

DIVERSITY & THE PH.D.

A REVIEW OF EFFORTS TO BROADEN RACE & ETHNICITY
IN U.S. DOCTORAL EDUCATION

**THE WOODROW WILSON
NATIONAL FELLOWSHIP FOUNDATION
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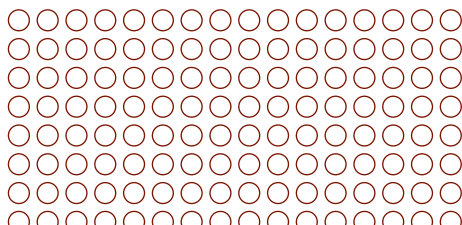
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- **PLEASE NOTE:** This report focuses on educational attainment among African Americans and Hispanics because they are the largest underrepresented groups in higher education, relative to their presence in the nation's population. Similar patterns hold for the very small number of American Indians in doctoral education—just 133 out of nearly 26,000 citizen Ph.D.s in 2003, comprising 0.5% of all U.S. doctoral recipients but 0.9% of the overall population. Asians, on the other hand, received 5.2% of all Ph.D.s granted to U.S. citizens in 2003, when they represented 4.1% of the population, and are therefore not considered underrepresented. (Data on these and other populations come from *Doctorate Recipients from United States Universities: Summary Report 2003*, based on the Survey of Earned Doctorates (Chicago: University of Chicago [National Opinion Research Center], December 2004.) For that matter, while inequities of income and gender (in some fields, particularly the physical sciences) are also of concern, this particular report gives itself over to matters of race and ethnicity, on the grounds that these issues in doctoral education remain not only vexing, but also—as will become clear—politically and culturally difficult to address.

EXECUTIVE SUMMARY

1. **Doctoral education's diversity record is poor.** Despite some gains in recent years, by 2003 only 7 percent of all doctoral recipients were African American or Hispanic—11 percent, if international students are excluded—compared to 32 percent of doctoral-age U.S. citizens from those groups.
2. **It's getting worse.** Despite extraordinary support within and beyond academia for affirmative action admissions programs—as evidenced by the University of Michigan case—court challenges have had a significant chilling effect, resulting in a dilution of resources and a weakening of institutional will.
 - a) There has been a decided shift away from programs offering significant fellowship support for graduate study for minority students.
 - b) The level of financial support for minority doctoral students is also falling.
 - c) The change in the mix of support programs increasingly excludes midlevel minority applicants, many of whom in the past have gone on to successful graduate and postgraduate careers.
 - d) There has been a substantial decline in federal direct investment in doctoral education for minority students.
 - e) Aid packages are focusing more on need, on low-income students, and less on underrepresentation, resulting in a major reduction for minority student support.
 - f) As support for minority students is labeled euphemistically, fewer students of color become aware of possibilities for support.
3. Though a large number of programs still bolster opportunities for minority students, **there is no significant coalition** that might share strategies and information or that might attempt to coordinate efforts so that the overall national effort could become coherent.
4. With a few exceptions, **little data and only partial assessments are available.** Support for data collection has lessened. To a large degree, it is simply unclear what works best, or what does not work, in recruiting and retaining doctoral students of color.

SUMMARY OF RECOMMENDATIONS

- 1. Communication.** Programs must learn from each other and coordinate efforts to avoid overlap and gaps. This can be achieved by creation of an active consortium of organizations committed to the improvement of minority representation.
- 2. Research.** By assessment, educators can learn what strategies work and which do not. Longitudinal data is particularly necessary. More understanding and less reductive politicking on all sides will lead to better results—and a better society.
- 3. Vertical integration.** Graduate education, and especially doctoral education, must make alliances with efforts at school reform in K–12, ensuring that young students learn about the opportunities for an advanced degree. Graduate education must also form alliances with community colleges, with their large population of students of color.
- 4. Intellectual support.** Doctoral education and the various disciplines may engage in habitual practices—from the nature of student orientation programs to what is considered important in an academic field—that serve as a subtle discouragement to interest for students of color. The image of the doctorate, discipline by discipline, must become less abstract and more socially responsive in a non-reductive way.
- 5. Mentoring and professionalizing experiences.** One of the few verifiable results gleaned from actual experience demonstrates the importance of a wide range of mentoring activities, for all students but especially for students of color. Systems of financial support for minority students must not obviate participation in such professionalizing experiences as laboratory work in the sciences and teaching experience in all disciplines.
- 6. Race and need together.** These two efforts to even the playing field need not and should not be made oppositional and alternative, for such criteria as need or “first in family” will not provide anything akin to the same results in improving racial and ethnic diversity as programs frankly treating diversity as a goal.
- 7. Leadership.** The various federal agencies that have required programs to include faculty and students of color and to demonstrate their inclusiveness have, at the same time, provided little guidance or assistance to support these mandates. The federal government must take a more active role in such efforts.

PRESIDENT'S PREFACE

An expertise gap besets the United States. The Ph.D. cohort, source of the nation's college and university faculty, is not changing quickly enough to reflect the diversity of the nation. The next generation of college students will include dramatically more students of color, but their teachers will remain overwhelmingly white, because a white student is three times as likely as a student of color to earn the doctorate.

Doctoral programs have made less progress in diversifying than business, government, and other levels of education.

This expertise gap extends beyond the profession. It is also diminishing our national leadership in any number of professional endeavors, from determining economic policy to designing museums to inventing new pharmaceuticals. The Ph.D.s who lead the way in the world of thought and discovery are far more monochromatic than the population. In all, if diversity matters, it matters greatly at the doctoral level.

As this report indicates, higher education has demonstrated a real intent to diversify the American doctorate, and several major philanthropic foundations and government agencies have made mighty efforts to assist. Yet, while there has been real progress, these organizations confront powerful forces of history, as well as wide inequities in economic and social status.

The fact remains that doctoral programs have made significantly less progress in diversifying than have business and government, or for that matter other levels of the educational system. Even as we acknowledge the prodigious efforts and incremental progress made thus far, the nation and the academy must look frankly at the job ahead.

The dimensions of the challenge are startling. In 2003, roughly one in four Americans was African American or Hispanic—in fact, nearly one in three, within the usual age group for doctoral recipients¹—but only one in nine Ph.D.s conferred on U.S. citizens that year was awarded to an African American or Hispanic

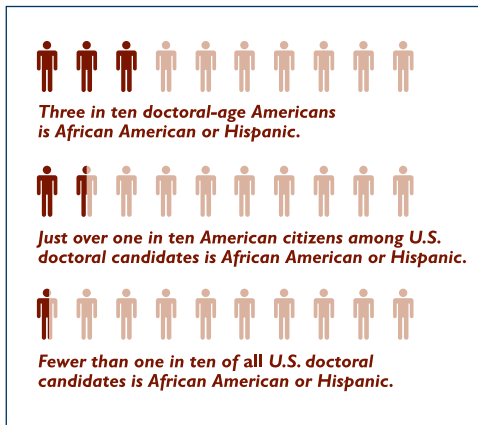
While the next generation of college students will include dramatically more students of color, their teachers will remain overwhelmingly white.

student. When the full context of U.S. doctorates that same year is considered, including the one in three Ph.D.s that went to foreign students in 2003, fewer than one in fourteen of the total Ph.D.s awarded in U.S. universities that same year went to an African American or Hispanic U.S. citizen.²

Why be concerned with doctoral diversity? The reasons are practical, ethical, and intellectual. At the most pragmatic level, the nation must strengthen domestic doctoral

1. Typically late 20s to late 30s. See *Doctorate Recipients from United States Universities: Summary Report 2003*, from the Survey of Earned Doctorates (Chicago: University of Chicago [National Opinion Research Center], 2004), p. 61 (Table 17). Demographic data for the 25–40 age bracket derived from the U.S. Bureau of the Census, Annual Estimates of the Population by Sex and Age of Hispanic or Latino Origin for the United States: April 1, 2000 to July 1, 2003 and Annual Estimates of the Population by Sex and Age of Black or African American Alone or in Combination for the United States: April 1, 2000 to July 1, 2003, accessed (respectively) at <<http://www.census.gov/popest/national/asrh/NC-EST2003/NC-EST2003-04-12.xls>> and <<http://www.census.gov/popest/national/asrh/NC-EST2003/NC-EST2003-04-04.xls>>.

2. The figures: Of 40,710 research doctorates awarded in 2003 in the United States, 26,413 went to U.S. citizens; of these citizens, 25,705 identified their race and ethnicity. Among these, 1,708 of new Ph.D.s in 2003 were African American and 1,270 were Hispanic. In the same year, 77,142,125 U.S. citizens were African American and/or Hispanic, or roughly 26.5%. See *Doctorate Recipients 2003*, especially pp. 4 and 50 (Table 8). Population data come from the U.S. Bureau of the Census, Annual Estimates of the Population by Sex, Race and Hispanic or Latino Origin for the United States: April 1, 2000 to July 1, 2003 (accessed online at <<http://www.census.gov/popest/national/asrh/NC-EST2003-srh.html>>).



enrollments to capitalize fully on the nation’s intellectual resources. The failure to do so is dramatized by a research dependence on foreign students, who received more than 35 percent of all U.S. doctoral degrees in 2003, and as many as one-half to two-thirds of Ph.D.s in engineering and the bench sciences. While U.S. doctoral institutions have boasted justly of serving as classrooms to the world, these circumstances render the nation vulnerable to changes in geopolitics and education that could leave the academic workforce vastly underpopulated. Indeed, recent studies suggest that overseas enrollment in American graduate schools is declining, a development perhaps predictable after 9/11, but troubling nonetheless for the academic market.³ For this reason alone, the United States needs to enroll a broader base of American citizens in its graduate programs.

While a strong presence of international students constitutes one desirable form of academic diversity, it must not substitute for the form of diversity we are discussing here. In 2003, nearly five times as many citizens of other nations

(some 14,300) earned U.S. doctorates as did U.S. citizens who are African American and Hispanic (roughly 3,000).⁴ The fact that so many more U.S. doctorates go to foreign students than to U.S. minority students raises another aspect of the issue: Educating the world’s students while neglecting significant groups of the national population is a vast inequality at the highest academic level. This situation diminishes the value of American citizenship for too many of our citizens, and runs counter to the founding principles of the United States.

