, historically, distinguish postsecondary schools that qualified as institutions of higher learning from those that did not. These codes are crucial in defining HBCUs and ensuring that this definition is consistent across data sets.

B. Baccalaureate and Beyond

The Baccalaureate and Beyond Longitudinal Study (B&B) is a nationally representative sample of 11,192 degree completers from 648 American colleges and universities in the 1992-1993 academic year. To identify a random sample of degree completers, B&B uses the National Postsecondary Student Aid Study as a basis. The National Postsecondary Student Aid Study is a large nationally representative sample of colleges and universities, students, and parents.

A considerable amount of data is gathered on the students in the study, as described in detail at the B&B website <http://nces.ed.gov/surveys/b&b>. It contains detailed information on pre-college characteristics of each student, information about their parents and home environment, and financial aid information. Follow-up surveys were administered in 1994, 1997, and 2003. These follow-up surveys include information on employment and entry into graduate school. We focus on the responses to the 1997 survey, which takes place after most students are in the workplace. We had hoped to use the 2003 data more extensively, but we found it to be of generally poor quality on the dimensions we cared most about. For example, 25% of the original black respondents attrited from the 2003 sample, compared to just 6% in the 1997 sample. And, this attrition was largely from black students in TWIs.

There is one important difference between the B&B and the other data sets we employ. The NLS and C&B begin with samples of students that enrolled their freshman year. The B&B samples degree completers, which can introduce bias if graduation rates between HBCUs and non-HBCUs differ substantially. Whenever the results from this survey differ with our other data, we will be clear about whether this difference can be accounted for by

differences in samples. A convenient way to handle this is to restrict the sample in our other data sets to be of degree completers, which we do throughout.

C. The College and Beyond Database

The College and Beyond Database contains student level administrative data on 93,660 full-time students who entered (but did not necessarily graduate from) thirty-four colleges and universities in the fall of 1951, 1976, and 1989. These institutional records were linked to an extensive survey conducted by the Andrew W. Mellon Foundation between 1995 and 1997 and to files provided by the College Entrance Examination Board and the Higher Education Research Institute. There are four HBCUs in the database: Xavier, Morehouse, Spellman, and Howard – the most elite HBCUs. The 1976 cohort contains data on all four black colleges; the 1989 cohort only includes Morehouse and Xavier.²⁴⁷ The final data set consists of black students from 34 colleges and universities including the four elite HBCUs; the sample consists of 2,125 students in 1976 and 1,785 in 1989.

The C&B data are remarkably rich, containing information drawn from students' applications and transcripts, Scholastic Aptitude Test (SAT) and American College Test (ACT) scores, as well as information on family demographic and socioeconomic status. This information was attained by linking the institutional files of the thirty-four colleges and universities with data provided by the College Entrance Examination Board and the Higher Education Research Institute. Importantly, the C&B survey includes the responses to a questionnaire administered to all three cohorts in 1996 that provides detailed information on post-college labor market, life satisfaction, and other outcomes. The response rate to the 1996 questionnaire was approximately 80%. The College and Beyond Survey is described in greater detail in Bowen and Bok (1998).

D. Summary Statistics

Summary statistics for the variables in our core specification are displayed in Table 1 for black students in the three datasets described above, according to whether or not they attend a HBCU or TWI. Students who are missing data on race or which college they attended are dropped from the sample.

Table 1 consists of five sets of columns. The first column provides summary statistics for students in the NLS-72 whose first college was an HBCU versus TWI, where first college is defined as the first 4- year college a student attends. An individual who attends a junior college, technical school, or the like and then attends an HBCU will be counted as having his first college as an HBCU. The second column restricts the sample to those who completed a bachelor's degree, allowing one to make direct comparisons with B&B whose descriptive statistics are displayed in column 3. Columns 4 and 5 provide means of the variables for students in the C&B database for the 1976 and 1989 cohorts, respectively.²⁴⁸

Across all our datasets, blacks attending TWIs tend to have substantially higher academic credentials. In the NLS-72, SAT and ACT scores of Blacks in TWIs are roughly

²⁴⁷ All forthcoming results have been run by restricting the 1976 cohort to Morehouse and Xavier to ensure that any differences which emerge cannot be explained by different samples in the two cohorts.

²⁴⁸ The C&B 1976 data used to construct the summary statistics in Table 1 contains all 4 HBCUs available.

1 standard deviation higher. Yet, Blacks attending HBCUs have slightly higher GPAs than their peers who attend TWIs (2.86 compared to 2.83), suggesting that these students attend less academically challenging high schools. Students in HBCUs are more likely to attend private high schools. Similar trends are apparent in the B&B, though the differences in academic credentials between HBCU students and non-HBCU students are less pronounced. A portion of the difference between the NLS-72 and B&B can be explained by the different sample restrictions.

In the 1976 and 1989 cohorts of C&B, the GPAs of Black students in HBCUs are .73 and .5 standard deviations less, respectively. SAT and ACT scores of HBCU students are more than 1 standard deviation behind Black students in non-HBCUs. In these data, students who attend HBCUs are less likely to have attended a private high school.

The “Pre-College Personal and Family Background” variables provide measures for the home environments that students were reared in. These variables include family income (measured in 1972 dollars), parental education, or whether or not a student attended high school in a rural area or the southern portion of the US. The definition of income differs slightly between data sets. In NLS-72, students were asked, “What is the approximate income before taxes of your parents (or guardian)? Include taxable and non-taxable income from all sources.” For B&B, we used family income in 1991 for students that were dependents of their parents and the student’s own taxed and untaxed income for students that were not dependents.²⁴⁹ For C&B, family income is derived from the HERI student survey. The CPI-U was used to convert all income measures to 1982-84 dollars.

It is apparent that there are important observable differences between blacks who attend HBCUs and TWIs. The subsequent analysis uses a variety of statistical approaches to adjust for these differences.

The third panel reports on many of the outcome variables. These include wages, major choice, whether or not a student received their bachelor’s degree, attended graduate school, or obtained a graduate degree, and variables designed to measure college experiences and job and life satisfaction. In the raw data, blacks who attend HBCUs tend to make less money than blacks who attend TWIs, with one exception; NLS-72.²⁵⁰ They are also less likely to be employed full-time and more likely to be dissatisfied with life. HBCU students are more likely to major in physical sciences.

²⁴⁹ For students who were their parents’ dependents in 1991, total family taxed and untaxed income was obtained, in order of priority, from the student’s financial aid application, a telephone interview of parents, a telephone interview of the student, the student’s Pell grant file, or the student loan file. For students that were not their parents’ dependent, the information was obtained, in order of priority, from the financial aid application, the student’s phone interview, the student’s Pell grant file, or the student loan file.

²⁵⁰ In the NLS-72, the average hourly wage is \$12.82 (\$14.46) for HBCU attendees (graduates) and \$10.55 (\$11.38) for TWI attendees (graduates). The mean of the natural logarithm of hourly wages is about 5% (12%) higher for TWI attendees (graduates). The difference in the rank of wages across HBCUs and TWIs is due to a single HBCU respondent with an average hourly wage of \$494. The influence of this observation on the Table 1 entries is also evident in the larger standard deviation of wages among HBCU attendees and graduates. See the Data Appendix for details on the sample selection rules.

In the two nationally representative samples, black students at HBCUs are more likely to receive a bachelor's degree and attend graduate school (though they are less likely to graduate). Black students in the elite HBCUs are more likely to major in biological sciences (this is driven in large part by Xavier who has a storied reputation for pre-medical studies), business, less likely to receive a bachelor's degree or attend graduate school, and, in the 1989 cohort, less likely to report that their college experience helped develop an ability to get along with individuals of other races.

The final panel in Table 1 provides the total number of HBCU and TWI observations in each sample. It also provides some details on the incomplete observations. As a solution to the large number of observations with at least one missing variable, we turn all of the explanatory variables into a series of indicator variables based on ranges of the values of these variables and include separate indicators for missing responses to each variable. The bottom panel also reports on the number of observations with missing wage information. The subsequent analysis implements a standard selection correction approach to account for these cases (Heckman 1979).

V. The Causes and Consequences of Attending HBCUs in the NLS and B&B Data Files

A. The Causes of Attending HBCUs

Table 2 presents a series of estimates of the determinants of HBCU attendance. The specifications estimated are of the form:

$$(1) \text{HBCU}_i = \alpha + \beta X_i^{\text{home}} + \gamma X_i^{\text{pre-college}} + \varepsilon_i,$$

where HBCU is a dichotomous variable that equals one if the student attends an HBCU and zero if not, X_i^{home} denotes an array of variables which proxy for a student's home environment, and $X_i^{\text{pre-college}}$ denotes pre-college characteristics of each student. In all instances, weighted probit regressions are used and the coefficients reported are marginal effects evaluated at the sample mean. The weights are the sample weights in the relevant data file. The interpretation of any coefficient is the effect of that coefficient relative to the omitted category when all other variables are held at their sample mean.

The home environment variables that we include are family income, mother and father's education, and whether or not a student lives in the South. Family income, measured in 1972 dollars, is divided into 4 categories: <\$3,000, \$3000 – \$6000, \$6000-\$9000, and \$9000+ based on a survey question described in the previous section. Parental education (mother and father, independently) is partitioned into three categorical variables: less than a Bachelor's degree, a Bachelor's degree, and greater. Whether or not a student lives in the South is a dummy variable that takes on the value of one if the answer is yes. Pre-college characteristics include SAT and ACT scores, high school GPA, and whether or not a student attended a private high school. Combined SAT scores are divided into less than 600, between 600-800, and greater than 800. ACT scores are divided up similarly, less than 11, between 11 and 15, and greater than 15. High school GPA is measured on a four point scale and is divided into less than 2.5, 2.5 to 3.5, and greater than 3.5. We also include an indicator for whether the respondent is female.

In 1972, students who attend HBCUs have lower SAT and ACT scores and are more likely to attend high school in the South. Moving from an SAT score below 600 to a score above 800 reduces the probability of attending an HBCU by 32%. Similarly, moving from an ACT score of less than 11 to a score of more than 15 reduces the likelihood of attending an HBCU by 21%. Students who live in the South are 43% more likely to attend HBCUs, holding all else constant. Family income and parental education are not statistically related to HBCU attendance once our other covariates are taken into account.

In the 1990s, things change. Standardized test scores are no longer such a powerful predictor of HBCU attendance. Parents with more education are more likely to have children who attend HBCUs. All else equal, a student whose mother has more than a bachelor's degree is 28% more likely to attend an HBCU. This is not surprising, as these institutions have a long history of loyal alumni and familial legacies (Drewry and Doermann 2001). Residing in the South continues to be an important determinant of college choice, though the magnitude of the coefficient is roughly a fourth of the magnitude in the seventies. Private high school is negatively correlated with HBCU attendance.

There are marked differences between the determinants of HBCU attendance in the 1970s and 1990s. The most obvious explanation of these differences is that conditioning on degree completion selects for high ability students and among this set, differences between the two periods will disappear. Comparing columns 2 and 3 in table 2 we can make direct comparisons between the 70s and the 90s; each sample consists only of degree completers.

Intuition suggests that as resistance to black attendance at TWIs faded and the need for segregated schooling declines, those with the highest opportunity cost of such schooling will opt out and choose more traditional universities. In other words, it might be reasonable to expect a "brain drain" from HBCUs. Yet, the data show the opposite to be true. Lower academic credentials are not as highly predictive of HBCU attendance in the 1990s as the 1970s. Students with higher educated parents are more likely to attend HBCUs in the 1990s and higher academic credentials are not as strong a predictor of nonHBCU attendance. This provides evidence of a selection of talented Black students into HBCUs in recent years.

B. Econometric Approach to Estimating the Consequences of Attending HBCUs

In the absence of a randomized experiment or a credible instrumental variable for HBCU attendance, we implement four statistical approaches to adjust for pre-college differences between HBCU and TWI attendees. This subsection details these strategies.

The first and simplest model we estimate is a linear specification of the form:

$$(2) \text{outcome}_i = \beta_0 + \beta X_i^{\text{parents}} + \alpha X_i^{\text{pre-college}} + \delta \text{HBCU} + \varepsilon_i.$$

In all instances, the estimation is done using weighted least squares, with weights corresponding to the sample weights provided in the data. Equation (2) is a simple and easily interpretable way to obtain estimates of the effect of HBCU attendance on outcomes, but it relies on a linear model to control for the covariates X_i^{parents} and $X_i^{\text{pre-college}}$. This may be unappealing since their true functional form is unknown.

As a solution, we match HBCU and TWI students with similar predicted probabilities or propensity scores (p-scores) of HBCU attendance (Rosenbaum and Rubin 1983).²⁵¹ The estimated p-scores compress the multi-dimensional vector of covariates into an index. The advantages of the propensity score approach are twofold. First, it is a feasible method to control for observables in a more flexible manner than is possible with linear regression. Second, it provides an opportunity to focus the comparisons of outcomes between the HBCU and TWI attendees among those with similar distributions of the observables. Since we model all of the covariates with indicator variables the former advantage is not so compelling in this setting, but the latter is a real asset here. Finally, it is important to emphasize that just as with linear regression, the identifying assumption is that assignment to the treatment (i.e., HBCU attendance) is associated only with observable pre-period variables. This is often called the ignorable treatment assignment assumption or selection on observables.

We implement the p-score matching strategy in three steps. First, the estimated p-scores are obtained by fitting probit regressions for HBCU attendance (identical to equation 1 above), using $X_i^{parents}$ and $X_i^{pre-college}$ as explanatory variables. In other words, we try to replicate the average student's selection rule with the observed covariates. We then conduct two tests to ensure that the p-scores are suitable. For both tests, we divide the sample into quintiles based on their p-scores. In the first test, we assess whether the estimated p-scores are equal across the HBCU and TWI students within quintiles. In the second test, we examine whether the means of the covariates are equal for the two sets of students within each quintile. If the null hypothesis of equality is rejected for either test, we divide the quintiles and/or estimate a richer probit model by including higher order terms and interactions.²⁵² Once the null is accepted for both tests, we proceed to the next step.

Second, the “treatment effect” for a given outcome is calculated by comparing the difference in the outcome between HBCU and TWI students with similar or “matched” values of the p-score. We do this in two ways. The first calculates a treatment effect for each HBCU student for which there is at least one TWI student with an estimated p-score within 0.10 of the HBCU student's p-score. In cases where multiple students have p-scores within 0.10, we take the simple average of outcome across all of these students. Further, this matching is done with replacement so that individual TWI students can be used as controls for multiple HBCU students.²⁵³ The second matching approach uses all of the TWI students to form a control for each HBCU student but in calculating the average among them we use a kernel weighted average, where the weight is inversely proportional to the distance to the HBCU student's p-score. We use a Gaussian kernel with a bandwidth of 0.10.

Third, a single treatment effect is estimated by averaging the treatment effects across all HBCU students for which there was at least one suitable match. This approach has the

²⁵¹ An alternative is to match on a single (or possibly a few) crucial covariate(s). See Angrist and Lavy (1998) or Rubin (1977) for applications.

²⁵² See Dehejia and Wahba (2002) and Rosenbaum (1984) for more details on how to implement the propensity score method.

²⁵³ See Dehejia and Wahba (2002) and Heckman, Ichimura, and Todd (1998) on propensity score algorithms.

desirable property that it focuses the comparisons where there is overlap in the distribution of propensity scores among the HBCU and TWI students so these students are “similar.”²⁵⁴

We also implement two other econometric approaches to account for potential selection issues. First, we estimate probits for whether the wage variable is missing on the sample of observations with missing and non-missing wage values. We then include the inverse Mill’s ratio from these probits in equation (2) to account for the possibility that wages are not missing at random (Heckman 1979). This procedure is identified from a functional form assumption, since we are unaware of a valid exclusion restriction in this setting.

Second, the available data sets may not include measures of some attributes (e.g., strength of essay, motivation, and teacher recommendations) that persuade admissions committees to select certain applicants for admission that are also rewarded in the labor market. Further, these attributes may differ across HBCU and TWI students. The least squares and propensity score approaches rely on “selection on observables” assumptions and will produce biased estimates in this case.

To confront this source of misspecification, we implement a variant of the method pioneered by Dale and Krueger (2002) that matches students based on the colleges where they were accepted. This approach can only be implemented with the NLS data file, as B&B does not contain information on the sets of colleges to which individuals are admitted. We operationalize the Dale and Krueger approach by determining the identity of the colleges that accepted each student. Among the colleges where they were accepted, we find the midpoint of the 25th-75th percentile SAT range reported in *US News & World Report* (2006). We use current SAT scores since scores from 1972 are unavailable. For colleges that report only ACT scores, we use an equivalence scale to convert to SAT scores.

For each student, we record the highest midpoint SAT score of any college that accepted the student. We divide the students into four groups by quartiles of the school with the highest midpoint SAT among the schools where they were admitted. We then include separate indicators for each of these groups in equation (2). This approach mitigates the impact of any confounding due to characteristics observable to admissions officers that are not measured in the data set. Specifically, the identifying assumption is that after adjustment for the available covariates, the decision to attend a HBCU versus a non-HBCU within a quartile is “ignorable” or orthogonal to unobserved determinants of outcomes. See Dale and Krueger (2002) for a more detailed discussion of this approach.

Finally, we note that we considered a number of candidate instrumental variables, such as distance to a student’s nearest HBCU, residing in the South, or the closing of HBCUs, but in all cases we were unconvinced that the exclusion restriction was valid or the instruments were not powerful enough for the relatively small samples in the available data files. With approximately 300 observations, it is very difficult to construct an instrument with a powerful first stage. Consequently, thorny issues of selection may still remain.

²⁵⁴ If there are heterogeneous treatment effects, this strategy produces an estimate of the average effect of the “treatment on the treated.”

C. Estimates of the Consequences of Attending HBCUs

Distribution of Estimated P-Scores. Figures 1 and 2 present separate kernel density plots of the estimated propensity scores for black students that received degrees from HBCUs and TWIs with the NLS and B&B data files, respectively. To obtain these figures, weighted probits were estimated on the set of students who completed their bachelor's degree at an HBCU or TWI. In Figure 1, which is based on the NLS data, it is evident that the mean propensity score differs across the populations, but there is substantial overlap in the distributions, except at p-scores exceeding roughly 0.9. The distributions of p-scores in the B&B are more similar throughout a broader range of the p-score. However, there aren't any TWI students with p-scores greater than about 0.8. Thus, it will be difficult to obtain meaningful comparisons for the relatively small subset of HBCU students with p-scores in this range.