However one might address practicalities and argue ethics, there is a fundamental academic reason to grapple with these issues. The

The presence of more faculty from under-represented groups can position universities to achieve greater successes.

diversification of the Ph.D. is in fact the diversification of the American mind, a way of ensuring the hybrid vigor of the national intellect. While the manner in which an individual thinks has any number of complex causes, cultural identity certainly plays a part. Academic disciplines also have their own cultures—habits of thought. The mingling of cultural and disciplinary habits guarantees the range and fullness of intellectual discovery that earns the epithet “cosmopolitan.” The diversification of the American mind is therefore not a politically correct platitude, but a first scholarly and pedagogical principle.⁵

3. See “New Survey Indicates Apparent Decline in New Enrollments of International Graduate Students at U.S. Universities,” NAFSA: Association of International Educators, November 10, 2004 <<http://www.nafsa.org/content/publicpolicy/forthemedia/enrollmentsurveyjointrelease.htm>>.

4. *Doctorate Recipients 2003*, Tables 8 and 11 (pp. 50–51, 54).

5. Academic conservatives often respond to this point by asking whether higher education institutions are not insufficiently diverse in terms of political

Diversity and the Ph.D., sponsored by grants from the Atlantic Philanthropies and the Andrew W. Mellon Foundation, is an integral part of the Responsive Ph.D. initiative at the Woodrow Wilson National Fellowship Foundation. In this initiative, nineteen leading doctoral institutions have explored innovations in the arts and sciences Ph.D.: ways to promote more adventurous scholarship; provide better teaching preparation; forge stronger connections between graduate institutions and the

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social sectors they serve—including business, government, cultural and nonprofit organizations, the public schools, and undergraduate education in a variety of institutions; and increase diversity among doctoral students. The presence of more faculty from currently underrepresented minorities, Woodrow Wilson believes, can position universities to achieve greater successes in every one of these areas. Two meetings held in 2001 with leaders in doctoral education, including representatives from a number of the organizations described in this report, underlined and reinforced both that sentiment and the urgency of the need to focus on minority doctoral recruitment and retention.

Diversity and the Ph.D. surveys selected national programs that aim to improve the numbers of U.S. doctoral candidates of color. Not every program is included; rather, this is a large representative sample. Further, the report looks at national programs, not university-based programs designed to recruit and retain students of color; the latter constitute

one area among many others related to doctoral diversity that require further research. Many other

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quality programs not covered in this report have also sought to help diversify the American Ph.D.

In its analysis, *Diversity and the Ph.D.* is not liberal or conservative but impatient. In developing findings and recommendations, we have set a course that should not divide those supporting or opposed to affirmative action programs, so long as they accept the premise that a representative Ph.D. cohort would benefit both the academy and the nation as a whole. Moreover, the report deliberately limits its number of recommendations, to make their realization possible.

This document is intended not simply to report on the past, but to create an agenda for present action and future change. The past, in this case, is our enemy. The present is our challenge.

ROBERT WEISBUCH

President, The Woodrow Wilson
National Fellowship Foundation

belief, with a great preponderance of liberals in some disciplines. Our answer is yes, that this is a fully legitimate concern. It simply should not substitute for the concern we are treating here. The emphasis in the No Child Left Behind Act upon identifying achievement in K-12 by racial and ethnic groups implies strong agreement on this point across ideological lines.

INTRODUCTION:

THE CONTEXT & THE NEED FOR DOCTORAL DIVERSITY

In recent years the nation has seen dramatic evidence of higher education's concern for greater diversity among both students and faculty. The University of Michigan went to great lengths to defend its right to use race as a positive factor in undergraduate and professional admissions; an outpouring of support for this effort came from other colleges and universities. Nor was this concern for minority representation confined to the academic community. Amicus briefs were filed by scores of

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professional associations, retired military leaders, Fortune 500 corporations and thousands of individuals. Finally, in its landmark decision of June 2003, the United States Supreme Court affirmed that these concerns were legitimate and that institutions of higher education had authority to try to address them.

Since that time, continuing efforts by agencies outside of higher education to challenge university affirmative action programs have weakened the collective will to sustain them.⁶ The unfortunate phrase “diversity fatigue” describes an even more unfortunate development. Moreover, those programs that have survived have been severely compromised by conflict between those seeking to improve minority representation and those seeking to halt targeted programs. Only in two or three

other arenas has a lack of national consensus on an issue had such a fundamental impact on actual programs. Indeed, this conflict has significantly and negatively affected every program surveyed for this report.

In its 2003 decision, the United States Supreme Court expressed hope and belief that the need for special recruitment efforts directed toward minorities would disappear after 25 years. It is difficult to be optimistic that the programs now in place will enable higher education to reach that goal, as these trends among them indicate:

- Less financial support for minority applicants to universities is available. A number of programs that provide financial assistance have significantly broadened eligibility criteria to include non-minority students. As a result, the pool of eligible students is much larger, while funding has remained fixed—or, in some cases, has shrunk. Changes in the mix of support programs increasingly exclude midlevel minority applicants. Top-ranked colleges and universities, along with a few foundations, continue to offer significant financial aid and prestigious fellowships for outstanding students, but these benefits go only to the very best students. Need-based financial aid, by definition, goes only to applicants from the lower socioeconomic strata. Programs that once assisted middle-income applicants, as well as those who are well qualified but not exceptional, have largely vanished,

6. For one media perspective, see Jeffrey Selinger, “Michigan: Who Really Won?,” *The Chronicle of Higher Education* 14 January 2005: A21 <<http://chronicle.com/weekly/v51/i19/19a02101.htm>>.

leaving stranded many deserving minority students who might otherwise pursue both undergraduate and advanced degrees.

- While it is increasingly common for mainstream federal programs to require that some proportion of grants go to students or faculty of color, they provide little guidance as to how this outcome is to be achieved. If program leaders, without guidance and broader resources, pursue narrow recruitment strategies, such requirements will only intensify competition for the small pool of minority students already committed to academic careers.
- Many program managers acknowledge that, in response to recent legal challenges to university support programs, they have modified their program structures, their eligibility criteria, and even their names. Some report decisions to maintain low public profiles whether or not they feel vulnerable to legal challenges.

As hesitations and constraints grow among programs meant to diversify the doctorate, minority groups' representation in academe remains well below their demographic representation in the population as a whole. Though nearly 32 percent of the doctoral age U.S. population was African American or Hispanic in 2003, only 11 percent of the Ph.D.s that American universities conferred on U.S. citizens that year went to African American or Hispanic students—just 7 percent of all

Ph.D.s awarded in the U.S., including those granted to international students.⁷

Representation of Ph.D.s of color is particularly troubling in the arts and sciences, as Table 1 (facing page) shows. Although African Americans made up 6.6 percent of citizen Ph.D.s in 2003, they clustered in education, where the doctorate is often a midcareer credential for administrators. (The median age of a new education Ph.D. is 43.5, as opposed to 33.3 across all fields.⁸) On the other hand, among all U.S. citizens who received doctorates in 2003 in the arts and sciences, where the Ph.D. is the entry-level degree for scholars and researchers, only 4.3 percent were African American—in fact, only 2.8 percent, if international students were included in the total.⁹ Indeed, nearly 45% of all Ph.D.s awarded to African Americans in 2003 were in education, compared with another 44% in all of the arts and sciences disciplines. (The balance were awarded in engineering and other professional fields.) African Americans are also less likely than other Americans to earn Ph.D.s from the traditional leading arts and sciences institutions.¹⁰

By comparison, Hispanic doctoral graduates are more evenly spread across fields. In 2003, 4.9 percent of all U.S. citizen doctorates were awarded to Hispanics, as compared with the roughly commensurate 4.7 percent of all arts and sciences Ph.D.s awarded that year to Hispanic students.¹¹ What is more, as

7. See notes 1 and 2.

8. *Doctorate Recipients 2003*, Table 17 (p. 61).

9. *Doctorate Recipients 2003*, Tables 5 and 8 (pp. 47, 50–51).

10. Leaving aside Florida's Nova Southeastern University (listed in 2003 as the second largest producer of Ph.D.s in the U.S., overall, because it produces a disproportionate number of doctorates in education and the professions), only three of the ten institutions that grant the largest number of Ph.D.s (Harvard, Michigan, and Ohio State) are among the institutions that grant the largest number of Ph.D.s to African Americans. Others in the list, though they include one renowned HBCU (Howard) and a number of respected state schools, rank neither among the nation's 20 largest producers of Ph.D.s nor in the top echelon of graduate institutions as ranked by the National Academy of Sciences. *Doctorate Recipients 2003*, Tables 3 and 10 (pp. 44–45, 53).

11. *Doctorate Recipients 2003*, Table 8 (pp. 50–51).

TABLE I

P.H.D.s GRANTED TO AFRICAN AMERICAN & HISPANIC U.S. CITIZENS BY FIELD, 2003

Field of study and race / ethnicity	Number / % of total
ALL FIELDS	
Known race/ethnicity*	25,705
African American	1,708
% African American	6.6%
Hispanic	1,270
% Hispanic	4.9%
ARTS AND SCIENCES**	
Known race/ethnicity*	17,142
African American	744
% African American	4.3%
Hispanic	801
% Hispanic	4.7%
EDUCATION	
Known race/ethnicity*	5,382
African American	743
% African American	13.8%
Hispanic	327
% Hispanic	6.1%
ENGINEERING	
Known race/ethnicity*	1,844
African American	69
% African American	3.7%
Hispanic	90
% Hispanic	4.9%
PROFESSIONAL/OTHER FIELDS	
Known race/ethnicity*	1,337
African American	152
% African American	11.4%
Hispanic	52
% Hispanic	3.9%

* All figures shown are specifically for U.S. citizens of known race/ethnicity—international students not included.

** Includes physical sciences, life sciences, social sciences, and humanities.

Source: *Doctorate Recipients 2003*, p. 55 (Table 8).

Table 2 (facing page) shows, the number of doctorates awarded to Hispanics from 1983 to 2003 increased at about the same rate as the U.S. Hispanic doctoral-age population—roughly 134 percent.¹² And more of the nation’s major doctoral institutions appear among the ten institutions granting the most Ph.D.s to Hispanics (along with several institutions in Puerto Rico).¹³ All of this said, however, Hispanics remain significantly underrepresented at the doctoral level (4.9 percent of all citizen Ph.D.s, but 17.4 percent of the overall doctoral-age population).¹⁴

To be sure, even though Ph.D. attainment among African Americans and Hispanics is still well below representative levels, the number of Ph.D.s granted to scholars of color has increased notably over the past 20 years. As Table 2A indicates, from 1983 to 2003, the number of African Americans granted Ph.D.s in the arts and sciences (here defined as the aggregate of the physical, life, and social sciences and the humanities) increased by 114%, and the number of Hispanics by 150%. Underlying these aggregate percentages are still greater gains within each area of the arts and sciences, as Table 2B indicates. For example, the number of African Americans receiving Ph.D.s in the physical sciences in 2003 increased over two decades by 269%, more than twice the rate of increase for the arts and sciences overall, and by 153% for Hispanics. Similarly, in the

life sciences, the numbers of African Americans granted Ph.D.s rose by almost 200%, while the comparable figure for Hispanics increased by 344%. While these impressive overall gains have helped the minority Ph.D. presence in the physical and life sciences catch up to that in the humanities and social sciences, the number of new African American Ph.D.s in the physical sciences in 2003 was still only 96, out of more than 3,000. Indeed, African American and Hispanic Ph.D.s still represent just 3% to 4% of all citizen doctorates in the hard sciences.

Among the professions, education, long an area of doctoral focus for these groups, saw lesser increases—50% more African American Ph.D.s and 81% more Hispanic Ph.D.s. Other professional fields saw moderate proportional increases in Ph.D. attainment by African Americans and Hispanics (145% and 126%, respectively), while engineering, like the physical and life sciences, had large percentage gains on very small bases (with just 18 African American and 18 Hispanic engineering Ph.D.s in 1983).

One might like to attribute improved Ph.D. attainment to the various minority doctoral recruitment programs of the past two decades, but statistical data to support such a conclusion are unavailable. Furthermore, for various reasons, this increase in Ph.D. attainment may

12. *Doctorate Recipients 2003*, Table 8; estimates of Hispanic doctoral age populations from the U.S. Bureau of the Census: for 1983, National Quarterly Population Estimates, Intercensal Resident Population, 4/1/83, as accessed at <http://www.census.gov/popest/archives/1980s/80s_nat_detail.html>; for 2003, from Annual Estimates of the Population by Sex and Age of Hispanic or Latino Origin for the United States: April 1, 2000 to July 1, 2003, accessed at <<http://www.census.gov/popest/national/asrh/NC-EST2003/NC-EST2003-04-04.xls>>.

13. *Doctorate Recipients 2003*, Tables 3 and 10 (pp. 44–45, 53).

14. *Doctorate Recipients 2003*, Table 8; U.S. Bureau of the Census, Annual Estimates of the Population by Sex and Age of Hispanic or Latino Origin for the United States: April 1, 2000 to July 1, 2003, accessed at <<http://www.census.gov/popest/national/asrh/NC-EST2003/NC-EST2003-04-04.xls>>.

TABLE 2

TRENDS, BY FIELD, IN PH.D.s GRANTED TO AFRICAN AMERICAN AND HISPANIC U.S. CITIZENS, 1983–2003

TABLE 2A

Field of study and race/ethnicity	1983	1993	2003	% increase, 1983–2003
ALL FIELDS				
Known race/ethnicity*	23,772	26,221	25,705	
African American	925	1,109	1,708	85%
% African American	3.9%	4.2%	6.6%	
Hispanic	542	833	1,270	134%
% Hispanic	2.3%	3.2%	4.9%	
ARTS & SCIENCES**				
Known race/ethnicity*	15,192	16,606	17,142	
African American	348	463	744	114%
% African American	2.3%	2.8%	4.3%	
Hispanic	320	524	801	150%
% Hispanic	2.1%	3.2%	4.7%	
ENGINEERING				
Known race/ethnicity*	1,120	2,208	1,844	
African American	19	41	69	263%
% African American	1.7%	1.9%	3.7%	
Hispanic	18	56	90	400%
% Hispanic	1.6%	2.5%	4.9%	
EDUCATION				
Known race/ethnicity*	6,152	5,763	5,382	
African American	496	515	743	50%
% African American	8.1%	8.9%	13.8%	
Hispanic	181	213	327	81%
% Hispanic	2.9%	3.7%	6.1%	
PROFESSIONAL/ OTHER FIELDS				
Known race/ethnicity*	1,308	1,644	1,337	
African American	62	90	152	145%
% African American	4.7%	5.5%	11.4%	
Hispanic	23	40	52	126%
% Hispanic	1.8%	2.4%	3.9%	

TABLE 2B

Field of study and race/ethnicity	1983	1993	2003	% increase, 1983–2003
PHYSICAL SCIENCES				
Known race/ethnicity*	3,030	3,433	3,034	
African American	26	41	96	269%
% African American	0.9%	1.2%	3.2%	
Hispanic	38	87	96	153%
% Hispanic	1.2%	2.5%	3.2%	
LIFE SCIENCES				
Known race/ethnicity*	4,341	4,786	5,294	
African American	64	123	190	197%
% African American	1.5%	2.6%	3.6%	
Hispanic	48	126	213	344%
% Hispanic	1.1%	2.6%	4.0%	
SOCIAL SCIENCES				
Known race/ethnicity*	4,916	4,915	5,170	
African American	185	204	307	66%
% African American	3.8%	4.2%	5.9%	
Hispanic	138	182	276	100%
% Hispanic	2.8%	3.7%	5.3%	
HUMANITIES				
Known race/ethnicity*	2,905	3,472	3,998	
African American	73	95	151	107%
% African American	2.5%	2.7%	3.8%	
Hispanic	138	182	276	125%
% Hispanic	3.3%	3.7%	5.4%	

* All figures shown are specifically for U.S. citizens of known race/ethnicity—international students not included.

**Includes physical sciences, life sciences, social sciences, and humanities.

Source: *Doctorate Recipients 2003*, p. 50 (Table 8).

not translate into a greater number of candidates for the professoriate. For instance, some Ph.D.s of color may feel disinclined to enter the professoriate, to the extent that they perceive the academy as insular. Various anecdotal data—such as a recent online survey by Black Issues in Higher Education, where more than 70% of respondents said of the tenure process that “too little attention is given to the role that tenure-track professors can play in the improvement of their communities”—point to this concern.¹⁵ It is clear that efforts to attract students of color into the professoriate and (more broadly) into doctoral education depend heavily on what happens in their pre-doctoral years. The K–12 pipeline, the transition that students of color make from high school to college, and college retention rates are all fundamental supports for the future supply of African American and Hispanic Ph.D.s. As Table 3 (facing page) shows, students of color made significant gains at the baccalaureate and master’s levels during the decade of the 1990s (the time when many newly minted Ph.D.s of 2003 were undergraduates and master’s students); doctoral attainment has also improved, especially among African Americans, though the number of Hispanic students receiving Ph.D.s has not risen nearly so sharply. Still, these rates of Ph.D. attainment remain below the representation of

people of color in the doctoral-age population.¹⁶ Recruitment of the growing pool of bachelor’s degree recipients who are African American and Hispanic therefore becomes all the more critical.

Still more alarming are graduation rates for students of color. The *Journal of Blacks in Higher Education* notes that “the nationwide college graduation rate for black students stands at a appallingly low rate of 40 percent. This figure is 21 percentage points below the 61 percent rate for white students,” while Sara Melendez notes in *ACE’s Reflections on 20 Years of Minorities in Higher Education* that only 9.7% of Hispanic students complete college within four years (as compared with 29.6 percent of white students).¹⁷ In the same retrospective publication, former ACE president Robert H. Atwell writes,

The areas in which we have seen little improvement include degree completion and participation in doctoral education.... It is increasingly clear that access must be accompanied—in the case of those promising students whose previous educational experiences are lacking—by tutoring, mentoring, and advising services to help them succeed. Too often, these services are either nonexistent or understaffed and underfunded. This also requires closer collaboration between K–12 and higher education to identify problems and needs at a pre-collegiate stage.¹⁸

15. Online survey accessed at <<http://www.blackissues.com/index.asp>>, January 24, 2005.

16. It should be noted that the figures in Table 3 include international students. When nonresident aliens (i.e., most international students) are excluded, the 2002 figures for doctoral attainment rise to slightly more than 7% for African Americans and just over 4% for Hispanics, still below the 14% and 17% (respectively) of the doctoral-age U.S. citizens who are members of these groups. See also “Doctor’s degrees conferred by degree-granting institutions, by sex, racial/ethnic group, and major field of study: 2001–02,” Table 271, *Digest of Education Statistics 2003* (Washington, D.C.: U.S. Department of Education/National Center for Education Statistics, 2003), accessed online at <<http://nces.ed.gov/programs/digest/d03/tables/dt271.asp>>.

17. “The Persisting Racial Gap in College Student Graduation Rates,” *The Journal of Blacks in Higher Education*, Autumn 2004 (Issue 45), accessed online <http://www.jbhe.com/features/45_student_grad_rates.html>; Sara Melendez, “From Humble Beginnings Comes Great Achievement,” in *Reflections on 20 Years of Minorities in Higher Education and the ACE Annual Status Report* (Washington, D.C.: American Council on Education, 2004), p. 6.

18. “The Long Road Ahead: Barriers to Minority Participation Persist,” in *Reflections on 20 Years*, p. 1.

Although a fuller treatment of undergraduate access and assistance for minority students is beyond the scope of this report, recruitment, mentoring, and retention of those same students

are crucial issues for organizations seeking to diversify the doctorate. As the following pages will suggest, these organizations continue to confront significant barriers and disconnects.