Wage Outcomes. Table 3 presents results of the effect of attending a HBCU on the natural logarithm of wages from the four approaches in the six columns. The estimated standard errors are reported in parentheses below the point estimate for the HBCU indicator. In the NLS entries in Panels A and B, the standard errors allow for clustering among observations from students that attended the same high school (except in column 5). In Panel A, the treatment is matriculation at a HBCU, while it is graduation from a HBCU in Panel B. For the B&B entries in Panel C, we report standard errors that allow for unspecified heteroskedasticity in the variance-covariance matrix. Underneath the standard errors, we report the R-squared statistic, as well as the number of students in HBCUs and TWIs in the relevant sample. For the NLS, wages are measured in 1986 – fourteen years after high school graduation and roughly 10 years after obtaining a bachelor's degree. In the B&B, wages are in 1997, five years after completion of the bachelor's degree.

Column 1 reports the mean difference in labor market wages for individuals who attend HBCUs, without adjustment for any controls. In the NLS, HBCU students earn roughly 5% less when the treatment is the first college attended and 11.5% when it is receipt of a bachelor's degree. Neither of these estimates is statistically different from zero at conventional levels. The B&B estimate from the 1990s indicates that HBCU graduates earn 16.6% less than TWI graduates. Recall, Table 1 demonstrated that on observable dimensions HBCU students have lesser academic credentials than their TWI counterparts (especially in the NLS), so these raw gaps are likely downward biased.

Column 2 reports the results from estimating equation (2). The adjustment for the academic and home environment controls changes the results in the NLS dramatically.²⁵⁵ The wage benefit of attending a HBCU in the 1970s is 11.1% when HBCU status is based on the first college attended and 6.0% when it is defined as receiving a bachelor's degree. The former estimate is marginally significant, while the latter has an associated t-statistic less than 1.²⁵⁶

²⁵⁵ A similar result was found in Constantine (1995).

²⁵⁶ Results are similar if one implements a "fraction method," using individual transcripts to calculate the fraction of a student's college experience that was spent at an HBCU.

In the B&B, however, the wage effect for attending HBCUs is -13.8% and the null of zero would be rejected with conventional criterion.²⁵⁷

The next two columns report on the implementation of the p-score method to test the sensitivity of these results to the linear model. Column 3 uses kernel matching, while column 4 relies on radius matching.²⁵⁸ Standard errors for both matching estimates were bootstrapped (200 iterations), with propensity scores recomputed for each bootstrap sample. Further, the p-score matching estimates are not weighted with the sample weights.

The p-score estimates are remarkably similar to those from the linear regression in column 2. This finding shouldn't be terribly surprising because equation (2) models the covariates flexibly, nevertheless it is reassuring that functional form issues don't appear important in this setting.

Column 5 presents estimates that are selection corrected for missing wages and adjusted for the full set of covariates. It seems plausible that HBCU attendance is correlated with selective withdrawal from the labor force. This possibility is not supported by the data as this approach produces unimportant change in the estimated impact of HBCUs on wages.²⁵⁹

Column 6 implements the column 2 specification but adds controls for the "best" school that the student was admitted to in order to account for the richer data available to admissions committees (Dale and Krueger 2002). Specifically, we include indicators for the three highest quartiles of SAT scores of the best school that the student was admitted to, leaving the lowest quartile as the excluded group. This method is only possible in the NLS data and in this sample it doubles estimated impact of attending a HBCU to 22.5%. Specifically, this approach suggests that the gains from HBCU attendance may be larger than indicated by the other methods. However, the estimate's imprecision makes definitive conclusions unwarranted.

Additionally, we conducted a number of tests for whether there was heterogeneity in the returns to attending a HBCU, which are reported in Appendix Table 2. We assessed whether returns differed with students' home region (i.e., South versus North), their

²⁵⁷ In the most recent wave of the B&B (B&B 2003) there is no wage gap between HBCU students and non-HBCU students. Unfortunately, 53% of the HBCU sample does not have valid wages in the later survey (some are in the survey and unemployed while others were dropped completely). HBCU graduates have a 9.6% higher unemployment rate, and median regression techniques provide identical results to the 1997 wave. Thus, we concentrate on the earlier wave with more complete data.

²⁵⁸ Observations with estimated p-scores that are not strictly between 0 and 1 are dropped. Further, we lose 7 observations in the NLS when the treatment is first college attended and 21 when the treatment is degree college, and 21 observations in the B&B when implementing the radius matching estimators due to outliers that did not have matches in the relevant range.

²⁵⁹ We also assessed the impact of labor market dropouts on our estimates with a simple re-weighted linear regression and median regression. In the first approach, we estimate a probit of whether or not we have valid wages on all of the covariates in Table 2. We then multiplied the sampling weight by the inverse of the predicted probability in the probit to get new weights. Linear regressions are then estimated with these new weights. This approach led to remarkably similar conclusions as the selection correction approach. Median regressions were estimated by inputting zeros to all missing wage observations. Qualitative conclusions were the same, though the coefficients were smaller as expected.

estimated propensity score, SAT Score, parental education, and gender. In general, there isn't substantial evidence of heterogeneity across these subsamples of students. The lone exception is that the returns to attending a HBCU appear higher for black women than for black men in the NLS sample. It is also immediately evident that subdividing the sample is too demanding of the data as the standard errors in the subsamples are much larger.

Overall, these results suggest that attending an HBCU conferred remarkable advantages on its students in the 1970s. Conventional estimates of the average return to college are 10% per year (Heckman, Lochner and Todd 2003). Attending a HBCU versus a TWI in the 1970s was roughly equivalent to one more year of schooling. In contrast, more recent HBCU attendees appear to be suffering a wage penalty. If the point estimates are taken literally, there is nearly a -25% swing in the relative return of HBCU attendance in just two decades.

Non-wage outcomes. Thus far we have concentrated on the effect of attending a HBCU on a single outcome: labor market wages. The value of attending HBCUs, however, likely extends well past labor market considerations. The conventional wisdom is that these institutions instill confidence in their students, a sense of responsibility, and provide environments free of racism and discrimination that allow for greater personal development. Such environments are likely to have many benefits beyond those captured in wages.

Table 4 explores the effect of attending HBCUS on a number of outcomes, including the probability of full-time employment, measures of life satisfaction, and a series of academic outcomes. These wide ranging outcomes were chosen because of their economic and social relevance as well as their comparability across datasets. The academic outcomes index is the first principal component of the dummy variables for majoring in business, majoring in physical science/mathematics/computer science/engineering, majoring in biological science/health, receiving a bachelor's degree, attending graduate school, and receiving a graduate degree. The coefficients reported in the table are from kernel matching estimates and their associated bootstrapped standard errors. In all cases, weighted least squares confirm these results.

The most striking finding from these outcomes is that HBCU matriculation is associated with a nearly 10% increase in the probability of receiving a bachelor's degree. It is evident that part of the wage gain in the 1970s is due to the increased probability of graduating from college. There is some evidence that students who attend HBCUS are modestly more likely to major in physical sciences. Interestingly, HBCU and TWI matriculates report similar degrees of life satisfaction. There are negligible effects on all other outcomes.

VI. A Focused Look at the Most Elite HBCUs

There is substantial quality variation among the set of 89 4-year HBCUs, as well as among the TWIs. To this point, we have analyzed the NLS and B&B, which are nationally representative data files that include the full spectrum of HBCUs and TWIs from the quality continuum. In this section, we take a more focused look at four of the most elite HBCUs: Morehouse, Xavier, Spellman, and Howard. (Importantly, the 1989 data set does not

include information on Spellman and Howard students.) One limitation of this exercise is that due to the C&B's sampling approach, these four HBCUs can only be compared to the thirty selective TWIs in the sample.

Table 5 reports on the determinants of attendance for elite HBCUs for the 1976 and 1989 cohorts of C&B from estimating equations identical to those in Table 2.²⁶⁰ Column (1) is a sample of individuals in all 4 HBCUs, column (2) drops Howard and Spelman so that we can make direct comparisons with the 1989 cohort which is displayed in column (3). The patterns across the columns are quite similar. The parameters on the standardized test scores are the most notable results. Evaluated at the sample mean, the difference between a SAT score of less than 600 and a SAT score above 800 implies a 40.1% decrease (column 2) in the likelihood of attending an elite HBCU in the 1976 cohort and a 63.1% decrease (column 3) in the 1989 cohort. ACT scores have a similar effect on HBCU attendance. Mother's education is positively associated with HBCU attendance in 1989. After adjustment for the academic characteristics, the income variables are not reliable predictors of elite HBCU attendance. Residing in the southern portion of the United States continues to be a strong predictor of HBCU attendance; increasing the probability of attendance by roughly 40%.²⁶¹

Figures 3 and 4 plot the distributions of the estimated propensity scores for the HBCU and TWI attendees from the 1976 and 1989 C&B classes, respectively. Howard and Spelman were dropped from this analysis to make the samples consistent. It is apparent that there isn't substantial overlap across the two distributions in either year, especially in 1989. This finding confirms the impression from the probit results that the academic credentials of these students differ in important ways.

The poor overlap of the distributions poses challenges for the outcomes analysis. For example, in the propensity score exercise where we require the TWI students to have p-scores within 0.1 of the HBCU student, it is apparent that we will rely on a small subset of the data. In this subset of the data, the selection on observables assumption may be especially unlikely to be valid. On the other hand, we can use least squares functional form assumptions to infer counterfactuals in parts of the distribution where there is little support. Neither approach is especially appealing, which underscores the difficulties of inferring the impact of HBCU matriculation in this sample. Consequently, the forthcoming results should be interpreted with these important caveats in mind.

We now turn to an exploration of the effect of attending elite HBCUs on labor market outcomes, measures of life satisfaction, and academic outcomes from the 1976 and 1989 C&B. One major benefit of the C&B database is the availability of detailed questions about life outcomes, beliefs, college experiences, labor market outcomes and experiences, political and civic engagement, and more. These rich questions can help to

²⁶⁰ Throughout the C&B analysis, the treatment is defined as enrollment at a HBCU, not graduation from one. For consistency with the other tables, we refer to the treatment as "first college", although due to the C&B's sampling scheme it is possible (but unlikely) that a respondent was initially enrolled at a different college or university.

²⁶¹ The large negative coefficient on female in 1989 is related to the fact that the women's college Spellman is not in the 1989 sample.

shed light on the overall experience of students attending HBCUs and non-HBCUs. For both cohorts, data on the majority of outcomes was obtained in 1995, 15 years after graduation for the early cohort and 2 years after graduation for the later cohort, though some data such as wages in the 1989 cohort were collected in 1996. Individuals without valid wage observations are dropped from the sample.

Because the number of potential dependent variables in C&B is so numerous, we construct five indices to better understand the experiences of HBCU students along the following dimensions: objective academic, subjective academic, labor market, leadership and lifestyle, and social interactions. The data appendix describes the specific questions used to make up these indices. Each index is obtained by taking the first principal component of the set of variables described. This approach has two main advantages. First, principal components analysis reduces the dimensionality of problems by extracting the portion of a set of variables that explain the most variance within the set. Second, it ensures that all variables are measured on the same scale. The cost is that the result's meaning isn't transparent and cannot easily be applied to different settings.

Table 6 reports the results of estimating the effect of HBCU attendance on our set of wage and non-wage outcomes from kernel matching, which can be compared to the results in column 3 of Tables 3 and 4. Column 1 includes all four HBCUs in the 1976 sample. Column 2 also reports results from the 1976 sample but only includes students who attended Morehouse and Xavier to facilitate comparisons with the 1989 cohort, whose results are reported in column 3.

In the 1976 cohort, HBCU graduates were 9% more likely to major in the biological sciences and 11.1% more likely to major in business, but 10% less likely to attend graduate school and, conditional on attending, 13.6% less likely to receive a degree. On objective academic outcomes, HBCU students are significantly negative, though their subjective view of the academic experience is quite positive. Leadership and lifestyle components of the HBCU experience are large, which is consistent with much that has been written on these institutions (Drewery and Doerman 2001). Social interactions are also statistically significant and substantively large. The labor market experiences are positive, but negligible. Students do not seem to possess a particular taste for segregation, as HBCU graduates are no more likely to live in more racially homogenous zip codes. And, HBCU graduates are no more likely to be engaged in political, religious, civil rights, social service, or philanthropic activities. The clearest evidence of the importance of HBCUs is that, controlling for all other factors, HBCU students are 18% more likely to report they would choose the same college again.

The 1989 cohort reports different experiences. Students are more likely to major in physical and biological sciences and business. Students continue to benefit from leadership and lifestyle components of HBCUs, but the magnitudes of these effects are less than one-fourth of their previous levels. Many of the other positive elements turn negative in the more recent cohort. The objective and subjective academic outcomes are negative and HBCU matriculates are 10% less likely to receive a bachelor's degree. The social interactions index, which was positive in the 1976 cohort, turns sharply negative in the 1989 cohort.

The table demonstrates that this decline is also substantial in three of the variables that are used to construct the index in 1976 and 1989. The labor market experiences of the later cohort are even more negative, and they seem to have a taste for segregation. HBCU attendance is associated with living in a zip code that has a 16% higher fraction of blacks. Most telling, HBCU students are less likely than non-HBCU students to report they would choose the same college again, although the difference isn't statistically significant.

Interestingly, HBCU students in the later cohort are significantly more likely to be engaged in activities which are associated with civic consciousness. This may partly explain the divergence in wages.²⁶²

VII. Reconciling the Differences between the 1970s and 1990s

A. Assessing the Difference between the 1970s and 1990s Results

Panel A of Table 7 summarizes the difference in the results between the 1970s and 1990s. It reports regression results for five of the key dependent variables examined above. The difference is that we use the stacked 1970 and 1990 data sets to estimate the following equation:

$$(3) \text{ outcome}_{it} = \beta_0 + \gamma_t X_{it}^{\text{parents}} + \alpha_t X_{it}^{\text{pre-college}} + \lambda 1(\text{HBCU}_{it}) + \delta 1(1990_{it}) + \theta 1(\text{HBCU}_{it}) \cdot 1(1990_{it}) + \varepsilon_{it},$$

where the i subscript indexes an individual and the t subscript reveals whether the observation is from a 1970s or 1990s college student. The parameter vectors γ and α have t subscripts indicating that they are allowed to differ for 1970s and 1990s college attendees. The equation also includes separate intercepts for attending a HBCU and whether the observation is from a 1990s college attendee. The parameter of interest is θ , which is associated with the interaction between the HBCU indicator and the indicator for an observation from the 1990s. This parameter is a difference in differences (DD) estimate of HBCU attendance and is equal to the difference of the cross-sectional HBCU estimates (e.g., column 2 in Table 3).²⁶³

In column (1), the dependent variable is the natural logarithm of wages. For this regression, the nationally representative NLS and B&B data files are used. The other seven dependent variables are taken from the 1976 and 1989 C&B samples, which focused on a subset of elite HBCUs and TWIs. Howard and Spellman attendees are dropped from the sample, just as in column (2) of Table 6.

The results summarize the change in the relative returns to HBCU attendance over the two decades. The first four “objective” outcomes (i.e., those where a higher value of the dependent variable would be considered a positive) suggest that the returns to HBCU attendance have declined. Specifically, the point estimates suggest a 20% decline in wages, a 13% decline in the fraction of students who would attend the same college again, and substantial declines in the leadership and social interactions indices. The other three

²⁶² We are grateful to Lani Gunier for pointing out this possibility.

²⁶³ The C&B results are not identical to the difference between the 1989 and 1976 results in Table 6 because that table reports on the kernel matching results, while Table 7 relies on least squares adjustment for the covariates.

“objective” outcomes, which measure political participation, social/civic service, and donations to national charities, all show an increase between the two C&B classes. The non-objective measure indicates that HBCU attendees became less likely to live in integrated neighborhoods. It is noteworthy that all of these estimates are economically and statistically significant.

B. Robustness of the Result that HBCUs’ Performance Worsened between the 1970s and 1990s

This subsection reports on some checks that aim to explore the robustness of the basic result that the economic returns to attending a HBCU declined. Many obvious explanations fail to explain the differences. We have ensured, through the use of Federal Interagency Committee on Education codes, that the definition of HBCUs is consistent across data sets and over time. Moreover, the addition of more control variables, such as occupational choice indicators or a richer set of academic variables, fails to explain the differences. Further, differential labor market dropout rates cannot explain the change.

Selection of students into (or by) colleges is a potential explanation with some intuitive appeal, but the available data fail to support it. For example, Table 2 demonstrates that, if anything, selection on observables appears to work in the opposite direction. Students with higher scores on aptitude tests and better home environments are more likely to attend HBCUs in the 1990s, relative to the 1970s.

Nevertheless, we further explored the role of selection on observables. Specifically, we stacked the observations with non-missing wages from the NLS and B&B and estimated a weighted probit for whether the observation was from the NLS (i.e., the 1970s).²⁶⁴ We then calculated the predicted probabilities that the B&B (i.e., 1990s) observations are from the NLS. These predicted probabilities are multiplied by the sampling weight and this product is used as a weight in the fitting of the Table 3 column 2 OLS specification. This weighting scheme aims to ensure that the distribution of observables is similar across the NLS and B&B.²⁶⁵

The result of this procedure is that the estimated impact of HBCU attendance on wages in the B&B declines from -13.8% (standard error of 0.050) to -18.7% (standard error of 0.056). It is evident that this approach only increases the relative worsening of HBCU attendees’ labor market performance between the 1970s and 1990s. Although we cannot rule out selection on unobservables, it seems reasonable to conclude that the results aren’t due to differences in observable characteristics.

Another possibility is that due to the relatively small sample sizes, the quality of the HBCUs and TWIs represented in the NLS and B&B differed. To explore this, we used *US News and World Report* (2006) to obtain the current midpoint of the 25th-75th percentile SAT range for all the HBCUs and TWIs represented by the valid observations in the data files. This

²⁶⁴ The weights are adjusted sampling weights, where the adjustment ensures that they sum to 1 within the NLS observations and within the B&B observations. The covariates in the probit are the standard controls used throughout the paper (e.g., in column (2) of Table 3).

²⁶⁵ This method is a variant of Dinardo, Fortin, and Lemieux (1996).

information is only available for a subset of the observations.²⁶⁶ Nevertheless, these data indicate that the gap in average SAT scores between the HBCUs and TWIs chosen by the respondents in our analysis decreased between the two decades. Among the colleges and universities in our sample, SAT scores in TWIs were 236.1 points higher than HBCUs in the 1970s and 226.2 higher in the 1990s. Thus, the available evidence suggests that the results are not due to a change in the composition of HBCUs and TWIs between the NLS and B&B.

C. Did HBCUs Decline or Did TWIs Improve?

If the estimated decline is causal, the source of the relative decline in HBCUs' performance is unlikely to be important for public policy purposes. Nevertheless, it would be of considerable interest to researchers and educational practitioners to understand whether it is due to a decline in the performance of HBCUs or an improvement in TWIs. An answer to this question could lead to the design of more effective educational programs for blacks.

One potential explanation is that HBCUs' financial position weakened between the 1970s and 1990s leading to a decline in the quality of the educational environment at HBCUs. This explanation has some intuitive appeal, because HBCUs experienced enrollment declines in this period and Hoxby (2000) suggests that the nationalization of the higher education market has hurt smaller colleges and universities. However, the data don't appear to support this explanation. Specifically on a host of input measures, including financial information, faculty compensation, research grants received, and composition of faculty with various degrees, there is little evidence that the relative quality of HBCUs has declined in substantial ways (Provasnik, Shafer, and Snyder 2004).

Expenditures per student are perhaps the best measure of the quality of the education that these schools provided. Data on educational expenditures at HBCU and non-HBCU schools is available from the Higher Education General Information Survey from 1970-1984 and the Integrated Postsecondary Education Data System from 1985-2004 through the ICPSR web site. In 2000 dollars, educational expenditures per student increased from \$9,423 to \$11,996 between 1974 and 1991 at HBCUs and \$8,468 to \$10,560 at TWIs.²⁶⁷ (The years 1974 and 1991 are chosen, because they are roughly in the middle of the prime college attendance years of the students in the NLS and B&B, respectively.) Put another way, real educational expenditures per student increased by 27.3% at HBCUs between 1974 and 1991, compared to 24.7% at TWIs. It is evident that data reject the hypothesis that the decline in returns to HBCU attendance is due to a decline in their quality as measured by expenditures. It is also notable that the level of education expenditures per student was greater at HBCUs in both the 1970s and 1990s.

²⁶⁶ We matched 92.3% of the HBCUs and 84.0% of the TWIs represented in the NLS. For the B&B, these numbers were 88.9% and 82.7%, respectively. Unfortunately, many of the colleges represented in these data files do not report SAT information in US News and World Report (2006). Specifically, we obtained SAT information for 29.2% of the HBCU attendees and 49.0% of the TWI attendees in the NLS and for 33.0% of HBCU attendees and 49.2% TWI attendees in the B&B.

²⁶⁷ Educational expenditures is the sum of expenditures made from the current funds that relate to the functions of instruction, research, public service, academic support, student services, institutional support, operation and maintenance.

An alternative explanation is that TWIs became more effective at educating blacks between the 1970s and 1990s in ways that aren't reflected in spending. After all, the 1970s are not far removed from the civil rights struggle, campus sit-ins and boycotts, and battles over even allowing black students to enroll in many Southern TWIs. Further, it has been noted that many TWIs were not convivial places for black students in the 1970s (Patton 2005). A related theory that is empirically indistinguishable is that society has changed so that there is a greater premium on cross-racial connections.

To explore this possibility credibly, it is essential to have a counterfactual for blacks' changing experiences at TWIs. After all, it is possible that TWIs became more effective educational institutions for all students between the 1970s and 1990s. We use whites' experiences at TWIs as a counterfactual in the following equation:

$$(4) \text{ outcome}_{it} = \beta_0 + \gamma_{rt} X_{it}^{\text{parents}} + \alpha_{rt} X_{it}^{\text{pre-college}} + \lambda 1(\text{Black}_{it}) + \delta 1(1990_{it}) \\ + \theta 1(\text{Black}_{it}) \cdot 1(1990_{it}) + \varepsilon_{it},$$

where (again) the i subscript indexes an individual, the t subscript reveals whether the observation is from a 1970s or 1990s college student, and r references race. The vectors γ and α have "rt" subscripts, indicating that they may vary by race, time period, or both. The equation also includes separate intercepts for black students and whether the observation is from a 1990 college attendee. The parameter of interest is θ , which is associated with the interaction between the Black indicator and the indicator for an observation from the 1990s attendees. This parameter is a difference in differences (DD) estimator and reports on whether the returns for TWI attendance increased between the 1970s and 1990s for blacks, relative to whites. All HBCU attendees are dropped from the estimating samples in all specifications.

Panel B of Table 7 reports on the estimation of equation (4) for the natural logarithm of wages only, since this is the variable of interest available in the nationally representative data files. The column (1) specification constrains the γ and α vectors to be constant across races and periods. The column (2) one allows them to differ across decades but holds them constant across whites and blacks within a decade (i.e., in the same survey). In column (3), they are allowed to vary across races but are restricted to be constant across decades.

The column (3) specification suggests that among TWI attendees, the wages of blacks increased by 13.4% more than wages of whites between 1970 and 1990. This estimate is statistically significant and would account for roughly two-thirds of the relative decline in the wages of black HBCU attendees in Panel A. The point estimates are also positive in the other two specifications, but they are smaller and statistically indistinguishable from zero.

The difference in the results across the three specifications is due to the choices about the γ and α parameter vectors. It is important to note that F-tests lead to rejections of the hypotheses that the parameter vectors are equal across decades (column 2) and race (column 3), so the column (1) specification is just too parsimonious. The R-squared statistic is largest in the column (2) specification but so is the standard error on the parameter of interest. We also experimented with a model that allowed the parameter vectors to vary

with indicators for the interaction of decade and race, but the resulting estimates had little empirical content.²⁶⁸

We are unaware of good reasons to favor either the column (2) or column (3) specifications, so we are left with two specifications that appear to have equal standing. One suggests that roughly two-thirds of the decline in the relative wages of HBCU attendees is due to improvements in TWIs' efficacy at educating Blacks. The other produces an imprecise estimate that if taken literally implies that this explanation has little empirical backing. Both have confidence intervals with significant overlap. The sober conclusion is that the data fail to reject the possibility that TWIs became more effective at educating blacks between the 1970s and 1990s, but they also fail to provide decisive evidence in favor of this possibility.

VIII. Conclusion

Historically Black Colleges and Universities are an integral and proud part of Black history and culture. For generations, these institutions have educated Blacks and produced leaders in government, business, entertainment, and the academy. Yet, their reliance on public funding and the *Fordice* decision mean that it is more important than ever to understand the causes and consequences of matriculation at HBCUs.

Existing evidence on the effects of attending Historically Black Colleges and Universities has typically concentrated on either degree attainment or future wages. In this paper, we take a more holistic approach – analyzing three large data sets with adequate pre and post college information, a student's choice of college, and myriad social and economic outcomes to paint a rich portrait of the experiences of black students at Historically Black Colleges and Universities, relative to their counterparts who choose to attend non-HBCUs now and over time. Consistent with the charge from the high court, we search for “educational justification.”

Several important results from this search have emerged. The nationally representative datasets reveal an important change in the returns to HBCU attendance. In the 1970s HBCU matriculation was associated with higher wages and an increased probability of graduation, relative to attending a TWI. By the 1990s, however, there is a substantial wage penalty. In fact, there is a statistically significant 20% decline in the relative wages of HBCU graduates between the two decades. Notably, relative measures of student quality (e.g., SAT scores) improved among HBCU attendees during this period, so higher achieving students were increasingly choosing these schools at the same time that the schools appear to have fallen behind. Finally, there is also some evidence of a relative decline in the performance of elite HBCUs from the *College and Beyond*.

The analysis has unearthed some important clues as to why HBCUs' relative performance declined in this period. The data provide some support for the possibility that

²⁶⁸ This model is too demanding of the data. Recall, all of our controls are indicator variables so issues of multicollinearity are an especial concern. As a measure of this problem, the standard error on the parameter of interest (θ) is more than 9 times larger than the one in column (1).

HBCUs' relative decline is partially due to improvements in TWIs' efficacy in educating Blacks, but this evidence certainly isn't decisive. In contrast, the data reject a number of seemingly intuitive explanations, including relative declines in the pre-college credentials of students attending HBCUs and in educational expenditures per student at HBCUs. This question of why HBCUs' performance declined merits further research, although the identification of the exact channel is unlikely to be important for policy purposes.

In summary, the evidence presented in this paper suggests that relative to TWIs, HBCUs may have provided unique educational services for blacks in the 1970s. However by the 1990s, this advantage seems to have disappeared on many dimensions and by some measures HBCU attendance appears to retard black progress.

References

- Angrist, Josh and Victor Lavy. "Does Teacher Training Affect Pupil Learning? Evidence from Matched Comparisons in Jerusalem Public Schools." *Journal of Labor Economics*, Vol. 19, 2 (Apr. 2001), 343-369.
- Borjas, George J. Ethnicity, Neighborhoods, and Human-Capital Externalities. *American Economic Review*, June 1995, 85(3), pp. 365-90.
- Bowen, William and Bok, Derek. 1998. *The Shape of the River: Long Term Consequences of Considering Race in College and University Admissions*. Princeton, NJ: Princeton University Press.
- Case, Anne C and Katz, Lawrence F. "The Company You Keep: The Effects of Family and Neighborhood on Disadvantaged Youths." *National Bureau of Economic Research* (Cambridge, MA) Working Paper No. 3705, 1991.
- Constantine, Jill. 1995. "The Effect of Attending Historically Black Colleges and Universities on Future Wages of Black Students." *Industrial and Labor Relations Review*, Vol. 48, 3, 531-546.
- Coleman, James S., et al. *Equality of Educational Opportunity*. Washington, D.C.: Government Printing Office, 1966.
- Cutler, David M and Glaeser, Edward L. "Are Ghettos Good or Bad," *Quarterly Journal of Economics*, August 1997, 112(3), pp. 827-72.
- Dale, Stacey and Alan Krueger. 2002. "Estimating The Payoff Of Attending A More Selective College: An Application Of Selection On Observables And Unobservables," *Quarterly Journal of Economics*, 2002, 107(4,Nov), 1491-1527.
- Dehejia, Rajeev H. and Sadek Wahba. "Propensity Score-Matching Methods for Nonexperimental Causal Studies." *The Review of Economics and Statistics*. Vol 84, 1 (Feb. 2002), 151-161.
- J. DiNardo, N. Fortin and T. Lemieux, 1996, "Labor Market Institutions and the Distribution of Wages, 1973-1992 : A Semiparametric Analysis", *Econometrica*, Vol. 64, September, pp.1001-1044
- Donohue, James Heckman, and Petra Todd. 2002. "Social Action, Private Choice, and Philanthropy: Understanding the Sources of Improvements in Black Schooling in Georgia, 1911-1960," *The Quarterly Journal of Economics*, 117(1), pp. 225-268
- Drewry, Henry and Humphrey Doermann. 2001. *Stand and Prosper: Private Black Colleges and Their Students*. Princeton, NJ: Princeton University Press.
- Ehrenberg, Ronald. "Are Black Colleges Producing Today's African-American Lawyers?" *The Journal of Blacks in Higher Education*, 14(Winter 1996-1997), pp. 117-119.
- Ehrenberg, Ronald and Donna Rothstein. 1994. "Do Historically Black Institutions of Higher Education Confer Unique Advantages on Black Students? An Initial Analysis." In *Choices and Consequences: Contemporary Policy Issues in Education*, Ronald Ehrenberg, ed. Ithaca, NY: ILR Press.
- Fordham, Signithia and Ogbu, John. "Black Students' School Successes: Coping with the Burden of 'Acting White.'" *The Urban Review*, 1986, 18, pp. 176--206.
- Fryer, Roland G., Jr. with Paul Torelli. "An Empirical Analysis of 'Acting White.'" *National Bureau of Economic Research* (Cambridge, MA) Working Paper No. 11334, 2005.
- Granovetter, Mark S. "The Strength of Weak Ties." *American Journal of Sociology*, 1973, 78, pp. 1360- 80.
- Heckman, James. 1979. "Sample Selection Bias as a Specification Error." *Econometrica*, 47(1), pp. 153- 161.
- Heckman, James, Hidehiko Ichimura, and Petra Todd. "Matching as an Econometric Evaluation Estimator." *Review of Economic Studies*. Vol. 65, 2 (1998), 261-294.

- Homans, George C. *The Human Group*. New York: Harcourt Brace, 1950.
- Hoxby, Caroline. 2000. "The Effects of Geographic Integration and Increasing Competition in the Market for College Education," NBER Working Paper No. 6323.
- Jencks, Christopher and David Reisman. 1968. *The Academic Revolution*. Garden City, NY: Doubleday.
- Lazear, Edward. 1999. "Culture and Language," *Journal of Political Economy* 107:6 (December 1999): S95-S126.
- Manski, Charles and David Wise. 1983. *College Choice in America*. Cambridge: Harvard University Press.
- Patton, Lori D. "Reflecting Back, Looking Forward: Civil Rights and Student Affairs (review)" *Journal of College Student Development*, Volume 46, Number 1, January/February 2005, pp. 104-108
- Provasnik, Stephen, Linda Shafer, and Thomas Snyder. *Historically Black Colleges and Universities, 1976 to 2001*. National Center for Educational Statistics. NCES 2004-062.
- Putnam, Robert. 2000. *Bowling Alone: The Collapse and Revival of American Community*. Simon and Schuster: New York, 2000.
- Roebuck, J. B. and K. S. Murty (1993). *Historically Black Colleges and Universities*, Praeger Publisher.
- Rosenbaum, Paul R. and Donald B. Rubin. "The Central Role of the Propensity Score in Observational Studies for Causal Effects." *Biometrika*. Vol 70, 1 (Apr. 1983), 41-55.
- Rosenbaum, Paul R. and Donald B. Rubin. "Reducing Bias in Observational Studies Using Subclassification on the Propensity Score." *Journal of the American Statistical Association*. Vol 79, 387 (Sept. 1984), 516-524.
- Rubin, Donald B. "Assignment to a Treatment Group on the Basis of a Covariate." *Journal of Educational Statistics*. Vol. 2, 1 (Spring 1977), 1-26.
- Tatum, Beverly D. *Why are All the Black Kids Sitting Together in the Cafeteria? And Other Conversations about Race*. New York: Basic Books, 1997.
- US News and World Report. (2006). *America's Best Colleges and Universities*.
- U.S. Dept. of Education, National Center for Education Statistics. *HIGHER EDUCATION GENERAL INFORMATION SURVEY (HEGIS) XVI: FINANCIAL STATISTICS OF INSTITUTIONS OF HIGHER EDUCATION FOR FISCAL YEAR 1981*. ICPSR version. Washington, DC: U.S. Dept. of Education, National Center for Education Statistics, 1981. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 2005.
- U.S. Dept. of Education, National Center for Education Statistics. *INTEGRATED POSTSECONDARY EDUCATION DATA SYSTEM (IPEDS): FALL ENROLLMENT ANALYSIS, 1989*. ICPSR Version. Washington, DC: U.S. Dept. of Education, National Center for Education Statistics, 1994. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 2003.
- Wilson, William J. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. 1987. Chicago, IL: University of Chicago Press.

Appendix: Data Description

General structure of dummy variables used on right-hand side of regressions

- **Family income**

Five dummy variables: family income in 1972 dollars less than \$3,000, \$3,000 to \$5,999, \$6,000 to \$8,999, greater than or equal to \$9,000, and missing. We omitted the less than \$3,000 category.

- **Parents' education**

For each parent, four dummy variables: less than bachelor's degree, bachelor's degree, more than bachelor's degree, and missing. We omitted the less than bachelor's degree category.

- **Test scores**

For combined SAT scores, four dummy variables: less than 600, 600 to 800, greater than 800, and missing. For composite ACT scores, four dummy variables: less than 11, 11 to 15, greater than 15, and missing. We omitted the lowest category in each case.

- **High school grades**

Four dummy variables: GPA on a four-point scale less than 2.5, from 2.5 to 3.5, greater than 3.5, and missing. We omitted the lowest category.

- **Binary variables (sex, rural, South, private high school)** Three dummy variables: each of the binary possibilities, and missing.

NLS 1972

- **Race**

The dataset contains numerous race variables collected in different years. In 29 cases, these variables are not mutually consistent. We identified black and white students using the composite race variable in the 1974 data, because this variable is missing in the fewest cases.

- **Sex**

The dataset contains several sex variables collected in different years. In 22 cases among the students whom we identified as black, these variables are not mutually consistent. We identified students as male or female according to the composite sex variable in the 1974 data.

- **HBCU attendance**

We investigated the effect of a student's first college being a historically black institution. In each wave of the survey, students were asked whether they had attended any institution of higher education since the previous wave. If they had, they reported the name of the institution; whether it was a vocational school, a two-year college, or a four-year college; and the first date on which they attended this school. We compared the dates of attendance at all four-year colleges reported to find the first four-year college attended, if any. The survey includes a unique numerical code for each college; we used these codes to determine whether the first college was historically black. We restricted our sample to students who reported attending at least one four-year college. We did not use the transcript data in the NLS to determine whether a student went to college and, if so, what college the student attended first because transcripts are sometimes missing.

- **Wages and employment status**

We computed hourly wages only for full-time workers, whom we defined as individuals who worked at least 30 hours per week. Respondents were asked in 1986 to report their salary in

their current or most recent job. The wage could be reported in hourly, weekly, bi-weekly, monthly or yearly increments. Respondents also said how many hours they worked per week in this job. For full-time workers who reported a weekly salary, we converted to an hourly wage by dividing the salary by hours worked per week. We divided biweekly salaries by two times the hours worked per week, monthly salaries by (52/12) times the hours worked per week, and yearly salaries by 52 times the hours worked per week. We did not create the wage variable for individuals whose calculated wages were extremely low or high wages. We considered a calculated wage to be too low if it was less than half the federal minimum wage in 1986 (\$3.35). We also rejected as an outlier one individual whose calculated wage was more than \$14,000 per hour; all other calculated wages were less than \$1,000 per hour. We converted wages to 1982-1984 dollars by dividing by the 1986 CPI-U.

- **Family income**

In 1972, students were asked, “What is the approximate income before taxes of your parents (or guardian)? Include taxable and non-taxable from all sources.”

- **Parents’ education**

We used the composite father’s education and composite mother’s education variables in the 1974 data.

- **Test scores**

The combined SAT score is the sum of the reported SAT math and verbal scores. The data include the composite ACT score.

- **High school grades**

In 1972, students were asked, “Which of the following best describes your grades so far in high school?” The options were: 1) mostly A, 2) about half A and half B, 3) mostly B, and so on up to 7) mostly D, and 8) mostly below D. Call the reported number X. We approximated the student’s grade point average on a four-point scale by $(9-X)/2$, which works out to 4.0 for students reporting mostly A’s, 3.0 for students reporting mostly B’s, and so on.

- **Rural** The variable is one if the student reported living in a rural or farming community.

- **South**

The variable is one if the student’s reported region of residence in high school was in the South.

- **Private high school**

The variable is one if the student’s high school principal or counselor described the school as private or Catholic.