TABLE 3

DEGREES GRANTED TO AFRICAN AMERICAN & HISPANIC STUDENTS AS PROPORTIONS OF ALL U.S. DEGREES GRANTED, 1992 & 2002

Field of study and race / ethnicity	1992	2002	% Increase
AFRICAN-AMERICAN			
Bachelor's Degrees	71,219	111,176	70.5%
% of Bachelor's Degrees	6.3%	8.6%	
Master's Degrees	17,379	36,911	112.4%
% of Master's Degrees	4.9%	7.7%	
Doctorates	1,202	2,270	88.9%
% of Doctorates	2.7%	5.1%	
HISPANIC			
Bachelor's Degrees	40,254	79,029	96.3%
% of U.S. Bachelor's Degrees	3.5%	6.1%	
Master's Degrees	9,049	20,450	126.0%
% of Master's Degrees	2.6%	4.2%	
Doctorates	798	1,351	69.3%
% of Doctorates	2.0%	3.1%	

Source: *Doctorate Recipients 2003*, p. 55 [Table 8].

ABOUT THIS REPORT

The Woodrow Wilson National Fellowship Foundation held two Responsive Ph.D. meetings—in May 2001 and November 2001—on the topic of diversity in doctoral education, convening leaders of several of the national initiatives to recruit and retain doctoral students of color. At the second of these meetings, it became clear that no ready guide existed to help observers understand the nature and variety of diversity efforts in doctoral education. Woodrow Wilson also learned that such meetings are extremely rare, that information sharing is negligible, and that worthy assessments are few. While many agencies and funders continue to work hard on these issues, no one entity has a larger perspective on what kind of efforts work, nor have the various initiatives taught each other what they do know.

This report takes a first step toward creating both the coalition and the knowledge that will be essential to closing the gap. It is intended as a resource of several kinds. For institutions that participate in efforts to diversify the Ph.D., it lays out the various structures and approaches that such programs can take. For readers interested in policy, it offers a guide to issues that program design must address. For funders—who initially expressed a strong interest in this effort and who have continued to do so—it provides an overview of some resource needs and opportunities. Ultimately, this report attempts to map critical features of minority recruitment and retention in American doctoral education.

METHOD

This study sought to survey existing national programs that recruit and retain doctoral students of color, to find out what was known about their effectiveness, and to see how well they fit together as a system. To accomplish this task, Woodrow Wilson Foundation staff carried out lengthy written and oral interviews with the managers of 13 programs. Interviews sought managers' descriptions of their specific program goals and of how their programs sought to meet those goals; elicited their sense of the strengths and weaknesses of their programs; and asked how they assessed the relative success of their own efforts.

In general, current efforts to support minority doctoral students range from those that focus primarily on educating disadvantaged and minority populations, providing no particular direction on final career choice, to those with specific career courses as their objectives. Some programs are explicitly designed to recruit new teachers of color, whether at the public school, college, or graduate level, while others concentrate specifically on minority college faculty, including those already in place. The conferences that gave rise to this small study were centered on graduate education and the preparation of college and university faculty, and for that reason programs that seek diversity in the professoriate have a special place in this discussion.

Taken as a group, the 13 programs selected for examination in this report fit these criteria:

1. They are—or were initially—national in scope. (At least one has scaled back.)
2. They provide a sample across the arts and sciences.
3. They focus on doctoral education.
4. They represent a broad range of program types.

By design these criteria omit programs hosted by individual states, institutions of higher education, and university consortia (such as the Big Ten’s Committee on Institutional Cooperation [CIC]), restricting the review to those programs that take a national approach to the national problem of diversity in doctoral education. (*For some examples of more local, campus-based initiatives, see sidebar, facing page.*) Notably, several programs that were invited to participate declined. That said, the Woodrow Wilson Foundation believes that this sample of 13 initiatives represents a sufficiently broad and deep range of programs to demonstrate key points. The survey included these organizations:

1. The Ford Foundation: Diversity Predoctoral, Dissertation, and Postdoctoral Fellowships
2. The Bill & Melinda Gates Foundation: Gates Millennium Scholars
3. The National Endowment for the Humanities: Faculty Research Awards at Historically Black Colleges and Universities, Hispanic-Serving Institutions, and Tribal Colleges
4. The Southern Regional Education Board: Doctoral Scholars Program
5. The GE Foundation: Faculty for the Future
6. The Alfred P. Sloan Foundation: Minority Ph.D. Program
7. The Andrew W. Mellon Foundation: Mellon Mays Undergraduate Fellows Dissertation Grants and Travel & Research Grants
8. The KPMG Foundation: The PhD Project
9. U.S. Department of Education: Ronald E. McNair Post-Baccalaureate Achievement Program
10. The National Science Foundation: Alliance for Graduate Education and the Professoriate (AGEP)
11. The American Sociological Association: Minority Opportunities through School Transformation (MOST)
12. The National Science Foundation: Integrative Graduate Education and Research Traineeship (IGERT)
13. The Council of Graduate Schools: CGS & Peterson’s Award for Innovation in Promoting an Inclusive Graduate Community

Summaries of information on these individual programs appear in the Appendix.

It is important to state at the outset that the data gathered for this report are entirely self-reported. Moreover, emphasis on “assessment”—meaning the collection of data that can help to improve one’s own performance and sharpen one’s focus—has not been the norm in any area of graduate education.

CAMPUS-BASED EFFORTS TO RETAIN DOCTORAL CANDIDATES OF COLOR: SOME EXAMPLES

While this report focuses on nationwide initiatives, individual institutions (as well as states and regions) have mounted various kinds of efforts to retain and prepare Ph.D.s of color. In the course of the Responsive Ph.D. initiative, the Woodrow Wilson National Fellowship Foundation has collected a number of examples of innovative campus-level programs at Responsive Ph.D. partner institutions. Although many of these projects emphasize professional development for already-enrolled Ph.D. candidates, as opposed to recruitment, they exemplify some ways in which campuses work with and seek to retain these students.

The Office of Diversity and Equal Opportunity (ODEO) Fellows Program (Yale University) provides minority graduate students with peer mentoring and programming focused on the needs of doctoral students. Fellows are doctoral students themselves who both develop programming and serve as peer advisors and advocates, helping minority doctoral students access resources and programs that focus on their specific needs and assisting undergraduate students interested in graduate school. Nine fellows are chosen each year by a selection committee to plan, implement, and evaluate recruitment and retention programs within the Graduate School for students from underrepresented groups, and for minority students in general. The selection committee includes three current fellows and two advisory committee members.

Partners for Success (The University of Wisconsin–Madison) matches new graduate students of color with continuing graduate students, as well as some faculty and recent alumni, who serve as mentors. A component of the wider university initiative on diversity and inclusiveness, the program provides professional, social, and educational networks that support new students' transition to graduate school, the university campus, and the local community. The program focuses on the six stages of relationship with the university: recruitment, admission, academic advancement, retention, exit, and re-affiliation as an alumnus. Programming includes monthly workshops, social activities, and large group outings that help acclimate students. A doctoral student serves as the project assistant and coordinator.

The Certificate in College and University Faculty Preparation (Howard University) provides doctoral students with substantive academic preparation for faculty careers in higher education. The certificate program seeks to expose doctoral students to the full range of the roles and responsibilities of faculty life and major issues in higher education. It provides an official credential for faculty preparation analogous to those the Ph.D. degree offers for research. The program encompasses a field experience, a six-hour sequence of academic core courses, and appropriate electives. Participants explore such topics as faculty roles and responsibilities in higher education, mentoring students, learning outcomes assessment, achieving and maintaining diversity, technology in higher education, and citizenship in the academic community.

Indeed, when they were used at all by interviewees, the terms “success” or “failure” almost invariably applied to efforts at raising funds and not to outcome measures. The available information, therefore, does not support comparative judgments across programs, and rarely permits even the identification of the most effective elements within multifaceted programs.

FRAMEWORK OF THE ANALYSIS

In analyzing findings, the project team first constructed a typology of programs, based on the central thrust of their activities:

1. **Individual fellowship programs**—Financial support awarded directly to students of color.
2. **Institution-based fellowship programs**—Graduate fellowships apportioned to institutions that, in turn, select student recipients and (sometimes) provide mentoring and other services.
3. **Support services**—Services to recruit or prepare prospective graduate students of color or ensure their success during doctoral study (such services may or may not be coupled with fellowship support).
4. **General programs emphasizing inclusiveness**—Support programs for the general population, with specific requirements to include and support students from underrepresented groups.

This typology is useful for several reasons. First, by bringing some order to program categories, it reveals the range of strategies currently used by national programs. Second, it enables rough comparisons—if not the genuine analysis of effectiveness that better data might support—among similar programs. Third, by implication, these program designs embody hypotheses about the reasons for low minority participation in doctoral education (lack of funds, lack of mentoring, and so on); if in the future better data do show one design to be more effective than another, the typology becomes a framework for testing these hypotheses.

Finally, graduate recruitment and support programs are themselves driven by a host of political and economic forces, and it is important to recognize that the attributes of the programs that exist, and recent changes in them, are as likely to be consequences of social and political forces as they are to follow from any measures of performance.

Table 4 groups the programs surveyed according to this typology.

TABLE 4

CHARACTERISTICS OF SURVEYED PROGRAMS

INDIVIDUAL FELLOWSHIP PROGRAMS

- The Ford Foundation: Predoctoral, Dissertation, and Postdoctoral Fellowships
- The National Endowment for the Humanities: Faculty Research Awards at Historically Black Colleges and Universities, Hispanic-Serving Institutions, and Tribal Colleges
- The Southern Regional Education Board: Doctoral Studies Program
- The Bill & Melinda Gates Foundation: Gates Millennium Scholars

INSTITUTION-BASED FELLOWSHIP PROGRAMS

- The GE Fund: Faculty for the Future
- The Sloan Foundation: Minority Ph.D. Program

SUPPORT SERVICES

- The KPMG Foundation: The PhD Program
- The Mellon Foundation: Mellon Mays Undergraduate Fellows
- The U.S. Department of Education: Ronald E. McNair Post-Baccalaureate Achievement Program
- The National Science Foundation: Alliances for Graduate Education and the Professoriate (AGEP)

GENERAL PROGRAMS EMPHASIZING INCLUSIVENESS

- The American Sociological Association: Minority Opportunities through School Transformation (MOST)
- The Council of Graduate Schools: CGS/Peterson's Award for Award for Innovation in Promoting an Inclusive Graduate Community
- The National Science Foundation: Integrative Graduate Education and Research Traineeship (IGERT)

INDIVIDUAL FELLOWSHIP PROGRAMS

Historically, the earliest programs to support and encourage minority graduate students awarded portable fellowships to individual students. Mirroring popular programs for the general population (such as the Woodrow Wilson Fellowships, NSF Graduate Research Fellowships, Mellon Fellowships in the Humanities, and others), several of these minority-focused programs also attempted to be nationwide talent searches, identifying

bright, well-prepared students of color deserving of admission to nationally ranked graduate schools whether or not they won the top awards. Ford, Howard Hughes, NSF, the National Consortium for Graduate Degrees for Science and Engineering, and the National Physical Science Consortium have all used this model.

Portable awards aim to have multiple impacts. First, they encourage students to pursue

graduate study by making advanced study financially possible. Second, they empower fellowship holders by not requiring attendance at a specific university. Third, the student's freedom to choose his or her doctoral institution provides some assurance that the support resources are indeed incremental to the institution and are not simply used to replace internal funds that would have been used for the same purpose. Finally, the prestige of the fellowship (and even, in some cases, the prestige of semifinalist status) provides *de facto* testimony as to a student's qualifications, which should encourage academic departments to admit these individuals—perhaps expanding the pool of eligible and admitted students.

The danger in the individual fellowship model is that a national competition for a limited number of fellowships inevitably restricts

National competition for a limited number of fellowships inevitably restricts itself to an elite cohort of students.

itself to an elite cohort of students and may fail to benefit students who have undergraduate degrees from midlevel rather than the most prestigious colleges and universities, and/or who have excellent but not superb qualifications. This limitation is particularly evident in small programs that award 30 or fewer fellowships each year.

INSTITUTION-BASED FELLOWSHIP PROGRAMS

Institution-based fellowships are granted to universities for award to their own students. Rather than provide portable fellowships directly to students, almost all federally sponsored programs as well as some private ones (notably, the GE Foundation's Faculty for the Future and the Sloan Foundation program) provide funds to universities or their faculty members who recruit prospects, award fellowships, and provide other services to individual students.

Such programs seek to foster institutional as well as personal faculty commitment to supporting and mentoring minority students; they have the advantage of engaging institutions or faculty directly in the effort to recruit, mentor, and fund minority students. Moreover, because the universities themselves

are most familiar with the qualifications of their students and most able to evaluate competing claimants for support, such programs may help to ensure the selection of a cohort of fellows who will succeed at that particular institution. In addition, institution-based fellowships use the lever of foundation grants to elicit matching commitments of institutional and organizational resources, while sparing the funding agency the responsibility of accepting and reviewing perhaps thousands of applications. The danger of institution-based fellowships, however, is that they may encourage internal university practices that effectively replace local support with external funds, without actually increasing the overall level of effort or resources dedicated to minority doctoral education.

FELLOWSHIPS VS. MENTORING & SUPPORT SERVICES

Two decades ago the federal government, along with some universities and private foundations, supported fellowship programs for minority students that amounted to little more than “a check and a handshake.” Funders evidently believed that so few students of color enrolled in graduate school or entered the professoriate simply because they could not afford the education. Then a number of studies of graduate student performance (most growing out of the 1992 work of Bill Bowen and Neil Rudenstine) concluded that cash fellowships were less effective for students—minority or not—than were programs that integrated students into their departments’ teaching and research.¹⁹

In response, a number of programs have been created in recent years that emphasize direct

intervention in minority students’ experience of doctoral education—in some cases without any fellowship support at all. These programs

A number of programs emphasize direct intervention in minority students’ experience of doctoral education.

couple fellowship support with intense mentoring, summer institutes, community building, and networking. Such activities are clearly driven by a belief that social and cultural factors, as well as economic ones, prevent students of color from attending or completing a graduate or professional degree program. Some of these programs also have specific career objectives and encourage students to enter particular occupations.

OTHER DIMENSIONS: SOURCES OF SUPPORT, GENERAL VS. DISCIPLINE-SPECIFIC PROGRAMS, INSTITUTIONAL LOCUS

Financing for these programs comes from many different sources: the federal government, state governments, private foundations, and private industry. The source of financing is more likely to determine the disciplines targeted in the program than the kind of services in the program. For example, the U.S. Department of Education, the Ford and Mellon Foundations, and member states in the Compact for Faculty Diversity (now narrowed to one program of the Southern

Regional Education Board) fund students across the range of liberal arts and sciences. On the other hand, largely as a result of the funders’ own interests and charters, programs such as those sponsored by the Sloan and GE Foundations, the National Science Foundation, and the accounting firm KPMG offer fellowships in specific disciplines. Many of the largest of the existing third-party (i.e. not university-based) programs have this character.

19. William G. Bowen and Neil L. Rudenstine, *In Pursuit of the Ph.D.* (Princeton, NJ: Princeton University Press, 1992).

While it is scarcely surprising that commercial firms and professional associations create minority programs that will benefit their own fields, relatively less support is available for students in the humanities, the basic sciences (such as mathematics or statistics), or the social sciences (such as political science or economics) than in business or engineering. Moreover, to the extent that commercial sources fund programs for graduate students of color, they likely emphasize professional careers rather than teaching careers—leaving important gaps in the nation’s capacity to prepare a diverse professoriate. A good example of this is the GEM program to support graduate degrees in engineering. Although the program does support Ph.D. study, most GEM fellows earn master’s degrees and then go on to well-paid careers in commercial firms.

Differences in agenda that are internal to universities, as well as external priorities, can also shape efforts to recruit and retain minority

doctoral students. Unlike undergraduate programs, most graduate programs are designed and implemented within academic departments. Departments do their own graduate admissions, make their own rules defining adequate progress, direct research as well as teaching, and play a key role in career placement activities. This fact can slow university and graduate school initiatives to increase minority enrollments, as department administrators do not always share the goals of university administrators.

In recognition of this fact, the Sloan program uses a “bottom-up” strategy, directing support toward individual departments and faculty members. Just the opposite approach is found in NSF’s AGEF program (and its companion undergraduate program LSAMP), which focuses entirely at the top of the university hierarchy, relying on campus leaders to energize departmental and faculty support.

FINDINGS

Both public and private agencies support an enormous array of programs designed to increase the number of underrepresented minorities earning doctoral degrees in the United States. These programs evolved over decades as people, ideas, and funding came together to attack the problem—each from a particular perspective, focused on a specific aspect of the issue. Some programs have been phased out (GE Foundation Faculty for the Future, Patricia Roberts Harris Fellowships) or scaled back (the Compact for Faculty Diversity). Still others (Ford Diversity Predoctoral Fellowships, McNair) appear to have reached a steady state.

This study's interviews with leaders of a sample of these programs, as well as a review of other materials, support two broad conclusions:

1. There has been a decided shift away from programs offering significant fellowship support for graduate study for minority students.
2. Political opposition to race-based initiatives has had an enormous impact on minority support programs, with serious consequences for program design, operational style, and management effectiveness.

THE SHIFTING FRAMEWORK OF PROGRAM DESIGNS

Programs intended to improve diversity in doctoral education have shifted decisively away from financial support, focusing more on efforts to recruit and prepare students for graduate study.²⁰ For a few well-funded elite private schools, this shift may have had a very small effect on financial aid practices; for many other institutions—primarily publicly funded universities—it has dealt a severe blow to the availability of financial aid resources.

Direct federal investment in doctoral education, in particular, has substantially declined. First, the U.S. Department of Education abandoned the Patricia Roberts Harris Fellowship Program. Its lead program to

encourage minorities to pursue graduate degrees is now the Ronald E. McNair Post-Baccalaureate Achievement Program, which offers no fellowships and is primarily, if not exclusively, focused on cultivating undergraduates' interest in doctoral study. Second, in response to a lawsuit, the National Science Foundation ended its Minority Fellowship Program in 1998. That program's initial successor was the Minority Graduate Education (MGE) program, in which funds were awarded to institutions to support fellowships, recruitment, and support activities. Since then MGE has been succeeded by AGEP, which tightly restricts the use of NSF money

20. The only exception to this trend seems to be that of a relatively few Mellon Foundation fellowships. The Mellon Mays Undergraduate Fellows—MMUF—began as a baccalaureate program only, offering no graduate fellowship support. Over the years, however, Mellon has added a set of critical-difference programs that offer small amounts of financial support at the dissertation stage for former undergraduate fellows, particularly in the humanities. These programs are discussed in the appendix (pp. 49–50).

for fellowships and emphasizes service programs and institutional change.

The general shift away from fellowship support may be partly a matter of economics; graduate financial aid is very expensive. It also may reflect a growing recognition that particularly in graduate school, gift aid tends to isolate its recipients, drawing graduate students out of the mainstream research and teaching assistantships that are important in

other students' learning experiences. More and more often, financial grants to minority students are now coupled with requirements that students share more of these experiences common to other Ph.D. candidates. At the same time, the recent trend among leading universities to offer multi-year funding packages to all entering students, has—perhaps—mitigated the perceived need for special funding sources.

THE CONSEQUENCES OF POLITICAL CONTROVERSY

There can be no doubt that many people and organizations are deeply committed to improving the representation of minority groups in higher education—from the managers and staff members implementing the support programs reviewed in this survey to deans, provosts, presidents, and many others in positions of academic leadership throughout the country. The previously cited outpouring of support for the University of Michigan's defense of its admissions policies bears witness to the breadth and depth of this commitment.

However, pressures from other agencies not to create race-specific programs, powerful and omnipresent, are taking their toll. As noted above, NSF ended one of the largest national programs (awarding about 150 three-year fellowships annually) in the face of a lawsuit that never went to trial, while the Clinton administration zeroed out the budget for the Patricia Roberts Harris fellowships. And the impact extends beyond federal programs.

The Compact for Faculty Diversity has undergone sharp cuts in the numbers of fellowships as states withdrew their support. Prominent universities have abandoned longstanding summer programs designed to prepare and support minority college students. Almost every program surveyed has modified its structure, its eligibility criteria, or even its name following recent legal challenges to university minority support programs.