- **Post-secondary education**

Respondents were asked, “As of the first week of February 1986, what was your highest level of education?” In addition, the data include transcripts from most post-secondary institutions that respondents attended. We considered a respondent to have a bachelor’s degree if the person reported completing college or receiving a master’s degree, doctorate or advanced professional degree, or if any of the transcripts showed a bachelor’s degree. We considered a person to have received a graduate degree if the person reported receiving a master’s degree, doctorate or advanced professional degree, or if any of the transcripts showed such a degree.

To determine whether a person had attended graduate school, we began with the self-reported information on post-secondary attendance that we had used to identify the first college attended. Respondents were asked, “What kind of certificate, license, diploma, or

degree were you studying for?” We considered the respondent to have attended graduate school if, at any time, he or she reported studying for a master’s degree, a doctorate or an advanced professional degree. In addition, any respondent who never reported studying for a graduate degree, but whose transcripts showed such a degree, was coded as having attended graduate school.

- **College majors**

We considered the student’s major for the first bachelor’s degree received, based on the dates shown on the student’s transcripts. The data include 661 six-digit codes for college majors. We categorized any of the 74 codes beginning with 06, 07 and 08 as a business major; any of the 53 codes beginning with 11, 14, 27 and 40 as a major in computer science, mathematics, physical science or engineering; and any of the 108 codes beginning with 17, 18 and 26, plus code 190503, as a major in health or biological science.

The categorization was chosen to match as nearly as possible the much less specific categories used in the Baccalaureate and Beyond data. If a student received two bachelor’s degrees on the same date, we counted the student as having a major in a particular field if either degree showed a major in that field.

- **Utility measures**

In 1986, respondents were asked “how do you feel about” the following statements: “I take a positive attitude toward myself”; “I feel I am a person of worth, on an equal plane with others”; and “I am able to do things as well as most other people.” Respondents could say they agreed strongly, agreed, disagreed, disagreed strongly, or had no opinion. We converted these questions to binary variables by coding “agree strongly” and “agree” as a positive response, “disagree” and “disagree strongly” as a negative response, and “no opinion” as missing.

- **Weights**

We used the nonresponse-adjusted weight for participants in the 1986 fifth follow-up survey.

B&B 1997

- **Race**

Respondents were asked their race in the 1993 survey; they were then asked to confirm or correct this selection in the 1994 survey. We limited the sample to students who identified themselves as black in the 1994 survey.

- **Sex**

Respondents were asked their gender when it was not obvious to the interviewer.

- **HBCU attendance**

We investigated the effect of receiving a bachelor’s degree from a HBCU. The data contain a variable indicating whether the student received a bachelor’s degree from a HBCU, transferred from a HBCU to the degree institution, or both. The variable is missing either if the student is known never to have attended a HBCU or if there is no information on whether the student ever attended a HBCU. We checked this variable by merging the school codes for bachelor’s degree institutions to our list of HBCUs. Among black students, the only discrepancies were in 10 cases where the HBCU variable in the data was missing but

our list showed that the school was a HBCU. We used the results from merging the school codes to our list.

- **Wages and employment status**

We divided the annual salary recorded for the respondent's April 1997 job by 52 times the average number of hours worked per week. The data define full-time workers as non-teachers who worked at least 30 hours per week and teachers who described themselves as working full time. We rejected as outliers three cases where the calculated hourly wage was less than half the federal minimum wage in 1997 (\$5.15). We found no implausibly high wages. We converted wages to 1982-1984 dollars by dividing by the 1997 CPI-U.

- **Family income**

We used family income in 1991 and converted to 1972 dollars by dividing by the annual CPI-U. For students who were their parents' dependents in 1991, total family taxed and untaxed income was obtained, in order of priority, from the student's financial aid application, a telephone interview of parents, a telephone interview of the student, the student's Pell grant file, or the student loan file. For students who were not their parents' dependents, the variable is the student's own taxed and untaxed income. This was obtained, in order of priority, from the financial aid application, the student's phone interview, the student's Pell grant file, or the student loan file.

- **Parents' education**

The data contain variables from 1994 and 1997 indicating each parent's highest level of education. The only cases in which these variables disagree are where one of them is missing. We combined them.

- **Test scores**

The data list combined SAT scores and composite ACT scores.

- **South**

The variable is one if the parents' state of legal residence was Alabama, Arkansas, Delaware, the District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia or West Virginia.

- **Private high school**

The variable is one if the student said he or she graduated from a Catholic, other religious, or nonreligious private high school.

- **Post-secondary education**

All students in this dataset received a bachelor's degree. The data contains variables listing the highest degree a student reported receiving after the bachelor's and the highest-level degree program in which the student enrolled after receiving the bachelor's. The degrees that can be listed in these variables are: doctorate, first professional, post-master's certificate, MBA, master's, bachelor's, associate's, and other certificate or license. We classify the student as having received a graduate degree or attended a graduate program if the variable lists a doctorate, first professional degree, post-master's certificate, MBA or master's. We verified that all students who received graduate degrees are listed as having attended a graduate program.

- **College majors**

The dataset contains a composite variable indicating the student's major that was compiled from student surveys, transcripts and financial aid records. This variable lists 12 broad

categories of majors. We record a physical science major if this variable lists the major as engineering or “mathematics and other sciences,” which consist of computer science and physical sciences. We record a health and biological science major when the variable indicates a major in either “health professions” or “biological science.” We record a business major when the variable indicates “business and management.”

- **Weights**

We weighted by the nonresponse-adjusted weight for respondents to the 1997 survey.

College and Beyond

- **Race**

The institutional data files contain two variables indicating the student’s ethnicity. We limited the sample to students listed as black in either of these variables.

- **Sex**

From the institutional data.

- **HBCU attendance**

The four HBCUs in the College and Beyond sample are Howard University, Morehouse College, Spelman College and Xavier University of Louisiana.

- **Wages and employment status**

Respondents reported their annual pre-tax earned income, including income from jobs; net income from businesses, farms or rent; pensions; and Social Security. They were instructed not to include income from dividends and interest and not to count the income of other family members. They reported income in 10 categories. We take the midpoint of each bracket except the top bracket, which is \$200,000 or more. For the top bracket, we follow Dale and Krueger (2002) and use the average income shown in the 1990 census for college graduates in the appropriate cohort who earned more than \$200,000 per year. We included all individuals with reported income in our regressions.

We also considered full-time employment as an outcome. Respondents were asked, “Are you currently working for pay or profit?” If they answered yes, they were asked whether they were working “only or mostly full-time,” “some full-time and some part-time,” or “only or mostly part-time.” We coded only the first of these categories as full-time employment.

- **Family income**

We used the family income variable from the HERI student survey; this is a categorical variable. We converted to 1972 dollars using the CPI-U.

- **Parents’ education**

When a parent’s education is listed as “attended or graduated from college (can’t tell)”, we categorized the parent as having less than a bachelor’s degree.

- **Test scores**

We used SAT scores from the Educational Testing Service file and ACT scores from the institutional data.

- **High school grades**

We obtained high school grades from the HERI student survey. This variable lists the student’s average high school grade as either D, C, C+, B-, B, B+, A-, and A or A+. We treat D as a GPA of 1, C as a GPA of 2, C+ as a GPA of 2.33, B- as a GPA of 2.67, B as a GPA of 3, B+ as a GPA of 3.33, A- as a GPA of 3.67, and A or A+ as a GPA of 4.

- **South**

The variable is one if, when he or she applied to college, the student lived in Alabama, Arkansas, Delaware, the District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia or West Virginia.

- **Private high school**

The variable is one if the student attended a parochial or private high school.

- **Post-secondary education**

Respondents were asked in the follow-up survey whether they had received a bachelor's degree. For each of more than 20 kinds of graduate and professional degrees, respondents were asked whether they had studied for the degree and whether they had actually received it. We combined these responses into binary variables indicating whether the respondent studied for or received any graduate degree.

- **College majors**

The data list up to two majors for each student. We recorded a major in physical science if either major was engineering, computer and information sciences, mathematics, astronomy/atmospheric sciences, chemistry, geological sciences, physics, or other physical sciences. We recorded a major in health or biological sciences if either major was biological sciences, pre-med, nursing, dentistry, or health sciences. We recorded a major in business if either major was business and management.

In 1989, five major codes – 345, 734, 905, 920 and 980 – appear in the data but not in the codebook. A total of 17 black students have one of these codes. We assumed none of these codes represented a physical science, a health or biological science, or a business field.

- **Development as an undergraduate**

Respondents indicated on a one-to-five scale, where five represented “a great deal” and one represented “not at all,” how much their undergraduate experiences helped them develop in each of 15 areas. We kept these variables in continuous form.

- **Job satisfaction**

Respondents were asked about 13 aspects of job satisfaction. In each category, they could indicate they were “very satisfied,” “somewhat satisfied,” or “not satisfied.” We converted these variables to binary form by coding “very satisfied” as one and “somewhat” or “not satisfied” as zero. We examined each of the 13 binary variables separately. We also computed the first principal component of the 13 binary variables and examined the resulting continuous variable.

- **Utility measures**

Respondents were asked: “In general, how satisfied would you say you are with your life right now?” and “Overall, how satisfied have you been with the undergraduate education you received at the school at which you first enrolled?” The possible responses were “very satisfied,” “somewhat satisfied,” “neither satisfied nor dissatisfied,” “somewhat dissatisfied,” and “very dissatisfied.” We converted these to binary variables by coding “very” and “somewhat satisfied” as one and the remaining categories as zero.

Respondents were also asked, “Imagine that you had your life to live over again and were graduating from high school. Knowing what you do now, how likely is it that you would choose the same undergraduate school?” Possible responses were “very likely,” “somewhat

likely,” and “not likely. We converted this to a binary variable by coding “very” and “somewhat likely” as one and “not likely” as zero.

- **Academic outcomes index**

The first principal component of the dummy variables for majoring in business, majoring in physical science/mathematics/computer science/engineering, majoring in biological science/health, receiving a bachelor’s degree, attending graduate school, and receiving a graduate degree.

- **Subjective academic index**

The first principal component of the dummy variable for being satisfied with the undergraduate education; the dummy variable for being likely to choose the same undergraduate school again; the dummy variable for reporting that anyone took a special interest in one’s work at the undergraduate school; a variable that rates on a one-to-five scale how much the undergraduate education helped develop analytical and problem-solving skills; and a variable that rates on a one-to-five scale how much the undergraduate education helped develop knowledge of a particular field.

- **Subjective labor market index**

The first principal component of dummy variables for whether the person reported being very satisfied with the following characteristics of the current job: intellectual challenge, flexible schedule, high level of responsibility, low stress, working environment, job security, employer-supported child care, fair treatment of women and minorities, high income, good benefits, promotion opportunities, and service to society.

- **Leadership/lifestyle index**

The first principal component of variables rating, on a one-to-five scale, how much the undergraduate education helped develop each of the following: leadership abilities, interest in community service, religious values, ability to communicate orally, competitiveness, ability to work cooperatively, ability to relax or enjoy leisure, ability to write clearly and effectively, and ability to adapt to change.

- **Social interactions index**

The first principal component of variables rating, on a one-to-five scale, how much the undergraduate education helped develop each of the following: ability to form and retain friendships, ability to have rapport with people of different beliefs, and ability to work and get along with people of different races.

- **Other outcome variables**

The other outcome variables we studied are binary in the data.

- **Weights**

Because the College and Beyond surveys included 100% of minority students at the sample schools, there is no need to use weights.

Table 1: Summary Statistics of Black Students Data Files

definition of HBCU	NLS (1972) first college		NLS (1972) bachelor's degree college		B&B (1997) bachelor's degree college		C&B (1976) first college		C&B (1989) first college	
	HBCU	TWI	HBCU	TWI	HBCU	TWI	HBCU	TWI	HBCU	TWI
Pre-College Academic Background										
SAT combined	661.77 (114.84)	788.85 (172.68)	677.78 (120.23)	805.60 (198.57)	768.62 (197.61)	832.14 (183.37)	795.50 (161.29)	973.11 (171.39)	891.58 (154.94)	1043.18 (164.37)
ACT composite	12.60 (4.09)	15.13 (4.80)	13.43 (4.90)	15.93 (4.84)	16.52 (4.37)	18.87 (5.39)	12.64 (4.21)	21.17 (4.74)	18.73 (4.55)	22.30 (3.72)
high school GPA	2.86 (0.58)	2.83 (0.65)	2.98 (0.55)	2.88 (0.64)			3.03 (0.51)	3.40 (0.44)	3.15 (0.54)	3.42 (0.41)
private high school	0.158	0.073	0.238	0.082	0.062	0.207	0.214	0.312	0.248	0.300
Pre-College Personal and Family Background										
female	0.707	0.630	0.737	0.587	0.721	0.639	0.566	0.602	0.390	0.615
family income (1972 \$): <\$3000	0.198	0.233	0.187	0.116	0.256	0.236	0.132	0.086	0.098	0.071
family income (1972 \$): \$3000-\$5999	0.215	0.183	0.221	0.159	0.174	0.133	0.182	0.149	0.148	0.101
family income (1972 \$): \$6000-\$8999	0.325	0.261	0.376	0.339	0.185	0.146	0.202	0.230	0.082	0.092
family income (1972 \$): >=\$9000	0.262	0.323	0.215	0.386	0.385	0.485	0.484	0.535	0.672	0.735
father's education < bachelor's	0.950	0.867	0.972	0.793	0.572	0.742	0.708	0.606	0.443	0.565
father's education = bachelor's	0.033	0.080	0.026	0.140	0.247	0.141	0.197	0.265	0.317	0.240
father's education > bachelor's	0.017	0.053	0.002	0.067	0.181	0.117	0.095	0.129	0.240	0.194
mother's education < bachelor's	0.925	0.914	0.939	0.886	0.573	0.740	0.670	0.611	0.376	0.554
mother's education = bachelor's	0.038	0.052	0.045	0.067	0.192	0.134	0.234	0.273	0.333	0.298
mother's education > bachelor's	0.037	0.034	0.016	0.047	0.235	0.126	0.096	0.116	0.290	0.149
south	0.866	0.389	0.873	0.340	0.709	0.494	0.622	0.236	0.676	0.237
rural	0.162	0.089	0.167	0.078	-	-	-	-	-	-
Post-High School Outcomes										
income	12.82 (35.70)	10.55 (8.59)	14.46 (45.52)	11.38 (7.70)	7.68 (3.06)	9.12 (3.88)	33145 (26288)	39768 (32222)	16247 (11460)	18634 (17450)
ln (income)	2.16 (0.61)	2.21 (0.52)	2.20 (0.62)	2.32 (0.46)	1.97 (0.37)	2.14 (0.38)	10.11 (0.93)	10.26 (1.01)	9.28 (1.20)	9.42 (1.17)
physical science major	0.074	0.025	0.051	0.040	0.139	0.083	0.147	0.127	0.268	0.146
biological science major	0.075	0.103	0.077	0.101	0.075	0.146	0.212	0.144	0.284	0.107
business major	0.183	0.333	0.191	0.324	0.317	0.245	0.185	0.078	0.263	0.085
attended graduate school	0.321	0.197	0.492	0.347	0.361	0.299	0.538	0.648	0.482	0.522
received graduate degree	0.104	0.128	0.183	0.220	0.096	0.097	0.314	0.482	0.404	0.440
received bachelor's degree	0.648	0.560	1.000	1.000	1.000	1.000	0.782	0.896	0.815	0.913
treated unfairly in job because of race	0.211	0.212	0.214	0.159	-	-	-	-	-	-
employed full time	0.823	0.946	0.762	0.937	0.914	0.954	0.571	0.669	0.580	0.574
satisfied with life	0.735	0.815	0.660	0.924	-	-	0.829	0.829	0.810	0.791
would choose same college again	-	-	-	-	-	-	0.670	0.543	0.653	0.657
college developed ability to get along with other races (1-5 scale)	-	-	-	-	-	-	3.608 (1.262)	3.561 (1.288)	3.468 (1.372)	3.947 (1.197)
fraction black in zip code	-	-	-	-	-	-	0.597	0.565	0.532	0.345
participates in political activities	-	-	-	-	-	-	0.335	0.317	0.634	0.465
participates in religious activities	-	-	-	-	-	-	0.641	0.561	0.727	0.605
participates in civil rights activities	-	-	-	-	-	-	0.533	0.529	0.711	0.614
participates in social service activities	-	-	-	-	-	-	0.255	0.299	0.613	0.500
participates in alumni activities	-	-	-	-	-	-	0.372	0.374	0.668	0.579
Sample Size Details										
Observations	260	364	164	224	172	415	983	1142	623	1162
Number with Missing Values for at least 1 Variable	259	360	164	219	172	415	983	1142	623	1162
Number with Missing Values for Wages	57	71	32	48	48	113	20	123	12	14

Notes: The entries report the means of variables listed in the row headings. For SAT combined, ACT composite, high school GPA, income, and "college developed ability to get along with races" we also report the standard deviation in parentheses. The NLS and BB income variables are hourly wages reported in 1986 and 1997, respectively. The C&B income variables are annual income reported in 1995 for the 1976 sample, and in 1996 for the 1989 sample. The income and ln (income) variables are reported in 1982-1984 dollars, using the CPI-Urbans.

Table 2: Determinants of HBCU Attendance Among Blacks in NLS and BB

Dataset	NLS (1972)	NLS (1972)	BB (1997)
HBCU Definition	first college	bachelor's degree college	bachelor's degree college
	(1)	(2)	(3)
SAT: 600-800	-0.170 (0.072)	-0.012 (0.112)	-0.032 (0.128)
SAT: >800	-0.320 (0.049)	-0.226 (0.081)	-0.067 (0.120)
ACT: 11-15	-0.116 (0.112)	-0.306 (0.058)	0.130 (0.200)
ACT: >15	-0.213 (0.083)	-0.296 (0.062)	-0.167 (0.109)
family income: \$3000-\$5999	0.018 (0.079)	0.010 (0.117)	0.064 (0.089)
family income: \$6000-\$8999	-0.069 (0.077)	-0.174 (0.092)	0.073 (0.099)
family income: >=\$9000	0.062 (0.088)	-0.014 (0.113)	-0.058 (0.063)
father's education: bachelor's	-0.031 (0.144)	-0.154 (0.130)	0.165 (0.087)
father's education: >bachelor's	-0.130 (0.112)	-0.318 (0.036)	0.127 (0.110)
mother's education: bachelor's	0.097 (0.145)	0.230 (0.182)	0.144 (0.086)
mother's education: >bachelor's	0.082 (0.133)	0.035 (0.156)	0.280 (0.115)
south	0.429 (0.049)	0.473 (0.060)	0.126 (0.054)
private high school	-0.065 (0.132)	0.099 (0.153)	-0.139 (0.059)
female	0.033 (0.053)	0.024 (0.069)	0.047 (0.057)
Observations	496	308	424
pseudo R-squared	0.24	0.31	0.15

Notes: The table reports the results from the estimation of probits for the probability of enrolling at a HBCU (column 1) and graduating from a HBCU (columns 2 and 3). All of the explanatory variables noted in the row headings are indicators, so the entries report the discrete change in the probability associated with a change in value from zero to one and the associated heteroskedastic-consistent standard error. (The standard errors in the columns (1) and (2) are clustered by high school.) The omitted categories are SAT<600, ACT<11, family income <\$3000, father's education <bachelor's, mother's education <bachelor's. The models also include dummy variables for each category whose value is one when the categorical variable is missing. The samples are limited to blacks with measured 1986 wages (NLS) or measured 1997 wages (B&B). In the B&B, two observations were dropped because a regressor perfectly predicted the outcome. See the text for further details.