It was a rare interview that did not reflect concern for these pressures, although the responses themselves varied widely. Federal agencies frequently referred to “the White House” (without any specific detail) as the source of policy decisions that modified program structures. Others devoted most of their interview time to describing every possible aspect of their programs *other* than support for minorities. Outside of the federal government, many interviewees acknowledged that they had modified programs in ways that might avoid direct hostile

challenge, and some reported decisions to maintain low public profiles, whether or not they felt vulnerable to legal challenges.

The greatest sensitivity to these issues emerged in interviews with staff of the comprehensive programs, those that cast relatively wide nets across the disciplines. Discipline-based programs—such as those in

Some organizations decided to maintain low public profiles, whether or not they felt vulnerable to legal challenges.

sociology, engineering, or business—did not reveal as much concern for possible political backlash; then again, these programs are much smaller and far less visible to the general public.

Overall, the tension between those seeking to increase the presence of scholars of color in higher education and those seeking to halt minority-specific programs is intense. In very few other arenas has the lack of national consensus on an issue had such a fundamental impact on actual programs. The Woodrow Wilson study team’s own impression from interviews is that this conflict has had a significant and negative impact on every program surveyed. In a nutshell, opposition to race-based initiatives has driven minority support programs underground—with serious consequences for program effectiveness. Here are a few of the issues.

EFFECTS ON PROGRAM DESIGN

Need-Based Aid vs. Programs Specifically Focused on Minority Students. Institutional grants vary widely in their eligibility restrictions. Some focus explicitly on identified minority groups; some allow applicant institutions to define their own eligible groups, defending the proposition that groups that are not underrepresented elsewhere (such as Asian students in engineering) are nevertheless underrepresented in a particular discipline (such as Asian students in English or history) or in a particular geographic area. In the past, most private support programs and federal programs have used “minority status and women” as criteria for eligibility. Largely as a consequence of political and legal pressures, the number of such programs has fallen significantly. All federally sponsored programs

now use some measure of need or disadvantaged background as criteria for eligibility.

Need-based models may indeed serve larger proportions of minority students, because minorities are more heavily represented in the lower economic strata of society, but this change implies certain assumptions and brings with it some significant risks. A need-based model implies that low minority representation in doctoral programs results solely from economic deprivation, with no consideration of social and cultural factors that may make minority students less likely to enroll or persist in doctoral programs. Under such models, the criteria for disadvantaged background may be so stringent that few students in the most prestigious institutions qualify for assistance, financial or

programmatic—even if mentoring and other interventions might encourage them to enter and complete doctoral programs.

A common strategy in the face of political opposition to minority-based programs is to find apparently race-neutral criteria that may closely correlate with minority status—criteria such as urban residency, “first-in-family” to attend college, or attendance at relatively weak school systems. Of course economic need has always been a crucial reason to provide financial support, but when this criterion is coupled with urban residency or need for intense mentoring, it becomes clear that correlates to minority status are being substituted for minority status itself. This is not a very effective strategy for increasing diversity in higher education, because available correlations are not close. In fact, Anthony Carnevale and Stephen Rose have suggested that if universities were to recruit across the board from the lowest socioeconomic ranks of society, the proportion of minority students in higher education would actually drop below current levels.²¹

Finally, replacing minority recruitment programs with socioeconomic variables has the side effect of reinforcing an unfortunate habit of mind—the association of all minority citizens with low socioeconomic status. Such a generalization is obviously insupportable. Nor do the lowest socioeconomic ranks offer fertile ground for graduate recruitment. Individuals entering the profes-

soriate have not typically come from low socioeconomic ranks—or even from blue-collar backgrounds. It is much more common for higher education instruction to be provided by individuals with middle-income and professional family backgrounds. Thus, use of “need” or urban location to replace programs

Correlates to minority status are being substituted for minority status itself—not a very effective strategy for increasing diversity in higher education.

specifically designed to increase recruitment of minorities will inevitably divert recruitment energies away from precisely those groups that offer the most promising potential members of the academic community.

21. Anthony P. Carnevale and Stephen J. Rose, “Socioeconomic Status, Race/Ethnicity, and Selective College Admissions” (New York: The Century Foundation, 2003).

EFFECTS ON PROGRAM EVALUATION & ANALYSIS

Data Unavailability. In so complex an arena, it is impossible to improve a program—or even to identify the strategies that work best—without adequate data. Any academic organization that seeks to improve services to students of color would need access to longitudinal data on the characteristics of the beneficiaries of a program, on the specifics of the strategies used, and on outcome measures. It would have to be able to track the progress of individual students from entry to the beginning of an academic (or professional) career. Opposition to minority-specific programs often takes the form of opposition to gathering the very data that might enable programs to increase their effectiveness. In some states, this opposition has extended to attempts (such as Proposition 54 in California) to forbid the collection of race-based data. Many programs are remarkably reluctant to accumulate data that might be used to guide improvements in their own operations. Even when the demographic characteristics of program beneficiaries are known, and statistics exist on outcome measures, the data frequently lack the links between the two that effective analysis would require.

When asked why data collection and assessment present such a vexed question, most interviewees directed attention elsewhere—to a supervisor, to a political or legislative body, or even to presidential administrations. A few rejected the value of assessment entirely, noting that dollars spent on assessment mean fewer dollars spent on program implementation. Such reactions echoed an intellectual complacency often found on both sides of the debate, to the effect that “we already know what the problem is, we know what has to be done to fix it, and we don’t need any more studies.”

Weak Publicity. Concern that a student who could benefit from one of these programs might be entirely unaware of its existence provided an important motive for this review. With minority support programs maintaining relatively low profiles, many students have no idea what support might be available to them or how to apply for it. A number of these programs rely heavily on institutional or personal contacts to select beneficiaries. They tend to avoid

Many students have no idea what support might be available to them or how to apply for it.

highly publicized national competitions, preferring to work through established networks of friends and associates—not a promising selection mechanism for maximizing program effectiveness. Students who happen not to attend one of a chosen set of universities or who do not come to the attention of a faculty member charged with managing a university program are likely to be bypassed entirely.

EFFECTS ON OPERATIONAL STYLE & EFFECTIVENESS

Program Isolation. Considering the broad array of programs intended to improve doctoral education's ability to attract members of minority groups, one might imagine that the sponsors of these programs would gather from time to time to compare notes, share knowledge bases, and work together to develop some kind of coherent system of support. The study team, however, found no evidence that—apart from the two Woodrow Wilson conferences in 2001—any significant conferences among leaders of different programs have ever taken place. There are often meetings *within* national programs, and sometimes within disciplines, but never *across* programs. Many interviewees admitted to a sense of isolation, and many reacted with enthusiasm to the possibility of conferences at which exchanges of experience and knowledge could take place.

Although interviewees realized that such conferences might engender political fallout or serve as a lightning rod for opponents of their activities, they expressed a strong sense that their isolation has made it impossible to develop any coherent national effort to improve the representation of minority groups in doctoral education. There are gaps in support systems as students move from K–12 to graduate education; there are disciplinary areas that receive support and others that do not; there are universities that mount apparently effective efforts and others that do not; and many programs appear to be deeply ambivalent as to their own goals. All of these issues might well be addressed through better communication across programs.

A FEW CONCLUSIONS & RECOMMENDATIONS

In efforts to increase the presence of scholars of color in doctoral education, political controversies have resulted in a tangled thicket of programs, and political pressures are clearly key factors in the continuing inability of institutions of higher education to meet their own goals for minority representation. The present system of graduate program support for minorities is severely Balkanized. Dozens of funding agencies sponsor dozens of programs, with different goals, different eligibility criteria, different support levels, different types of support, different administrative structures, different application processes, and different willingness to invest in disciplinary areas. It is no wonder that so diffuse a system of supports offers no means to compare various approaches' effects; no wonder that it offers no means of coordinating them toward a common set of goals; and, most important, no wonder that, while these supports have contributed in small ways to doctoral diversity, change has been slow and, at best, incremental.

From the perspective of a student, this is a serious problem. Although university graduate financial aid offices surely are familiar with multiple sources of aid, and probably share their insights with one another, a student can turn to no common information source to determine where, or to whom, he or she should apply. With sufficient diligence, a student can probably obtain most facts from Internet sources, but even these will not include realistic information on an application's chances of success.

The problem is equally serious from the perspective of those who provide support. Program leaders cannot easily demonstrate that their programs' efforts are effective, or as effective as the efforts of others. No common model outlines what to do if offers of support for one student overlap, or suggests how to coordinate university support with external federal or private foundation support. (There are many systems of information exchange, but little guarantee that these information exchanges lead to action, much less systematic action.) Moreover, there is no mechanism for identifying students who have been overlooked (or may have been declared ineligible) by other programs and who could be greatly helped by one's own program.

In its June 2003 decision, the United States Supreme Court expressed the hope and belief that the need for special recruitment efforts directed toward minorities would disappear after 25 years. The question is whether the programs now in place will enable higher education to reach that goal. On balance, current trends do not support much optimism.

- **The level of financial support for minority applicants to colleges and universities is falling.** Eligibility criteria for diversity programs have been significantly broadened to include non-minority students who also meet criteria of financial need, urban residency, and so on. This shift reflects, in part, the replacement of old programs with new ones that have different criteria; in part it results from changes in eligibility rules for continuing programs. The general consequence: the pool of eligible students is much larger, while funding has remained fixed—or even shrunk.

- **The change in the mix of support programs is systematically excluding midlevel minority applicants.** Top-ranked colleges and universities continue to offer significant financial aid, and a few foundations continue to offer prestigious fellowships to outstanding students, but these benefits go only to the very top students. By definition, need-based financial aid goes only to members of the lower socioeconomic strata. Thus the current constellation of support programs is cherrypicking at the top and providing diluted aid at the bottom, while the programs that used to contribute to the support of middle income and qualified but not outstanding students have largely vanished.
- On the positive side, it is increasingly common for mainstream federal programs (such as NSF'S IGERT program) **to require that grant recipients include students or faculty of color.** It is unclear, however, to what extent or how these requirements are enforced, and such requirements typically offer very little guidance as to how the goals are to be achieved. They may, in fact, only set up competitions among grant recipients for members of the small pool of students already committed to academic careers. Evidently the intention is to use existing undergraduate programs such as LSAMP and McNair to identify and prepare candidates for these graduate programs, but no coordinated strategy for supporting this linkage exists.
- **In response to recent legal challenges to university support programs, many programs have** modified their structures, their eligibility criteria, and even their names. Some maintain low public profiles whether or not they feel vulnerable to legal challenges.