Table 3: Effect of HBCU Attendance on Wages in NLS and BB

	Linear Regression without Controls (1)	Linear Regression with Controls (2)	Propensity Score Kernel Matching (3)	Propensity Score Radius Matching (4)	Selection Correction for Missing Wages (5)	Dale-Krueger with Controls (6)
A.National Longitudinal Survey: log (1986 hourly wage); treatment: first college was HBCU						
HBCU coefficient	-0.051 (0.078)	0.111 (0.066)	0.129 (0.065)	0.134 (0.066)	0.123 (0.103)	.225 (.094)
R-squared	0.002	0.154				
Number HBCU	203	203	203	203	260	98
Number TWI	293	293	293	286	364	151
B.National Longitudinal Survey: log (1986 hourly wage); treatment: bachelor's degree from HBCU						
HBCU coefficient	-0.115 (0.090)	0.060 (0.083)	0.055 (0.085)	0.062 (0.073)	0.111 (0.071)	- -
R-squared	0.011	0.150				
Number HBCU	132	132	132	132	164	-
Number TWI	176	176	155	155	224	-
C.Baccalaureate and Beyond: log (1997 hourly wage); treatment: bachelor's degree from HBCU						
HBCU coefficient	-0.166 (0.051)	-0.138 (0.050)	-0.144 (0.044)	-0.142 (0.041)	-0.121 (0.043)	- -
R-squared	0.037	0.107				
Number HBCU	124	124	124	124	172	-
Number TWI	300	300	278	278	415	-

Notes: The entries in columns (1), (2), (5), and (6) are from least squares regression. In all cases, the coefficient associated with the HBCU indicator is reported, along with its standard error. The variance-covariance matrix allows for unspecified heteroskedasticity in these columns and in the NLS samples we allow for clustering at the high school level. These equations are weighted by the NLS and B&B sampling weights, respectively. The column (1) estimate is not adjusted for any covariates, while column (2) adds the full set of independent variables used in the probit in Table 2. Column (5) includes the inverse Mill's ratio that is derived from the estimation of an equation for missing wages, as well as the column (2) controls. These standard errors fail to account for heteroskedasticity or clustering. Column (6) adds indicators based on quartiles of the median SAT score at the school with the highest SAT score among the schools where the student was admitted. All observations with missing or zero wages are dropped.

Columns (3) and (4) report on the propensity score matching results. The former uses a gaussian kernel with a bandwidth of 0.1, while the latter uses radius matching with a bandwidth of 0.1 and with replacement. The STATA code is available at <http://www.lrz-muenchen.de/~sobecker/pscore.html>. Standard errors for matching estimates are computed by bootstrapping, with propensity scores recomputed for each bootstrap sample. The matching estimates are unweighted. Observations are dropped if wages are missing or zero or propensity score is not strictly between 0 and 1. See the text for more details.

Table 4: Effects of HBCU Attendance on Non-Wage Outcomes in NLS and BB

Dataset	NLS (1972)	NLS (1972)	BB (1997)
HBCU Definition	first college	bachelor's degree college	bachelor's degree college
	(1)	(2)	(3)
<u>Employment</u>			
employed full time	-0.018 (0.021)	0.045 (0.040)	-0.023 (0.025)
<u>Life Satisfaction</u>			
satisfied with life	-0.004 (0.038)	-0.078 (0.049)	- -
treated unfairly in job because of race	-0.027 (0.046)	0.041 (0.055)	- -
<u>Academic Outcomes</u>			
received bachelor's degree	0.098 (0.049)	- -	- -
attended graduate school	0.033 (0.042)	0.025 (0.061)	0.087 (0.041)
received graduate degree	0.016 (0.030)	0.063 (0.049)	0.016 (0.036)
physical science major	0.056 (0.034)	0.035 (0.028)	0.072 (0.029)
biological science major	-0.003 (0.047)	0.050 (0.032)	-0.036 0.033
business major	0.024 (0.075)	0.026 (0.073)	-0.001 (0.038)

Notes: The entries report the results from propensity score matching routines. The row headings report the dependent variables. The samples and treatment are noted in the column headings. The entries report the impact of HBCU matriculation (graduation), relative to TWI matriculation (graduation). The propensity score is estimated with a probit and all of the covariates used in Table 2 are included as explanatory variables. The matching method uses a gaussian kernel with a bandwidth of 0.1. The standard errors (reported in parentheses) are computed by bootstrapping, with propensity scores recomputed for each bootstrap sample. The estimates are unweighted. For each outcome, all observations with data on that outcome are used. Observations are dropped if the propensity score is not strictly between 0 and 1. See the text and notes to Table 3 for more details.

Table 5: Determinants of HBCU Attendance Among Blacks in C&B

Dataset	C&B (1976)	C&B (1976)	C&B (1989)
HBCU Definition	first college	first college	first college
Include Howard, Spelman?	yes	no	no
	(1)	(2)	(3)
SAT: 600-800	-0.212 (0.074)	-0.138 (0.035)	0.620 (0.021)
SAT: >800	-0.584 (0.056)	-0.512 (0.075)	-0.998 (0.001)
ACT: 11-15	-0.315 (0.124)	-0.099 (0.052)	-0.124 (0.180)
ACT: >15	-0.489 (0.039)	-0.167 (0.025)	-0.336 (0.108)
family income: \$3000-\$5999	0.005 (0.067)	-0.013 (0.056)	-0.089 (0.106)
family income: \$6000-\$8999	-0.059 (0.064)	-0.091 (0.035)	-0.264 (0.068)
family income: >=\$9000	-0.033 (0.060)	-0.105 (0.042)	-0.271 (0.073)
father's education: bachelor's	-0.064 (0.053)	0.152 (0.062)	0.011 (0.063)
father's education: >bachelor's	-0.042 (0.068)	-0.085 (0.046)	-0.065 (0.070)
mother's education: bachelor's	0.034 (0.052)	0.097 (0.055)	0.144 (0.068)
mother's education: >bachelor's	0.101 (0.068)	-0.113 (0.039)	0.316 (0.070)
south	0.350 (0.027)	0.357 (0.035)	0.327 (0.034)
private high school	-0.051 (0.032)	0.093 (0.033)	-0.031 (0.039)
female	-0.077 (0.028)	-0.337 (0.034)	-0.343 (0.034)
Observations	1982	1152	1414
pseudo R-squared	0.33	0.55	0.48

Notes: The tables reports the results from the estimation of probits for the probability of enrolling at a HBCU among the C&B 1976 (columns 1 and 2) and C&B 1989 (column 3) samples of Blacks. All of the explanatory variables (noted in the row headings) are indicators, so the entries report the discrete change in the probability associated with a change in value from zero to one and the associated heteroskedastic-consistent standard error. The omitted categories are: SAT<600, ACT<11, family income <\$3000, father's education < bachelor's, mother's education < bachelor's. The models also include dummy variables for each category whose value is one when the categorical variable is missing. The samples are limited to individuals with measured 1995 annual income (C&B 1976) or measured 1996 annual income (C&B 1989). In the C&B 1976 sample without Howard and Spelman colleges, 202 observations were dropped because the regressors perfectly predicted the outcome. In C&B 1989, 345 observations were dropped because the regressors perfectly predicted the outcome. See the text for further details.

Table 6: Effects of HBCU Attendance on Labor Market and Other Outcomes in C&B

Dataset	C&B (1976)	C&B (1976)	C&B (1989)
HBCU Definition	first college	first college	first college
Include Howard, Spelman?	yes	no	no
	(1)	(2)	(3)
<u>Labor Market Outcomes</u>			
Ln (Annual Income)	-0.074 (0.069) 963/1019	-0.032 (0.145) 335/468	-0.114 (0.160) 611/711
employed full time	0.099 (0.112) 110/123	0.513 (0.363) 24/10	-0.181 (0.202) 100/109
subjective labor market index	0.059 (0.061) 972/1135	0.104 (0.164) 339/532	0.032 (0.123) 550/655
<u>Life Satisfaction</u>			
satisfied with life	-0.009 (0.026) 977/1137	-0.046 (0.044) 341/536	-0.013 (0.044) 621/716
college was first choice	-0.084 (0.034) 932/1108	-0.079 (0.079) 314/545	-0.063 (0.058) 613/712
would choose same college again	0.177 (0.035) 981/1132	0.219 (0.086) 340/534	-0.048 (0.054) 622/717
leadership/lifestyle index	0.417 (0.069) 977/1132	0.633 (0.157) 341/530	0.152 (0.109) 618/717
social interactions index	0.220 (0.071) 976/1131	0.357 (0.169) 341/530	-0.177 (0.123) 619/715
college developed ability to form and retain friendships	0.423 (0.088) 966/1100	0.530 (0.142) 337/520	0.129 (0.124) 613/710
college developed ability to have rapport w/ people of different beliefs	0.254 (0.088) 966/1121	0.386 (0.205) 337/526	--0.220 (0.116) 614/709
college developed ability to get along with other races	0.034 (0.093) 961/1124	0.255 (0.211) 334/525	-0.445 (0.170) 613/713
<u>Academic Outcomes</u>			
received bachelor's degree	-0.105 (0.025) 978/1138	-0.047 (0.068) 339/539	-0.105 (0.037) 623/718
attended graduate school	-0.101 (0.033) 983/1142	-0.116 (0.086) 342/537	-0.019 (0.059) 623/718
received graduate degree	-0.136 (0.033) 983/1142	-0.149 (0.082) 342/537	-0.007 (0.057) 623/718
academic outcomes index	-0.301 (0.066) 983/1142	-0.296 (0.185) 342/537	-0.123 (0.110) 623/718
subjective academic index	0.165 (0.072) 982/1138	0.356 (0.204) 341/539	-0.201 (0.096) 623/718
physical science major	-0.027 (0.028) 784/771	-0.107 (0.080) 269/459	0.074 (0.042) 552/636

biological science major	0.087 (0.026) 784/771	0.120 (0.051) 269/459	0.196 (0.040) 552/636
business major	0.111 (0.021) 784/771	0.234 (0.030) 269/459	0.214 (0.028) 552/636
<u>Other</u>			
fraction black in zip code	0.022 (0.025) 902/669	0.081 (0.074) 315/350	0.156 (0.041) 602/593
<u>Participation</u>			
political	0.019 (0.032) 983/1142	-0.032 (0.078) 342/537	0.216 (0.065) 623/718
religious	0.039 (0.036) 983/1142	0.085 (0.087) 342/537	0.108 (0.062) 623/718
civil rights	0.004 (0.035) 983/1142	0.071 (0.081) 342/537	0.105 (0.063) 623/718
social services	-0.024 (0.029) 983/1142	-0.059 (0.069) 342/537	0.116 (0.063) 623/718
alumni	-0.007 (0.036) 983/1142	0.000 (0.086) 342/537	0.030 (0.056) 623/718
national charity	-0.098 (0.038) 983/1142	-0.168 (0.079) 342/537	0.148 (0.062) 623/718

Notes: The entries report the results from propensity score matching routines. The row headings report the dependent variables. The samples and treatment are noted in the column headings. The entries report the unweighted impact of HBCU matriculation (graduation), relative to TWI matriculation (graduation). The propensity score is estimated with a probit and all of the covariates used in Table 2 are included as explanatory variables. The matching method uses a gaussian kernel with a bandwidth of 0.1. The standard errors (reported in parentheses) are computed by bootstrapping, with propensity scores recomputed for each bootstrap sample. For each outcome, all observations with data on that outcome are used. Indexes are first principal components of sets of variables, normalized to have mean 0 and variance 1. In constructing each index, we include every observation that has data on at least one variable in the set, by replacing any missing data with the mean of the corresponding variable. Numbers underneath standard error are number of HBCU and TWI students, respectively. Observations are dropped if the propensity score is not strictly between 0 and 1. See the text and notes to Table 3 for more details.

Table 7: Relative Changes Between the 1970s and 1990s

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Sample Restricted to Blacks								
Dependent Variable:	ln (wage) (NLS/BB)	Choose College Again	Pct. Black in Zip Code	Leadership Index	Social Interactions Index	Political	Social Service	Charity
1(HBCU) * 1(1990s)	-0.197 (0.094)	-0.133 (0.055)	0.135 (0.041)	-0.329 (0.130)	-0.429 (0.129)	0.138 (0.055)	0.133 (0.053)	0.259 (0.056)
Observations	734	3255	2461	3252	3250	3269	3269	3269
R-squared	0.17	0.04	0.16	0.07	0.03	0.08	0.09	0.05
B. Sample Restricted to Blacks and Whites that Attended TWIs								
Dependent Variable is ln (wage) from the NLS and BB								
1(Black) * 1(1990s)	0.055 (0.071)	0.043 (0.097)	0.134 (0.065)	- -	- -	- -	- -	- -
Observations	9607	9607	9607	-	-	-	-	-
R-squared	0.11	0.13	0.11	-	-	-	-	-
Controls No Interactions	Yes	No	No	-	-	-	-	-
Controls Interacted with Decade Indicators	No	Yes	No	-	-	-	-	-
Controls Interacted with Race Indicators	No	No	Yes	-	-	-	-	-

Notes: The table reports on the results from fitting equation (3) in Panel A and equation (4) in Panel B. In Panel A, the samples are composed of stacked data from the NLS and B&B in column (1) and the 1976 and 1989 C&B in columns (2)-(8) and the sample is limited to Blacks. The dependent variable is denoted in the first row of the panel. This Panel's entries report on the parameter estimate associated with the interaction of indicators for HBCU attendance and for an observation from the 1990s cohort and its heteroskedastic standard error. In Panel B, the sample is comprised of Blacks and Whites that graduated (column 1) from TWIs. Here, the dependent variable is always ln (hourly wage). This Panel's entries report on the parameter estimate associated with the interaction of indicators for Black and for an observation from the 1990s cohort and its heteroskedastic standard error. The covariates are noted in the row headings at the bottom of the panel. In both panels, the sample weights associated with the NLS and B&B are used with the normalization that the weights for each cohort sum to 1. (In the C&B, all observations are weighted equally.) Thus, the two cohorts in each regression are equally weighted but some observations are counted more heavily than others within a cohort according to the sample weights. See the text for further details.

Appendix Table 1: Basic Summary Statistics on the Historically Black Colleges and Universities

College or University	Location	Undergraduate Enrollment	Total Enrollment	Type
1 Alabama A&M University	Normal, AL	5,047	6,182	Public
2 Alabama State University	Montgomery, AL	4,485	5,469	Public
3 Albany State University	Albany, GA	3,228	3,649	Public
4 Alcorn State University	Alcorn State, MS	2,962	3,544	Public
5 Allen University	Columbia, SC	624	624	Private
6 Arkansas Baptist College	Little Rock, AR	287	287	Private
7 Benedict College	Columbia, SC	2,552	2,552	Private
8 Bennett College	Greensboro, NC	572	572	Private
9 Bethune-Cookman College	Daytona Beach, FL	3,090	3,090	Private
10 Bluefield State College	Bluefield, WV	1,708	1,708	Public
11 Bowie State University	Bowie, MD	4,020	5,319	Public
12 Central State University	Wilberforce, OH	1,617	1,623	Public
13 Cheyney University of Pennsylvania	Cheyney, PA	1,401	1,560	Public
14 Claflin University	Orangeburg, SC	1,678	1,728	Private
15 Clark Atlanta University	Atlanta, GA	3,667	4,469	Private
16 Coppin State College	Baltimore, MD	3,451	4,306	Public
17 Delaware State University	Dover, DE	3,440	3,722	Public
18 Dillard University	New Orleans, LA	1,993	1,993	Private
19 Edward Waters College	Jacksonville, FL	839	839	Private
20 Elizabeth City State University	Elizabeth City, NC	2,604	2,664	Public
21 Fayetteville State University	Fayetteville, NC	5,029	6,072	Public
22 Fisk University	Nashville, TN	864	920	Private
23 Florida A&M University	Tallahassee, FL	10,552	12,154	Public
24 Florida Memorial University	Miami Gardens, FL	1,945	2,004	Private
25 Fort Valley State University	Fort Valley, GA	1,997	2,174	Public
26 Grambling State University	Grambling, LA	4,573	5,164	Public
27 Hampton University	Hampton, VA	5,325	6,309	Private
28 Harris-Stowe State University	St. Louis, MO	1,662	1,662	Public
29 Howard University	Washington, DC	7,164	10,930	Private
30 Huston-Tillotson College	Auston, TX	675	706	Private
31 Interdenominational Theological	Atlanta, GA	-	447	Private
32 Jackson State University	Jackson, MS	6,660	8,416	Public
33 Jarvis Christian College	Hawkins, TX	572	572	Private
34 Johnson C. Smith University	Charlotte, NC	1,404	1,404	Private
35 Kentucky State University	Frankfort, KY	2,228	2,386	Public
36 Knoxville College	Knoxville, TN	300	300	Private
37 Lane College	Jackson, TN	1,213	1,213	Private
38 Langston University	Langston, OK	3,001	3,151	Public
39 Lemoyne-Owen College	Memphis, TN	809	809	Private
40 Lincoln University	Jefferson City, MO	2,953	3,180	Public
41 Lincoln University	Lincoln University, PA	1,714	2,278	Public
42 Livingstone College	Salisbury, NC	895	895	Private
43 Meharry Medical College	Nashville, TN	-	707	Private
44 Miles College	Fairfield, AL	1,758	1,758	Private
45 Mississippi Valley State University	Itta Bena, MS	2,748	3,165	Public
46 Morehouse College	Atlanta, GA	3,029	3,029	Private
47 Morehouse School of Medicine	Atlanta, GA	-	272	Private
48 Morgan State University	Baltimore, MD	5,747	6,438	Public
49 Morris Brown College	Georgia	66	66	Private
50 Morris College	Sunter, SC	863	863	Private
51 Norfolk State University	Norfolk, VA	5,337	6,096	Public
52 North Carolina A&T State University	Greensboro, NC	9,735	11,103	Public
53 North Carolina Central University	Durham, NC	6,353	8,219	Public
54 Oakwood College	Huntsville, AL	1,751	1,751	Private
55 Paine College	Augusta, GA	828	828	Private
56 Paul Quinn College	Dallas, TX	790	790	Private
57 Philander Smith College	Little Rock, AR	785	785	Private

144 The Causes and Consequences of Attending Historically Black Colleges and Universities

58	Prairie View A&M University	Prairie View, TX	5,702	7,912	Public
59	Rust College	Holly Springs, MS	970	970	Private
60	Saint Paul's College	Lawrenceville, VA	717	717	Private
61	Savannah State University	Savannah, GA	2,975	3,091	Public
62	Selma University	Selma, AL	287	287	Private
63	Shaw University	Raleigh, NC	2,565	2,762	Private
64	South Carolina State University	Orangeburg, SC	3,888	4,446	Public
65	Southern University A&M College	Baton Rouge, LA	8,969	10,364	Public
66	Southern University at New Orleans	New Orleans, LA	2,824	3,647	Public
67	Southwestern Christian College	Terrell, TX	251	251	Private
68	Spelman College	Atlanta, GA	2,318	2,318	Private
69	St. Augustine's College	Raleigh, NC	1,163	1,163	Private
70	Stillman College	Tuscaloosa, AL	804	804	Private
71	Talladega College	Talladega	368	368	Private
72	Tennessee State University	Nashville, TN	7,036	8,880	Public
73	Texas College	Tyler, TX	794	807	Private
74	Texas Southern University	Houston, TX	9,760	11,903	Public
75	Tougaloo College	Tougaloo, MS	933	933	Private
76	Tuskegee University	Tuskegee, AL	2,510	2,880	Private
77	University of Arkansas at Pine Bluff	Pine Bluff, AR	3,132	3,231	Public
78	University of Maryland Eastern Shore	Princess Anne, MD	3,448	3,870	Public
79	University of the District of Columbia	Washington, DC	5,169	5,363	Public
80	University of the Virgin Islands	Charlotte Amalie, VI	2,185	2,392	Public
81	Virginia State University	Petersburg, VA	4,332	5,055	Public
82	Virginia Union University	Richmond, VA	1,344	1,700	Private
83	Virginia University of Lynchburg	Lynchburg, VA	122	178	Private
84	Voorhees College	Denmark, SC	709	709	Private
85	West Virginia State University	Institute, WV	3,455	3,491	Public
86	Wilberforce University	Wilberforce, OH	1,157	1,170	Private
87	Wiley College	Marshall, TX	827	827	Private
88	Winston-Salem State University	Winston-Salem, NC	5,264	5,566	Public
89	Xavier University	New Orleans, LA	2,343	3,091	Private

Notes: The list of schools is taken from the US Department of Education's web site:

<http://www.ed.gov/about/inits/list/whhbcu/edlite-list.html>. The location data and enrollment information (current as of Fall 2005) is from the National Center for Education Statistics's site: <http://nces.ed.gov>.

Appendix Table 2: Is there Heterogeneity in the Impact of HBCU Attendance in the NLS and B&B?

Dataset	NLS (1972)		NLS (1972)		BB (1997)	
HBCU Definition	first college		bachelor's degree college		bachelor's degree college	
	(1)	(2)	(3)	(4)	(5)	(6)
A. Propensity score range	<u>0 to 0.5</u>	<u>0.5 to 1.0</u>	<u>0 to 0.5</u>	<u>0.5 to 1.0</u>	<u>0 to 0.5</u>	<u>0.5 to 1.0</u>
Kernel matching	0.141 (0.077)	0.093 (0.072)	0.102 (0.114)	0.043 (0.098)	-0.118 (0.050)	-0.157 (0.100)
Number HBCU	99	104	44	88	88	36
Number TWI	236	49	116	44	251	18
B. North vs. south	<u>North</u>	<u>South</u>	<u>North</u>	<u>South</u>	<u>North</u>	<u>South</u>
Kernel matching	-0.063 (0.150)	0.144 (0.065)	0.091 (0.279)	0.076 (0.107)	-0.125 (0.141)	-0.174 (0.059)
Number HBCU	28	171	18	111	32	85
Number TWI	96	133	46	76	95	131
C. At least 1 parent has bachelor's	<u>No</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>
Kernel matching	0.149 (0.065)	-0.011 (0.283)	0.066 (0.098)	- (0.098)	-0.163 (0.058)	-0.117 (0.095)
Number HBCU	177	22	118	11	67	55
Number TWI	240	23	124	0	185	48
D. SAT score	<u>Below median</u>	<u>Above median</u>	<u>Below median</u>	<u>Above median</u>	<u>Below median</u>	<u>Above median</u>
Kernel matching	-0.011 (0.117)	0.087 (0.166)	-0.348 (0.296)	0.219 (0.242)	-0.161 (0.087)	0.045 (0.114)
Number HBCU	58	28	35	18	42	24
Number TWI	37	52	31	23	57	64
E. Male vs. female	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Kernel matching	-0.078 (0.100)	0.185 (0.071)	-0.035 (0.136)	0.091 (0.124)	-0.291 (0.109)	-0.117 (0.061)
Number HBCU	67	136	47	85	34	90
Number TWI	69	156	39	76	70	183

Notes: The entries report the results from propensity score matching routines. In all cases, the dependent variable is ln (hourly wage). The sample and treatment are noted in the column headings. The entries report the impact of HBCU matriculation (graduation), relative to TWI matriculation (graduation). Panels A-E test for heterogeneity in the impact of HBCU attendance by an estimated propensity score above or below 0.5 (Panel A), attending high school in the North versus the South (Panel B), whether at least one parent has a bachelor's degree (Panel C), a SAT score above or below the median in the sample (Panel D), and by gender (Panel E). The propensity score is estimated with a probit and all of the covariates used in Table 2 are included as explanatory variables. The matching method uses a gaussian kernel with a bandwidth of 0.1. The standard errors (reported in parentheses) are computed by bootstrapping, with propensity scores recomputed for each bootstrap sample. The estimates are unweighted. Observations are dropped if wages are missing or zero or the propensity score in the full sample is not strictly between 0 and 1. See the text and notes to Tables 3 and 4 for more details.

Figure 1: Kernel Density Plots of the Distribution of Estimated Propensity Scores for HBCU Graduation, by TWI and HBCU Graduates from National Longitudinal Survey (Based on Weighted Probit)

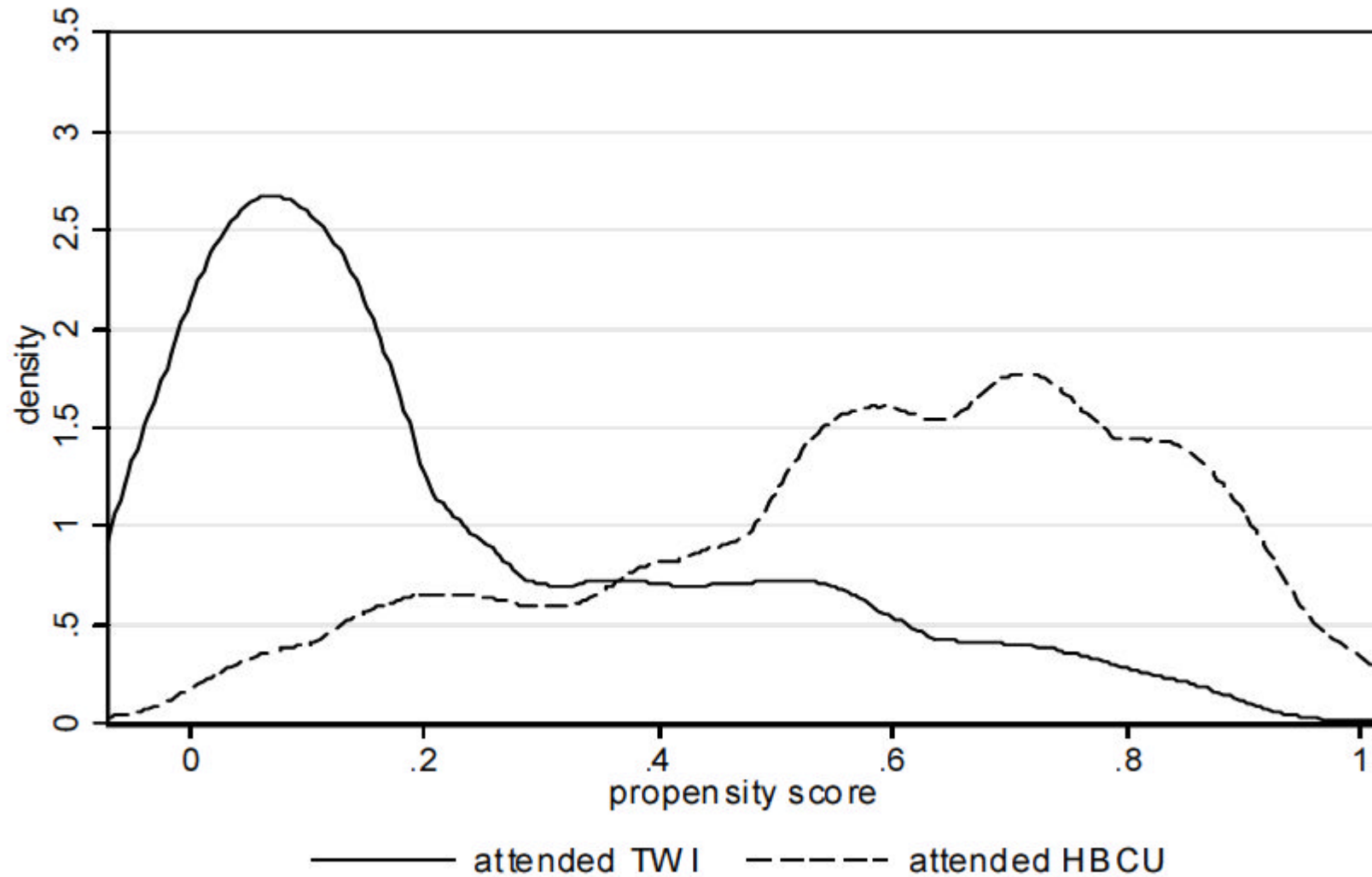


Figure 2: Kernel Density Plots of the Distribution of Estimated Propensity Scores for HBCU Graduation, by TWI and HBCU Graduates from Baccalaureate and Beyond (Based on Weighted Probit)

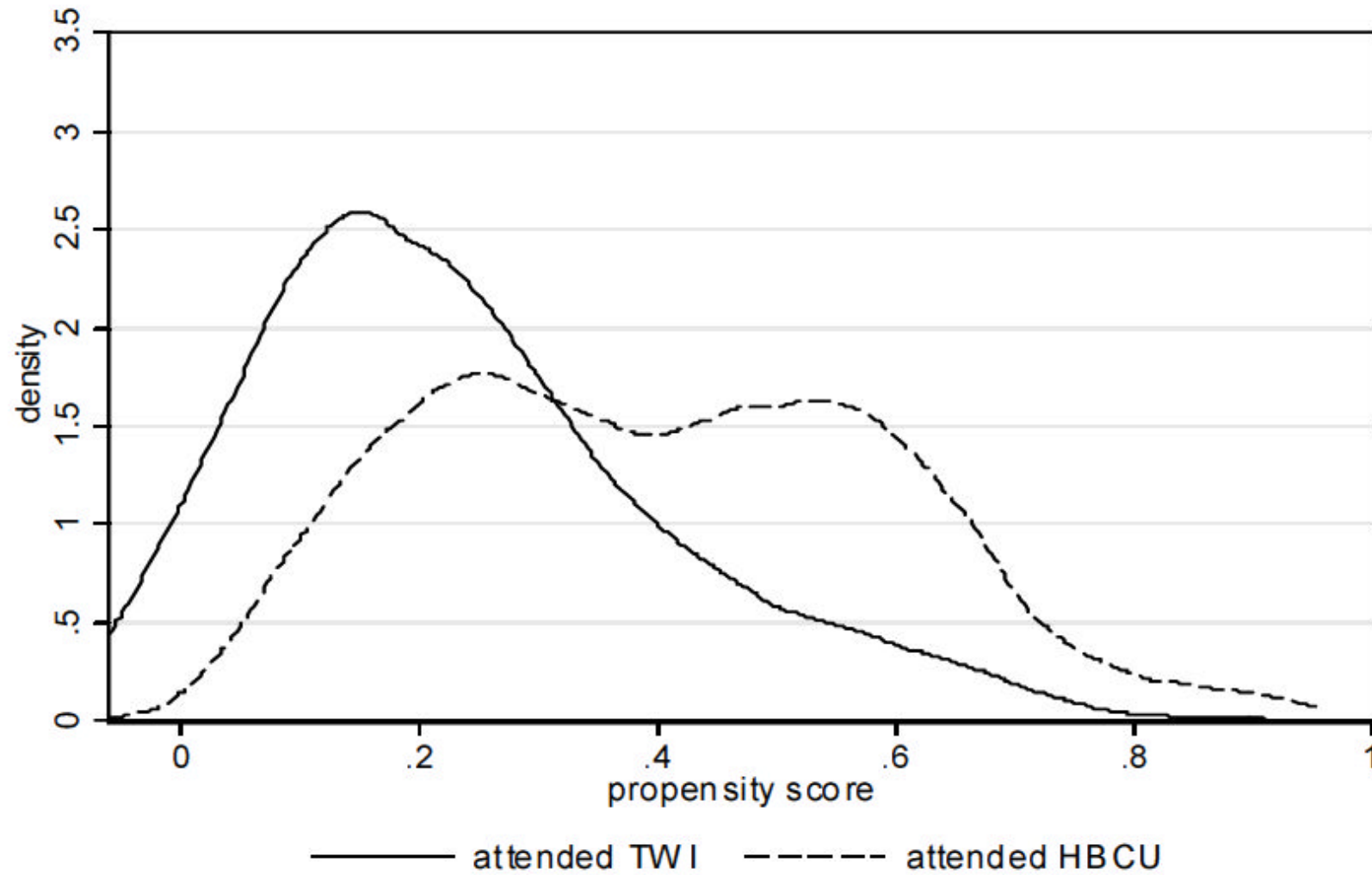


Figure 3: Kernel Density Plots of the Distribution of Estimated Propensity Scores for HBCU Matriculation, by TWI and HBCU Matriculates from 1976 College and Beyond (Based on Probit, excluding Howard and Spelman)

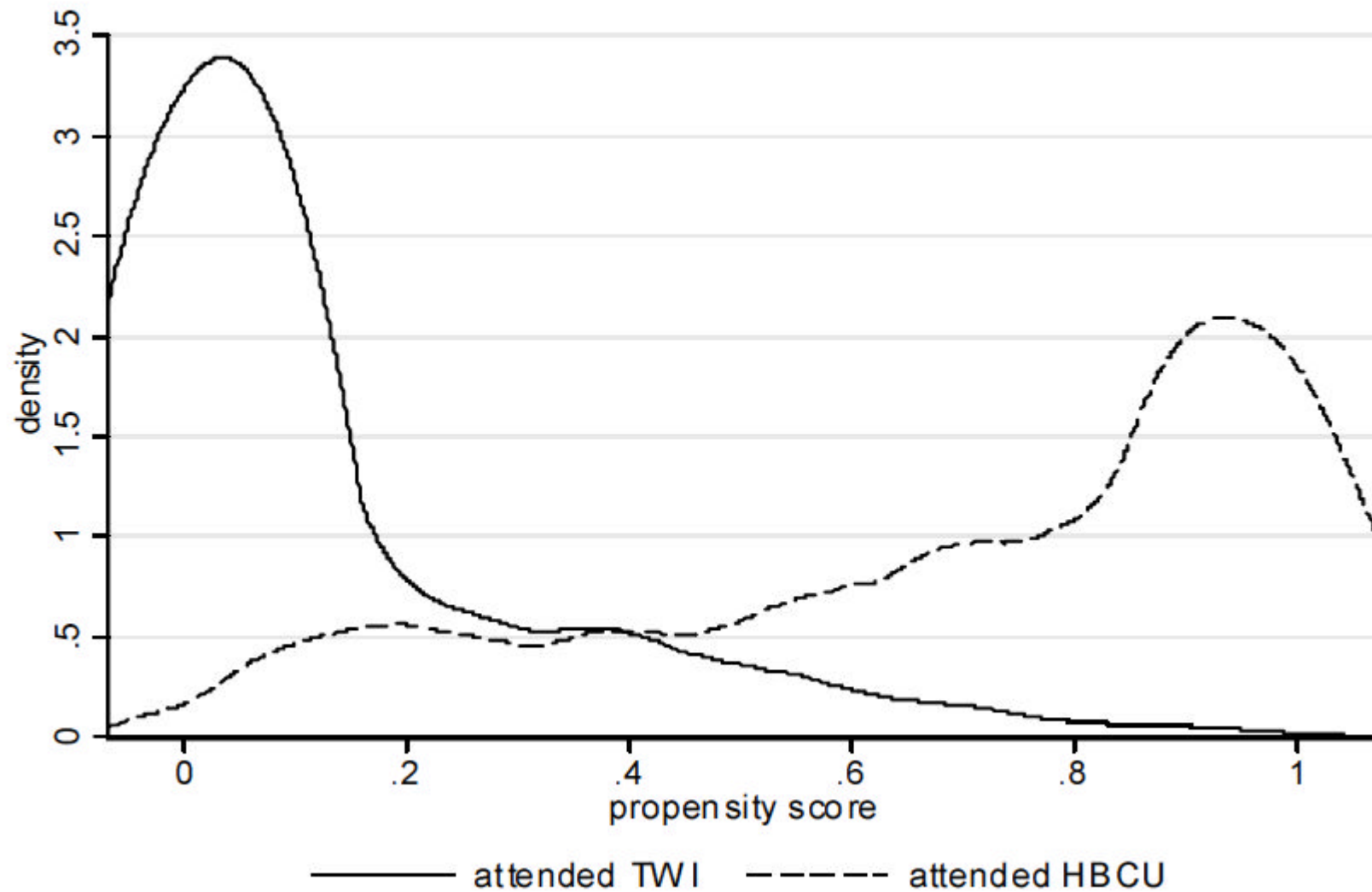
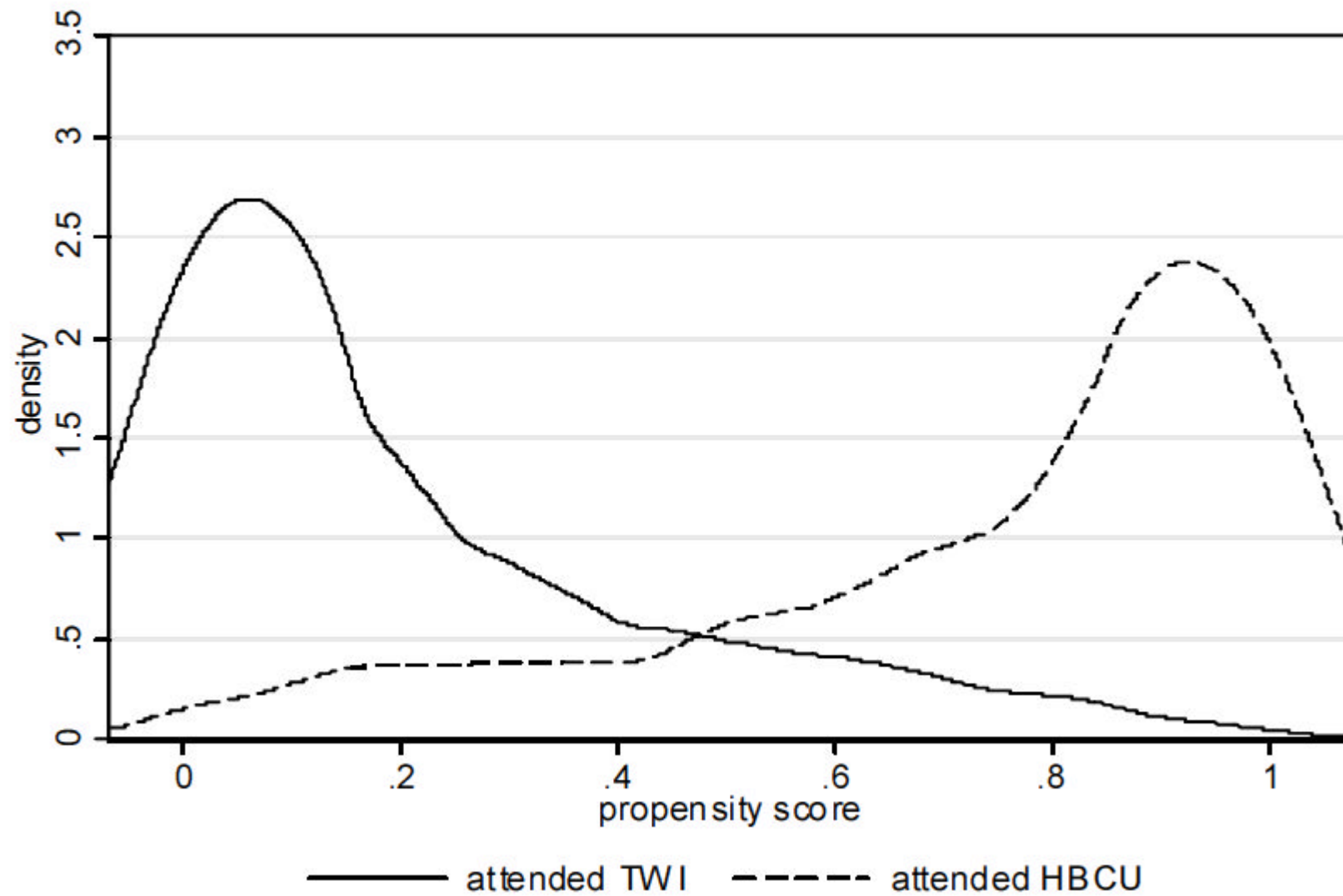