Even from this brief survey, several sets of recommendations emerge.

1. **Communication:** Every survey participant felt the need for more communication among agencies working on minority recruitment issues, and expressed support for the creation of an active consortium of organizations committed to the improvement of minority representation in higher education. With multiple functions and genuine commitment, such an organization could do much to fill gaps in understanding and coordination.

An active consortium of organizations committed to improving minority representation in graduate education would serve as a data bank for members, an information center for students, a potential clearing house for the placement of minorities in higher education programs, a policy center for resolving issues related to overlapping support programs, a focus for annual conferences on minority recruitment, and a voice in the development of public policy. Such a group could be modeled on a number of existing higher education consortia, with leadership rotating among representatives of member organizations.

Given sufficient funding, this consortium might sponsor research on the relative effectiveness and appropriateness of alternative support programs.

2. **Research:** All the players in this arena—the agencies themselves, the proposed consortium of those agencies, the institutions of higher education, the government, the nonprofits and foundations supporting this work—have a pressing need for more research. Because data

are spotty and support programs lack coherence, a great many unknowns remain. Longitudinal data, which could reveal much about the success over time of doctoral students who have participated in various kinds of programs, is particularly scarce. At present it is almost impossible to design improvements in minority recruitment programs because there is little good evidence on what strategies work. The following are just a few of the issues:

- a) How effective are programs that focus on socioeconomic variables in attracting minority students into the professoriate?
 - b) Do external funds for the support of minority students actually lead to incremental expenditures, above and beyond what a university would have invested anyway, or do the funds simply replace internal funds, effectively diverting the new infusion to other purposes?
 - c) How should the educational system prepare students for graduate study? At what point on the academic ladder should intervention begin? How can institutions of higher education assist in the preparation of students for college?
 - d) In what ways does the departmental structure of graduate education, which isolates actual operations from the central direction of deans and provosts, support or interfere with effective recruitment of minority students?
 - e) The comparative effectiveness of different forms of mentoring has been the subject of a great deal of conflicting research. Does a dollar committed to intervention truly have more impact than a dollar committed to direct financial support?
 - f) What is the best way to deal with the particular challenge of the sciences and engineering, which appear to require commitment early in one's academic career?
- 3. Vertical integration:** Institutions of higher education must ally more actively with the K–12 educational system. Most university-based affirmative action programs begin at (or just before) the admissions stage—which means that rather than increasing the flow of minority students into higher education, they are largely competing for members of a pool of candidates that is already fixed in number. Very few of the programs surveyed concerned themselves with the earlier education of students to help make them comfortable with, and ready for, the prospect of going on to college, yet that early comfort level may be indispensable for the next step into doctoral education.

Answers to these questions will come only if program managers become more willing to accumulate longitudinal data that will support effective review of their own programs, and make them available to independent researchers. Both supporters and opponents of minority recruitment and support programs must become less confident that they already know what works and what does not work and become more open to the possibility that extremely complex problems do not lend themselves to simple solutions. And, by making common cause with others doing similar work, program leaders must become more prepared to demonstrate the essential value of their efforts in the nation's workplace and intellectual life.

- 4. Intellectual support:** In any number of ways, doctoral students of color may feel disconnected from their peers, and from the larger academic enterprise. According to an American Council on Education report, they “do not feel mentored and they do not feel supported in the way that white students are. ... This sense of isolation and lack of support was nearly universal among the minority graduate students [interviewed].”²² Indeed the traditional structures and emphases of the doctorate may seem abstract and irrelevant, however unintentionally, to students of color. Chris Golde and Tim Dore, in a 2001 report for The Pew Charitable Trusts, observed that a greater percentage of doctoral students of color look to non-academic careers than do white doctoral students, while Golde, in another study prepared for the Compact for Faculty Diversity, finds that students of color “are more interested than their white counterparts in collaborating in interdisciplinary research.”²³ To become more attractive to and engaging for minority Ph.D.s, and to cultivate a future generation of faculty of color, the American doctorate must find ways to become more socially engaged, responsive, and relevant.
- 5. Mentoring and professionalizing experiences:** Experience—that of many of the organizations surveyed for this report as well as for the Woodrow Wilson Foundation itself—demonstrates the importance of a wide range of mentoring activities, for all students but especially for students of color. Many campuses seek, through local programs, to provide particular mentoring and networking opportunities for minority doctoral students, and a number of the national programs surveyed do likewise. More such opportunities must be made available. In particular, the fellowships and financial awards that remain available to graduate students should not obviate participation in such professionalizing experiences as laboratory work in the sciences and teaching experience in all disciplines. Such experiences ground doctoral work, making it tangible and applicable, and prepare Ph.D. candidates for the real-world and classroom challenges that await them beyond the doctorate.
- 6. Race and need together:** Recent data, including that presented in William G. Bowen’s influential 2004 Jefferson Lectures at the University of Virginia, clearly shows flaws in the assumption that shifting to such descriptors as “low-income” or “first in family to attend college” will serve adequately to engage students of color in higher education.²⁴ While financial assistance is undeniably important in doctoral education, as are support services for students whose sociocultural backgrounds may not have prepared them for Ph.D. programs, such supports must not be treated as alternatives to initiatives that treat racial and ethnic diversity, frankly and openly, as goals for doctoral education.

22. Marjorie Fine Knowles and Bernard W. Harleston, *Achieving Diversity in the Professoriate: Challenges and Opportunities* (Washington, D.C.: American Council on Education, 1997), p. 6.

23. Chris M. Golde and Timothy M. Dore, *At Cross Purposes: What the Experiences of Doctoral Students Reveal About Doctoral Education* (Philadelphia, PA: The Pew Charitable Trusts, 2001); Chris M. Golde, *Findings of the Survey of Doctoral Education and Career Preparation: A Report to the Compact for Faculty Diversity* (unpublished manuscript, University of Wisconsin, Madison, 2001), p.10.

24. William G. Bowen, “The Quest for Equity: ‘Class’ (Socio-Economic Status) in American Higher Education,” pp. 25–26, and “Stand and Prosper! Race and American Higher Education,” pp. 20–21. Both lectures are from “Equity and Excellence in Higher Education,” the April 2004 Jefferson Foundation Distinguished Lecture Series at the University of Virginia Transcripts accessed online, respectively, at <<http://www.mellon.org/questforequity.pdf>> and <<http://www.mellon.org/standandprosper.pdf>>. These lectures have subsequently been published in *Equity and Excellence in American Higher Education* by Bowen, Martin A. Kurzweil, and Eugene M. Bobin (Charlottesville, VA: University of Virginia Press, 2005).

7. Leadership: Many interviewees felt that the federal government has sidestepped its responsibility to provide leadership in minority recruitment programs. Almost every grant from the NSF, NIH, NEH, or the Department of Education includes a condition not only that the funded program be open to all, but that it actively seek to increase the diversity of its participants. Despite these strictures, none of these agencies provide guidance or assistance in carrying out the mandate. Many agencies demand extensive reports on the demographic characteristics of the participants in funded programs, as well as requiring documentation on the progress of students. To date, none of those data are available publicly, and none seem to have been used to inform program design. (Indeed, it is not clear that all the data have even been retained.) It is time for the federal government to use its own expertise to help its grantees to carry out the mandates that the government itself has imposed on them.

It is clear that institutions of higher education, many organizations, and indeed many leaders see the need to increase the representation of people of color in U.S. doctoral programs. It is less clear that, under current conditions, the programs seeking to create greater representation have the resources, political capital, or institutional commitment to achieve their goals. All concerned parties—policymakers, program directors, funders, institutional officers, faculty, students, and community leaders—must together address these issues in order to diversify the American Ph.D.

APPENDIX:

FINDINGS FROM ORGANIZATION INTERVIEWS

The survey included the following organizations:

1. The Ford Foundation: Diversity Predoctoral, Dissertation, and Postdoctoral Fellowships
2. The Bill & Melinda Gates Foundation: Gates Millennium Scholars
3. The National Endowment for the Humanities: Faculty Research Awards at Historically Black Colleges and Universities, Hispanic-Serving Institutions, and Tribal Colleges
4. The Southern Regional Education Board: Doctoral Scholars Program
5. The GE Foundation: Faculty for the Future
6. The Alfred P. Sloan Foundation: Minority Ph.D. Program
7. The Andrew W. Mellon Foundation: Mellon Mays Undergraduate Fellows Dissertation Grants and Travel & Research Grants
8. The KPMG Foundation: The PhD Project
9. U.S. Department of Education: Ronald E. McNair Post-Baccalaureate Achievement Program
10. The National Science Foundation: Alliance for Graduate Education and the Professoriate (AGEP)
11. The American Sociological Association: Minority Opportunities through School Transformation (MOST)
12. The National Science Foundation: Integrative Graduate Education and Research Traineeship (IGERT)
13. The Council of Graduate Schools: CGS & Peterson's Award for Innovation in Promoting an Inclusive Graduate Community

What follows is a brief summary of each one. It is clear that there is enough variety among these to enable significant comparisons of effectiveness, were the underlying data available.

THE FORD FOUNDATION'S DIVERSITY PREDOCTORAL, DISSERTATION, & POSTDOCTORAL FELLOWSHIPS

The Ford Foundation's Diversity Fellowships go to individuals and emphasize financial assistance and mentoring support for research-based fields in the humanities and sciences rather than restrict support to specific prac-

tice-based and professional fields. The program was originally created to increase the numbers of six minority groups (African Americans, Alaska Natives, Native American Indians, Puerto Ricans, Mexican Americans, and Native Pacific Islanders) whose underrepresentation in the professoriate has been severe and longstanding. Its antecedents, begun in 1967, targeted the professional development of faculty at HBCUs. A doctoral component recruiting African Americans to careers in higher education was subsequently added; by the late 1970s, the program had expanded to include Mexican Americans, Native Americans, and Puerto Ricans. An Advanced Study (postdoctoral) component was also developed.