Figure 4: Kernel Density Plots of the Distribution of Estimated Propensity Scores for HBCU Matriculation, by TWI and HBCU Matriculates from 1989 College and Beyond (Based on Probit)



SPEAKER BIOGRAPHIES

LOUIS W. SULLIVAN is the founding Dean and first President of Morehouse School of Medicine (MSM) in Atlanta, GA. With the exception of his tenure as Secretary of the U.S. Department of Health and Human Services (HHS) from 1989 to 1993, Dr. Sullivan was President of MSM for more than two decades. On July 1, 2002, he left the presidency, but continues to assist in national fund-raising activities on behalf of the school and is an Adjunct Professor of Medicine.

A native of Atlanta, Dr. Sullivan graduated magna cum laude from Morehouse College, and earned his medical degree, cum laude, from Boston University School of Medicine. He is certified in internal medicine and hematology.

Dr. Sullivan became the founding Dean and Director of the Medical Education Program at Morehouse College in 1975. He left MSM in 1989 to join President George H.W. Bush's Cabinet as the Secretary of the U.S. Department of Health and Human Services (HHS). Dr. Sullivan's tenure (47 months) stands as one of the longest of any HHS secretary in U.S. history.

As head of HHS, Dr. Sullivan managed the federal agency responsible for the major health, welfare, food and drug safety, medical research, and income security programs that serve the American people. During his time as Secretary, HHS undertook the most extensive food labeling reform in the country's history, initiated the Human Genome Project, implemented major drug approval process reforms, including "parallel track," and combined 65 separate programs for children and families (and a supporting staff of 2,000) under a new, unified operating division, the Administration for Children and Families.

In January 1993, he returned to MSM and resumed the office of president.

Dr. Sullivan is Chairman of the Board of the National Health Museum in Washington, D.C. and is also Chairman of the Sullivan Commission on Diversity in the Healthcare Workforce (funded by the Kellogg Foundation). He also serves as Chair of the President's Board of Advisors on Historically Black Colleges and Universities, a member of the U. S. Secretary of Education's Commission on the Future of Higher Education, and is Co-Chair of the President's Advisory Council on HIV and AIDS.

A member of numerous medical organizations, including the American Medical Association and the National Medical Association, Dr. Sullivan was the founding President of the Association of Minority Health Professions Schools. He is a former member of the Joint Committee on Health Policy of the Association of American Universities and the national Association of Land Grant Colleges and Universities.

EARL S. RICHARDSON was appointed the 11th president of Morgan State University on November 1, 1984, after serving eight months as interim president. He took the helm of the University at one of the most critical moments in its history, a period of declining enrollment,

fiscal uncertainty, a deteriorating physical plant and considerable anxiety both within and outside the institution about its future. The versatility and grace with which he has guided the University and the course on which he has led it since that time have distinguished his presidency as one of the great periods in the history of Morgan.

President Richardson joined the Morgan family as a 41-year old scholar holding the Bachelor of Arts Degree in social science from the University of Maryland Eastern Shore (formerly Maryland State College) and both the Master of Science Degree and Doctor of Education Degree in education administration from the University of Pennsylvania. He came to Morgan with a wealth of teaching and administrative experience extending over a 19 year period: Assistant to the President, University of Maryland System and Executive Assistant to the Chancellor, Director of Career Planning and Placement and acting Director of Admissions and Registration at the University of Maryland Eastern Shore. This administrative experience was buttressed by solution-oriented research as fellows for the Ford and Kellogg Foundations and the publication of several articles on the implications of proposals to merge historically Black colleges with white institutions and on inter-institutional cooperation in higher education, all combining to make him a recognized authority on problems in higher education relative to racial autonomy, desegregation and integration.

Since becoming president of Morgan State University, Dr. Richardson has fashioned an all-encompassing strategy for strengthening the University: a growing inventory of graduate and undergraduate programs aimed at new technology and the global community of the 21st century; enhancement of the credentials and scholarly profile of the faculty; the establishment of national centers of excellence in a number of critical fields; and a variety of initiatives to increase minority representation in the professions and to ease the transition of students from high school and community colleges into four-year universities; a rapidly growing and greatly refurbished physical plant; burgeoning increases of over 75 percent in student enrollment, coupled with dramatic increases in the quality of students; sweeping improvements in external funding and government, corporate and foundation support. As a result of his leadership, Morgan has experienced noteworthy growth and improvement over the last two decades and is in the midst of the Renaissance that it is now celebrating.

Dr. Richardson is active in civic and community organizations. He is a member of the Boards of Directors of LifeBridge, Good Samaritan Hospital, the Council for Higher Education on Accreditation and the Goldseeker Foundation; serves on the advisory board or honorary board of the Maryland Coalition Foundation, Baltimore Neighborhoods, Inc. and the Quality Education for Minorities Network; and sits on the Board of Trustees of the Education Testing Service.

Dr. Richardson is married to the former Sheila Bunting of Oklahoma City, Oklahoma, and they have a son, Eric.

JAMIE P. MERISOTIS is the founding President of the Institute for Higher Education Policy. Established in 1993 in Washington, DC, the Institute is regarded as one of the world's premier research and policy organizations concerned with higher education policy development. As the Institute's President, Mr. Merisotis has worked extensively on nearly

every aspect of the Institute's work. He is recognized as a leading authority on college and university financing, particularly student financial aid, and has published major studies and reports on topics ranging from higher education ranking systems to technology-based learning. Mr. Merisotis also manages the Institute's growing global portfolio, working to further educational opportunity and access primarily in nations in transition, such as in Southern Africa and the former Soviet Union.

A champion of the idea that higher education reaps rich rewards for both society and individuals, Mr. Merisotis has focused much of his work on improving access to higher education for low-income, minority, and other underrepresented populations. This commitment to equality of opportunity was a major factor in the establishment of the Alliance for Equity in Higher Education, an unprecedented coalition of national associations that represent more than 350 minority-serving colleges and universities, including Historically Black Colleges and Universities, American Indian Tribal Colleges, and Hispanic-Serving Institutions. Founded in 1999, the Alliance serves as a leading voice for the interests of minority-serving institutions (MSIs) and has become a model of collaboration, unity, and innovation among communities of color. Mr. Merisotis serves as the coordinator and facilitator of the Alliance and is director of the Kellogg MSI Leadership Fellows Program, a year-long, intensive program designed to train the next generation of presidents at MSIs.

Prior to founding the Institute, Mr. Merisotis served as Executive Director of the National Commission on Responsibilities for Financing Postsecondary Education, a bipartisan commission appointed by the President and the Congressional leadership. He is a member of the Board of Trustees of Bates College in Lewiston, Maine, and is Trustee and Chair-Elect of Scholarship America, the nation's largest private sector scholarship and educational support organization. Mr. Merisotis is the recipient of numerous awards and honors, including the 2002 Robert P. Huff Golden Quill Award from the National Association of Student Financial Aid Administrators and the 2001 Community College Government Relations Award presented by the American Association of Community Colleges and Association of Community College Trustees. He was a 2005 finalist for the Brock International Prize in Education, and in 1998 was named one of the top young leaders (under the age of 45) in American higher education by *Change* magazine.

RAYMOND C. PIERCE was appointed Dean of North Carolina Central University School of Law in July 2005. Prior to this appointment Pierce had a successful career with the national law firm of Baker & Hostetler LLP. As a partner in the firm's office in Cleveland, Ohio, Dean Pierce's legal practice concentrated in business transactions and public policy. In addition, he served state governments in higher education and pension investment-related matters and was also a member of the law firm's Federal Policy Group based in Washington D.C. where he assisted clients with government-related issues. Prior to joining Baker & Hostetler, Dean Pierce was a candidate for mayor of Cleveland.

From 1993 to 2000, Pierce served as President Bill Clinton's Deputy Assistant Secretary for Civil Rights at the U.S. Department of Education. While deputy assistant secretary, Dean Pierce managed the enforcement of federal civil rights laws in education and the

development of federal civil rights education policy. Dean Pierce led the development of the Clinton Administration's federal education and civil rights policy in response to the 1992 U.S. Supreme Court decision in *Ayers v Fordice*, 505 U.S. 717 (1992), which addressed equal protection in higher education opportunities for African-American students and the impact of state policies on Historically Black Colleges and Universities (HBCUs). Following the publishing of the *Fordice Notice*, Dean Pierce directed the Department of Education's national higher education desegregation docket and negotiated resolution agreements with six states resulting in increased funding and enhanced educational programming for HBCUs. Through these efforts, Dean Pierce was the commencement speaker at graduation ceremonies for five HBCUs on behalf of the Clinton Administration. He also served on committees with the White House Domestic Policy Council where he assisted in the development of federal urban economic development initiatives. Under Dean Pierce's leadership, his agency received three Vice-President Awards for improving operations in the federal government. During his service with the federal government, Dean Pierce was appointed by the U.S. Secretary of Education to serve on three Senior Executive Service Appointment Boards. Dean Pierce has lectured extensively on the subject of civil rights and education and served on numerous panels and task forces.

Prior to joining the Clinton Administration, Dean Pierce was employed by the LTV Corporation from 1986–1993, beginning as a Labor Relations Counselor and later serving as an attorney in that company's Corporate Law Department. While in the Corporate Law Department at LTV, Pierce was a commercial transactions attorney primarily involved with the transportation section for railroads, waterways and trucking.

Dean Pierce began his legal career in 1984 as a civil rights attorney with the John W. Walker Law Firm in Little Rock, Arkansas where he concentrated on class action employment discrimination cases. He is also a past Chairman of the Education Committee of the Cleveland Branch of the NAACP.

Dean Pierce is the recipient of numerous awards including the Thurgood Marshall Scholarship Fund National Leadership Award, an NAACP National Service Award and the Case Western Reserve University School of Law Distinguished Graduate Award.

Dean Pierce received his law degree from Case Western Reserve University School of Law in 1983 and his bachelor's degree in 1980 from Syracuse University, where he was admitted into the Sigma Tau Delta English Honorary Society. He is admitted to practice in Ohio and Arkansas.

MIKYONG MINSUN KIM (PhD, UCLA) is an Associate Professor of higher education and the Director of the Virginia Campus Higher Education Administration Doctoral Program of the George Washington University. Former posts include faculty positions at the University of Arizona - Tucson and the University of Missouri - Columbia. She also served as a grant panelist and consultant for the National Science Foundation.

She has been actively engaged in contributing to the field of higher education. Her teaching and research interests include college impact, comparative higher education, finance, equity

and opportunity issues, higher education policy, institutional analysis, special colleges for special populations, organizational theory, and bridging K-12, higher education and work. While she encompasses a wide range of interest areas, she has dedicated a great deal of her focus on the impact and effectiveness of Historically Black Colleges and Universities on African-American students. Currently she has an article scheduled to be released in June 2006, *Research in Higher Education*, entitled, "The Impact of Historically Black Colleges and Universities on the Academic Success of African-American Students." Contact: kimmi@gwu.edu, (703) 726-3771, (202) 973-1510.

COMMISSIONER STATEMENTS

Statement of Commissioner Abigail Thernstrom

HBCUs raise an obvious question: Half a century after *Brown v. Board of Education*, should we still support institutions of higher education that are overwhelmingly black?

In 1992, the Supreme Court held in *U.S. v. Fordice* that racially identifiable institutions of higher education in Mississippi were a holdover from the state's Jim Crow past. The plaintiffs wanted more state funding for historically black schools (which are often in dire financial straits), but the court turned them down, seeing the ghost of "separate but equal."

The district court, which then had to fashion a remedy for the dual system, proposed eliminating all but one of the traditionally black colleges in the state. If only one of the HBCUs in Mississippi remained, that would solve the problem of racially separate campuses, since it would force almost all black students to attend schools that were majority white. The proposal prompted the NAACP, in the summer of 1994, to organize a civil-rights march to save Mississippi Valley State University. In a strange turn of events, the preservation of an allegedly "segregated" institution became a black cause. "It's important . . . for blacks to hang onto something and call it their own," one student explained to the *Chronicle of Higher Education*.

Almost all of the HBCUs, which now number approximately 100, were created at a time when Southern blacks were excluded from other schools. (Only four of the HBCUs are outside the South.) They turned out doctors, lawyers, ministers and politicians. W.E.B. Du Bois graduated from Fisk in 1888, Thurgood Marshall from Lincoln (Chester County, Pa.) in 1930, and Martin Luther King Jr. from Morehouse (Atlanta) in 1948. As recently as 1960, these schools were the choice of almost two-thirds of black college students.

They are no longer exclusively for blacks. But they are racially identifiable—much more so than most of the urban public schools that are routinely denounced as disastrously "segregated." Well over 80 percent of the students, and more than six out of 10 faculty members, are African-American. These institutions are defined by a commitment to a black identity that, for many students, remains meaningful. Morehouse, for instance, proudly advertises itself as "The Best College in the Nation for Educating African-Americans."

But overwhelmingly white institutions are also eager for a significant black presence. If all educational doors are so wide open to black students and professors, should we really hope that these financially struggling schools survive? At the height of the civil-rights movement, some thoughtful observers expressed grave doubts. Research by Christopher Jencks and David Riesman concluded that these "by-products of the Southern caste system" were usually an "ill-financed, ill-staffed caricature of white higher education." The "great majority [stood] near the end of the academic procession in terms of student aptitudes, faculty competence, and intellectual ferment." And it seemed self-evident that the demise of Jim Crow would make these schools even weaker by exposing them to new competition. Their best students

and teachers would have choices denied earlier generations of African-Americans, and few would choose even the better HBCUs like Howard over Harvard. In fact, while the proportion of black students educated in HBCUs has fallen sharply with a significant rise in the total number of blacks attending college, in absolute numbers enrollment in these schools has grown substantially.

Perhaps they continue to thrive because they do an excellent job of making sure their students actually get a diploma. Getting into college is not the great problem for blacks in higher education today; staying and graduating is. The dropout rate at the HBCUs is high, but considerably lower than at the typical majority-white school. Although only a 10th of all African-Americans attend HBCUs, they award over a fifth of all bachelor's degrees earned by blacks. And yet they do not attract students from unusually affluent and educated homes.

Admittedly, their academic standards may still be relatively low. They tend to take students, as one advocate put it, who arrive academically "rough around the edges." But the HBCUs have an advantage over even the selective traditionally white colleges: There is no mismatch between black student qualifications and the academic demands of the schools. No students are preferentially admitted -- given a break in a system of racial double standards. And once they enroll at an HBCU, they can feel free to major in more difficult subjects, knowing that they will not be unprepared for the coursework.

In fact, a remarkable 40% of all African-Americans with a bachelor's degree in the physical sciences, and 38% of those who majored in math or the biological sciences, attended HBCUs. Moreover, among blacks who earned a Ph.D. in the late 1990s, 31% had done their undergraduate work at HBCUs. Messrs. Jencks and Riesman, writing in the '60s, complained that the schools were "traditional," rather than "progressive" and "harked back to an earlier period of white academic history." But their academic conservatism may be the secret to their success.

An impressive study by the economists Roland Fryer and Michael Greenstone suggests that HBCUs are not what they used to be. In the 1970s, compared with black students at other institutions, students at HBCUs went on to jobs that paid significantly higher wages. By the 1990s that labor-market advantage had disappeared. There was no "brain drain" into better white schools; the measurable academic credentials of black students at HBCUs relative to those at largely white schools had not changed. So what happened?

It is possible that the Fryer and Greenstone finding may reflect the special historical circumstances of the 1970s, when employers first came under pressure to hire a more racially diverse work force and found it most efficient to comply with affirmative-action mandates by recruiting at schools in which most job applicants would be African-American. By the 1990s these pressures may have eased, or employers may have developed other strategies for dealing with them.

Whatever the true story (and the inadequacies of the data make a definitive judgment difficult), the evidence does not indicate that HBCUs are "the best" schools for African-

Americans across the board, as some enthusiasts claim. But they do seem to meet a real need, serving their students well in important respects.

In a free society, many private and public institutions will have a distinctive demographic profile. Group clustering is not necessarily unhealthy; indeed, it's an inescapable feature of a multiethnic nation. No one worries that there are "too many" Jews at Yeshiva and Brandeis, "too many" Catholics at Notre Dame and Holy Cross, "too many" Mormons at Brigham Young. And so it should be with Howard, Fisk and Mississippi Valley State. That's what democratic pluralism means.

This comment rests heavily on an op-ed of mine, co-authored with Stephan Thernstrom. "Separation Anxiety," *The Wall Street Journal*, November 30, 2007, W13.

Dissent of Commissioners Michael Yaki and Arlan D. Melendez

As has been necessary for us to do with regard to other recent Briefing Hearing Reports approved and issued by the Commission's conservative majority, we are compelled to voice objection to the manner in which this Report was prepared. Further, we are able to support neither its content nor any of its Findings and Recommendations.

This Report is shamefully tardy. The Briefing Hearing about which it seeks to illuminate the concerned public took place in May, 2006, over four full years prior to the majority's final approval of its Findings and Recommendations. The delay was interposed by Commissioners who wished, for reasons related to their own political purposes, to marry this Report to the Commission's Briefing Hearing Report entitled "Encouraging Minority Students to Pursue Science, Technology, Engineering and Math Careers" which is being published simultaneously with this Report. There is no valid reason that this HBCU Report could not have been published during the more than two full years between the Briefing Hearing upon which it is predicated and the STEM Briefing Hearing held in 2008.

Further, parts of this Report's conclusions rest upon stale data, some of which was introduced into the record long after the Briefing Hearing and was over a decade old at the time of its initial consideration. This data is now almost 15 years old,²⁶⁹ nearly the same age as today's students whose post-secondary educational opportunities the majority wishes to impact via its "advice" in Recommendation #1.

We are further concerned that Finding #6 and Recommendation #1 are included merely to trumpet the notion that African-American students may suffer unduly due to "mismatch" between their academic abilities and the willingness of highly selective and competitive schools to admit them. This theory was not discussed at the Briefing Hearing, but rather was grafted onto the Report thanks to an extraordinary reopening of the record.

²⁶⁹ Elliot, Rogers; Strenta, A. Christopher; Adair, Russell; Matier, Michael; and Scott, Jannah, "The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions," *Research in Higher Education*, Vol. 37, No. 6 (1996), pp. 681-709.

Rebuttal By Commissioner Gail Heriot

August 26, 2010

Commissioners Yaki and Melendez call this report “shamefully tardy.” “Shamefully” is a strong word. Although I would much prefer to curl up with a good book and a nice cup of tea this evening, it would be imprudent to let such an accusation go unanswered.

It was for good reason that this report was placed in the queue behind some of our other work. Chairman Reynolds, who unquestionably has both the authority and duty to set the agenda, made the judgment that it would get more readers and hence be more effective if it were revamped and released at the same time as our report entitled “Encouraging Minority Students to Pursue Science, Technology, Engineering and Math Careers.” I understand that these two reports will indeed be published on the same day. That decision is not just something I support. I suggested it (or, more precisely, I suggested something similar to the course of action the Chairman ultimately took and happily supported his alternative course).

Revamping a draft report that otherwise could not have garnered majority support and releasing it in conjunction with a related report is not just appropriate conduct. It would have been inappropriate to issue the report in the condition that it came to us from the Commission staff. And it would have been inappropriate to be indifferent to the increased readership the report could have if released in conjunction with a related report. The Chairman’s decision in no way prevented the Commission from accomplishing its business; it simply changed the order of that business.²⁷⁰

²⁷⁰ In contrast, Commissioner Yaki’s practice of walking out of meetings when doing so will defeat a quorum has indeed prevented the Commission from accomplishing its business on many occasions. As Commissioner Yaki once put it, “if you can’t get your gang of five together, that’s not my problem.” See, e.g., Commission Business Meeting of September 11, 2009 (quorum defeated by Commissioner Yaki); Commission Business Meeting of July 11, 2008 (quorum defeated by Commissioner Yaki), Commission Business Meeting of August 16, 2006 (quorum defeated by Commissioner Yaki); Commission Telephone Meeting of October 30, 2009 (quorum defeated by Commissioner Yaki); Commission Telephone Meeting of October 24, 2009 (quorum defeated by Commissioner Yaki). Commissioner Melendez has sometimes joined him in this behavior.

The quoted statement was from the Commission Telephone Meeting of October 30, 2009. At that conference, Commissioner Yaki suddenly announced “Commissioner Yaki is leaving the conference” directly after Commissioner Taylor was called away to attend to his legal practice. Tr. at 37. The remaining four commissioners remained on the line for an informational meeting on one of its projects for a few minutes, but were unable to take any votes, given the lack of a quorum. After the discussion ended and the court reporter retired, Commissioner Yaki mysteriously re-appeared on the call and, mistakenly believing the other commissioners had left the call, began to speak to staff members. It was likely that he had never hung up, since the tone that sounds when someone enters a call had never sounded. When asked about his conduct, he became irate. His remarks were recorded by a special assistant shortly after hearing them.

On November 11, 2009, he made similar statements on the record, declaring that “should you [i.e. Chairman Reynolds] choose to move forward with your agenda, which I disagree with, I presume that you will have the foresight to ensure that the five members of your coalition are present in order to effectuate that vote.” “I will not be a party,” he said, “to contributing to your ability to get things done.” Transcript 8-9.

And indeed he has not been. On other occasions, Commissioner Yaki has mysteriously joined commission telephone meetings only after it has become apparent that the Commission has a quorum. See, e.g.,

The objections of Commissioners Yaki and Melendez—and this is by no means the first time they have raised them—are perplexing. There is no requirement that the Commission release reports in the order that the briefings were held, just as there is no requirement that Congress legislate in the order that bills were introduced or in the order that legislative hearings were conducted. Indeed, there is no requirement that the Commission release a report following each briefing at all.²⁷¹

I find it hard to believe that the Speaker of the House would do anything but laugh if her appointee, Commissioner Yaki, were to apply the same argument to Congress that he has been applying to the Commission. Of course, the Speaker and other Congressional leaders make judgments about which bills need to be revamped. They supplement records when appropriate. They take proposals in the order that they believe are best, all things considered, rather than in the order that bills were introduced or that legislative hearings were held. And yes, they consider the likely public response to Congressional activities in setting the agenda. If they didn't, they would be derelict in their duty.

Commission Telephone Meeting of September 3, 2009. Unlike most members of the Commission, Commissioner Yaki is never willing to state that he will be able to make one of the Commission's regularly scheduled monthly telephone conferences, always reserving for himself the maneuvering room necessary to defeat a quorum if the opportunity should present itself. This has led to the cancelling of meetings, because it is clear that a quorum will not be available without Commissioner Yaki's cooperation and that cooperation will not be forthcoming. See, e.g., Commission Telephone Meeting of August 27, 2010.

His temper tantrums, which we all have become accustomed to, don't help either. See, e.g., Commission Business Meeting of May 15, 2009 (Tr. at 80). Commissioner Heriot: "Let the record reflect that Commissioner Yaki has been screaming, yelling, and is now storming out of the room." Commissioner Yaki's reaction was to scream that he instead of "screaming" he was "raising his voice in utter disbelief"). See also Commission Business Meeting of December 4, 2009 (Transcript at 116).

I would have more sympathy for Commissioner Yaki's obstreperous conduct (1) if he did not then turn around and complain that our reports are "shamefully tardy" and (2) if he abandoned only those meetings in which some momentous decision is being made with which he disagrees. In fact, however, Commissioner Yaki only rarely passes up a chance to defeat a quorum, even when the business on the Commission's agenda is quite mundane.

²⁷¹ Although Commissioners Yaki and Melendez have to no standing to complain about the speed at which the Commission gets its reports completed, see *supra* at n. 1, if an outsider to the Commission were to remark that our briefing reports sometimes take longer to publish than is optimal, I would be inclined to agree. Part of the problem is the peculiar procedure we employ. Our briefings generally consist of a panel of experts who "brief" the Commission on a particular issue in civil rights. Witnesses are urged to submit their comments in writing prior to the briefing. At the briefing itself, they are asked to summarize their remarks orally, and those oral statements are recorded along with a question and answer period by a court reporter. The body of our briefing report consists of a summary of the oral summary and of the question and answer period drafted by a staff member. This "double summary" is make-work and ordinary takes about a year to produce. For many reports, simply assembling the written statements of the witnesses and attaching to transcript of the briefing as an appendix would require one tenth the work by the staff. Moreover, such a procedure would also result in a more readable report. It would also allow greater time for the Commissioner's Statements and Rebuttals, which tends to be more useful than the "double summary," and could be more useful still if Commissioners (who usually work full-time at other jobs) had more than thirty days to produce them. Commissioner Taylor has suggested this streamlined approach in the past and I certainly support it.

Commissioners Yaki and Melendez do not appear to disagree with the Commission's majority that the initial draft of this report needed substantial re-direction.²⁷² Nor have they

²⁷² Although the original briefing took prior to my tenure, I was on the Commission when Commission staff members produced a draft report a year later. The draft featured two recommendations for the President, Congress and the American people:

- (1) that "federal and state governments should vigorously support and appropriately fund HBCUs" and
- (2) that "federal and state governments ... should take steps to avoid unnecessary duplication of HBCU academic programs at geographically proximate traditionally white institutions."

I was not inclined to vote for either of these recommendations and was confident that neither were a majority of my colleagues. This is not to say that the staff members who produced the draft were not well-intentioned. Staff members seldom get as much time as I would like to confer with Commission members about the kinds of recommendations Commission members want to make. In part this is a result of poorly-designed internal procedures. Sometimes staff members end up making guesses, and sometimes those guesses turn out to be incorrect. They learn. Ultimately, however, under the Commission's statute, it is for the Commission--and not the staff--to issue reports. As commissioners, we are responsible for ensuring their quality.

As for my reasons for opposing the specific recommendations in the draft report: Washington is full of people who would like to testify that they are doing a great job and that their work should be "vigorously supported." This is true whether the testimony is being taken by Congress, by a federal commission, or by one of the many advisory committees that meet in federal buildings every workday. Many of these witnesses are sincere. Some are even correct that they are doing a great job. But there was no reason for the Commission to weigh in on such a complex and multi-faceted issue. Indeed, it would be presumptuous for the Commission to instruct the federal and state government on such a matter. A lot goes into a decision to "vigorously support" and fund any particular institution. State and federal governments do not have unlimited funds. Money that is spent funding HBCUs is money that governments cannot spend on funding for public school lunch programs, agricultural subsidies, programs to protect forests or endangered species, highway or high speed rail construction, or national defense-- to name just a few programs that commonly vie for federal or state dollars. We could not possibly address all of these competing priorities in any briefing, and many are not even within our jurisdiction. Recommending that state government give HBCUs monopoly positions in some of their programs struck me as narrower, which is good. But it also struck me as particularly unwise. Competition among state-funded colleges and universities is a good thing in some situations and a bad thing in others. The Commission was in no position to issue a blanket recommendation of this kind, given that it would almost certainly be misconstrued in the future.

The easiest and perhaps even the best thing to do at the time might have been to kill the report. The Commission has done this in the past when information-gathering briefings or hearings have, for one reason or another, not lead to any useful findings or recommendations. An example that comes to mind is the Commission Briefing on the School Districting Controversy in Omaha, Nebraska (September 8, 2006). This does not necessarily mean that the information gathering would be all for naught. In some of those cases, the Commission has published the briefing transcript, so that the sworn testimony contained in it can be available to policymakers, journalists, scholars and ordinary citizens who might be interested in it.

That, however, would have been an unhappy state of affairs. Although I could not support the recommendations in the draft and did not see any better recommendations that could be distilled from the report as it stood, I knew that there is plenty of evidence in the academic literature that HBCUs were training more than their proportionate share of the nation's African-American scientists, engineers and physicians. This much more limited claim I could support. I therefore told then-Staff Director Ken Marcus that while I did not favor a general declaration that HBCUs should be "vigorously supported," or that their programs should be given monopoly status by state higher education authorities, I would be very happy to give credit where credit is due to HBCUs--in their success in graduating a disproportionate number of the nation's African-American science, technology, engineering and mathematics majors. I furnished Mr. Marcus with one or two articles that confirmed this fact and told him that I believed others could be easily found. My understanding is that he

argued that the report will have not more readers now that it is being released in conjunction with “Encouraging Minority Students to Pursue Science, Technology, Engineering and Math Careers.” Indeed, the possibility of that increased readership appears to be what has inflamed them.

Commissioners Yaki and Melendez have all but admitted that they would prefer that readers not know that a much larger proportion of African-American graduates of HBCUs major in science and engineering than African-American graduates of mainstream colleges and universities. But it is simply true that HBCUs do more than their share of producing African-American scientists and engineers. These commissioners also appear to prefer that readers not learn the reason that some scholars have found for this: As a result of race-conscious admissions policies, African-American students at mainstream colleges and universities tend to have academic credentials that put them towards the bottom of their college classes. These scholars have found that an aspiring science or engineering major who attends a school where her entering academic credentials put her in the middle or the top of her class is more likely to follow through with that ambition than an otherwise identical student attending a more elite school where *those same credentials* place her towards the bottom of the class. As a result, African-American students receiving a preference at an elite mainstream institution are at a disadvantage when it comes to majoring in science and engineering. This is not a problem at HBCUs and hence explains their superior performance in this area.²⁷³

discussed this with the Chairman Reynolds and that the Chairman agreed. In later discussions with Mr. Marcus, we talked about the desirability for further briefing from experts on the subject of encouraging minority students to pursue careers in science, technology, engineering and mathematics. Such a panel of experts was later assembled and the briefing held on September 12, 2008. Witnesses included Dr. Rogers Elliott, professor emeritus of psychology at Dartmouth College, Dr. Thomas Fortmann, a member of the Massachusetts Board of Elementary and Secondary Education and an electrical engineer, Dr. Richard Sander, professor of law at UCLA, Dr. Richard Tapia, professor of mathematics at Rice University and Robin Willner, Vice President of Global Community Initiatives at the IBM Corporation. President Hazel O’Leary of Fisk University, an HBCU, was originally scheduled to testify. She cancelled hours before the briefing (and not long after the list of witness participants was sent to the Commissioners and their special assistants).

I would have preferred to combine this report with the report on this second briefing. Chairman Reynolds preferred to issue them as separate reports on the same day. So be it. Such internal housekeeping issues are about as controversial as a paper clip to anyone except Commissioner Yaki and his allies. More time had to be spent by the Commission defending the Chairman’s decision against the protests of Commissioner Yaki and his allies than can be justified.

²⁷³ See Statement of Commissioner Gail Heriot, Encouraging Minority Students to Pursue Science, Technology, Engineering and Math Careers, United States Commission on Civil Rights Briefing Report (November __, 2010)(issued contemporaneously with this report). See also Rogers Elliott, A. Christopher Strenta, Russell Adair, Michael Matier & Jannah Scott, The Role of Ethnicity in Choosing and Leaving Science in Highly Selective Institutions, 37 Res. Higher Ed. 681, 692-93 (1996); Frederick Smyth & John J. McArdle, Ethnic and Gender Differences in Science Graduation at Selective Colleges with Implications for Admission Policy and College Choice, 45 Res. Higher Ed. 353 (2004); Richard Sander & Roger Bolus, Do Credentials Gaps in College Reduce the Number of Minority Science Graduates?, Working Paper (Draft July 2009).

Commissioners Yaki and Melendez have suggested that the evidence for mismatch in science and engineering in the Elliott study is old (and apparently in their view stale). It is not clear what they have to say about the Smyth & McArdle or the Sander & Bolus articles. It bears noting that most large empirical studies of

At least one HBCU faculty member—Professor Walter Pattillo, Jr. of North Carolina Central University—intuitively grasped the mismatch problem even before scholars were able to demonstrate its existence empirically. As then-chairman of the biology department, he vented his frustrations to *Science* in 1992: “The way we see it, the majority schools are wasting large numbers of good students. They have black students with admission statistics [that are] very high, tops. But these students wind up majoring in sociology or recreation or get wiped out altogether.”²⁷⁴

Unlike some deliberative bodies, the Commission’s procedures permit members to alter the agenda or to require measures be brought up for a vote even if it is not the Chairman’s pleasure. But to do that, of course, they must have a majority of the Commission behind them. Commissioners Yaki and Melendez did not. When a motion was made to require that this report be released before its companion report could be prepared, it was defeated. There is nothing “shameful” or even particularly unusual about the Commission’s decision.

the kind cited above are based on large databases. Often these databases are assembled not by the scholars themselves but by large research institutions attempting to facilitate research generally. The Smyth & McArdle study, for example, was performed on the College & Beyond database collected by the Andrew W. Mellon Foundation. These databases are massive undertakings. Just as the United States does not take a new census every year, these databases are not re-created every year. There is not a lot of evidence to suggest, however, that conditions have changed since then.

²⁷⁴ Elizabeth Culotta, Black Colleges Cultivate Scientists, 258 *Science* 1216, 1218 (November 13, 1992).

U.S. COMMISSION ON CIVIL RIGHTS

The U.S. Commission on Civil Rights is an independent, bipartisan agency established by Congress in 1957. It is directed to:

- Investigate complaints alleging that citizens are being deprived of their right to vote by reason of their race, color, religion, sex, age, disability, or national origin, or by reason of fraudulent practices.
- Study and collect information relating to discrimination or a denial of equal protection of the laws under the Constitution because of race, color, religion, sex, age, disability, or national origin, or in the administration of justice.
- Appraise federal laws and policies with respect to discrimination or denial of equal protection of the laws because of race, color, religion, sex, age, disability, or national origin, or in the administration of justice.
- Serve as a national clearinghouse for information in respect to discrimination or denial of equal protection of the laws because of race, color, religion, sex, age, disability, or national origin.
- Submit reports, findings, and recommendations to the President and Congress.
- Issue public service announcements to discourage discrimination or denial of equal protection of the laws.

Members of the Commission

Gerald A. Reynolds, Chairman
Abigail Thernstrom, Vice Chair
Todd Gaziano
Gail Heriot
Peter N. Kirsanow
Arlan D. Melendez
Ashley L. Taylor, Jr.
Michael Yaki

Martin Dannenfelser, Staff Director

U.S. Commission on Civil Rights
624 Ninth Street, NW
Washington, DC 20425

(202) 376-8128 voice
(202) 376-8116 TTY

www.usccr.gov