In 1980, the Fellowship Programs Office of the National Research Council, through Ford Foundation grants, began administering the postdoctoral fellowship program and, in 1986, expanded it to include predoctoral and dissertation fellowships. During this period, the Ford Foundation programs stood alone in funding individual students from underrep-

The Ford Foundation Diversity Fellowships	
Type:	individual fellowships: financial assistance, some support services
Limited to minority students:	no
Need as criterion:	no
Fields:	humanities and sciences
Web site:	www7.nationalacademies.org/fellowships/Ford_Fellows_Home_Page.html

resented minorities at the doctoral level across the arts and sciences. More than 2,000 individuals have advanced their careers and brought diversity to the professoriate through the Ford Foundation Fellowship Programs for Minorities.

In 2005, Ford changed the name of the program to the Ford Foundation Diversity Fellowships and broadened its guidelines to include all U.S. citizens of superior academic achievement who are committed to a career in teaching and research at the college or university level. Through its program of Diversity Fellowships, the Ford Foundation seeks to strengthen the nation's college and university faculties by increasing their ethnic and racial diversity; maximizing the educational benefits of diversity; and increasing the number of professors who can and will use diversity as a resource for enriching the education of all students.

The Predoctoral Fellowship is available to undergraduate seniors and students who have completed an undergraduate degree but not a

Ph.D.; these provide three years of funding, to be used in research-based programs leading to a Ph.D. or Sc.D. at a U.S. educational institution. The Dissertation Fellowships and Postdoctoral Fellowships, similarly defined, each offer one year of funding. All three highly selective programs convey prestige and provide adequate, but not overly generous, financial support, often supplemented by the institution of affiliation. An \$8.0 million budget supports approximately 60 new Predoctoral Fellows, 40 Dissertation Fellows, and 30 Postdoctoral Fellows annually.

Annual conferences of Ford Fellows provide the following unique academic career enhancements:

- Networking with peers and “elders,”
- Face-to-face conversations with university and academic presses,
- Publication workshops,
- Strategies to complete the dissertation,
- Planning an academic career,

- Career advancement workshops,
- Proposal, grant-writing, and research funding advice,
- Paper presentations with supportive comments and critiques from colleagues,
- Opportunities to identify mentors and peers from across the country, and
- Opportunities to interact with established and emerging scholars in diverse fields.

In addition, alumni liaisons are assigned to geographic regions and, in some cases, to large academic institutions with significant numbers of Ford fellows. While their relationships with fellows vary, generally alumni liaisons provide mentoring to students who are writing their dissertations, as well as professional and intellectual support and advice on how to create relationships with advisors.

GATES MILLENNIUM SCHOLARS

The Bill & Melinda Gates Foundation's Millennium Scholarships, a program of awards to individuals that uses need as its central criterion, was established in 1999 as a

20-year initiative. The Millennium Scholars are outstanding African American, American Indian/Alaska Natives, Asian Pacific Islander Americans, and Hispanic students who receive support for undergraduate education (across all disciplines), as well as graduate work for those students who pursue advanced degrees in mathematics, science, engineering, education, or library science (disciplines in which their ethnic and racial groups are currently underrepresented). The United Negro College Fund administers the Gates Millennium Scholars (GMS) initiative. To reach, coordinate, and support the constituent groups, UNCF also subcontracts with the American Indian Graduate Center Scholars, the Hispanic Scholarship Fund and the Organization of Chinese Americans.

The Millennium Scholarship is a last dollar program which intends both to fill any unmet need in a college student's financial aid package and also obviate any pressure to work or incur debt. For instance, a student whose financial aid package includes loans and work-study can decline the loans and work-study, and GMS will make up the difference. GMS also provides scholars with opportunities to prepare for key roles in their professions and communities through a comprehensive leadership development program.

Its size alone calls attention to the Gates Millennium Scholars Program, with an annual

Gates Millennium Scholars	
Type:	individual fellowships; financial assistance,
Limited to minority students:	yes
Need as criterion:	yes
Fields:	all (undergraduate); sciences, some professions (graduate)
Web site:	www.gmsp.org

budget of \$50 million focused primarily on college undergraduates. The first year's competition allowed students at all stages of undergraduate and graduate study to apply for 4,500 scholarships. However, subsequent annual competitions for 1,000 new awards are only open to entering freshmen.

The distinguishing feature of GMS, for the purposes of this review, is that successful undergraduates may continue to receive support for graduate study in certain fields. Of the 4,053 initial GMS awards, 217 went to graduate students; as of March 2005, ten percent of the 5,226 active Millennium Scholars (not including alumni) are pursuing doctoral study with Gates support.

Given the program's emphasis on filling unmet need, as defined by a traditional undergraduate financial needs package, it is unclear how the concept of unmet need would be applied at the graduate level—particularly in fields like engineering, mathematics, and science, where so much support comes in the form of assistantships. A longitudinal study of GMS' effect on the progress and life choices of its awardees, when evaluation data on the program becomes available, should prove revealing.

NATIONAL ENDOWMENT FOR THE HUMANITIES FACULTY RESEARCH AWARDS

The National Endowment for the Humanities' (NEH) Faculty Research Awards for Historically Black, Hispanic-Serving, and Tribal Colleges and Universities were created in 2000. Like

kindred efforts at NIH, NSF, and elsewhere in the federal government, the NEH awards assist underrepresented minorities by assisting institutions that serve them; eligibility criteria for individual awards, however, do not regard the race/ethnicity of the applicant. Predictably, the awards are restricted to scholars in the humanities.

While the program is not specifically designed for doctoral students, its guidelines regarding the level of research eligible for funding are inclusive. Technically—and apparently in actual practice—graduate students with regular teaching appointments at qualifying schools may apply for the NEH faculty grants to support dissertation research and/or writing.

It is not clear to what extent the NEH awards are used solely for fellowship support or also include some mentoring. NEH staff, who conduct outreach to familiarize faculty members

NEH Faculty Research Awards	
Type:	individual fellowships; financial assistance,
Limited to minority students:	no (awards to individual faculty at minority serving institutions)
Need as criterion:	no
Fields:	humanities
Web site:	www.neh.gov/grants/guidelines/facultyresearch.html

at eligible institutions with this funding opportunity, report that this outreach work improves the overall quality and competitiveness of applications.

- Locations from which there is a lack of applications are targeted. Research Division program officers make campus visits for the purpose of introducing faculty to the program.
- NEH Research Division program officers are available to answer applicants' questions via telephone or email before the competition deadline.

Daylong grantwriting workshops are also offered to faculty who otherwise might not have access to such opportunities.

The program is too new to have usable statistics on its awardees' progress.

THE SOUTHERN REGIONAL EDUCATION BOARD DOCTORAL SCHOLARS PROGRAM

The Southern Regional Education Board's Doctoral Scholars Program was developed in 1993 with support from the Pew Charitable Trusts and the Ford Foundation. It began as part of a nationwide initiative, the Compact for

Faculty Diversity, to produce more minority Ph.D.s and to encourage those Ph.D.s to seek faculty positions. Fellowships are awarded to individual minority students based on a combination of need and merit, with no restrictions as to discipline (but with certain emphases in fields where underrepresentation is most severe).

The five-year Doctoral Scholars Program award is funded in part by member universities and in part by participating states, some of which require that Doctoral Scholars teach after completing their degrees. With financial support from the states, the program awards each scholar a stipend to support full-time study for three years; the sponsoring university provides tuition. In the last two years of the program, the university picks up the cost of the stipend previously funded by the state and continues to contribute tuition. Virtually all of the universities provide this support through a teaching or a research assistantship. The program also offers scholars at the all-but-dissertation stage a one-year Dissertation Year Fellowship. The Doctoral

SREB Doctoral Scholars Program	
Type:	individual fellowships; financial assistance,
Limited to minority students:	yes
Need as criterion:	yes (in part)
Fields:	all (priority to selected disciplines, based on state-identified needs)
Web site:	www.sreb.org/programs/dsp/dspindex.asp

Scholars Program provides other funds to scholars for research activities, attendance at scholarly meetings, and presentations of academic papers.

Every Doctoral Scholar applicant has already been admitted to at least one Ph.D. program but has not yet enrolled. The program emphasizes awards in fields with a low minority representation. For example, having identified science, technology, engineering, and mathematics as four disciplines in greatest need of minority recruitment and retention, SREB currently seeks to make half of the program's awards in these disciplines. The program has come within 3% of that goal in some years; at the time of this report, almost 40% of the program's awards were in those areas.

Beyond the financial award, SREB supports Doctoral Scholars through advocacy, mentoring, a communications network, regular contact (through letters, phone calls, and e-mails), a listserv for schools, and newsletters and publications that keep scholars informed and connected to the program and one another.

The Doctoral Scholars Program's most powerful tool—the Compact for Faculty Diversity Institute on Teaching and Mentoring—brings together more than 850 scholars and their faculty mentors each year for several days; this annual event is the nation's largest gathering of minority Ph.D. scholars seeking to become college and university faculty members. This Institute helps schools build their research, teaching, and mentoring skills; find solutions to shared problems; and form a community and network of support with other scholars and faculty representatives.

The New England Board of Higher Education and the Western Interstate Commission on Higher Education—all part of the initial Pew-funded nationwide effort—continue their participation in the Institute through partnerships with the NSF's Alliance for Graduate Education and the Professoriate, Directorate for

Biological Sciences, and Directorate for Social, Behavioral, and Economic Sciences. The National Institutes of General Medical Sciences, the Sloan Foundation's Minority Ph.D. Program, and the Ronald E. McNair Postbaccalaureate Achievement Program also participate.

Current legal challenges to affirmative action—and/or fiscal constraints—have resulted in several states' decisions to cease funding the SREB program. Still, after more than ten years of operation, SREB's record of success includes more than 230 minority Ph.D. graduates and another 280 currently matriculated scholars; a retention/graduation rate of nearly 90%; a reduced time to degree; and campus placement as faculty, administrators, or postdocs for more than 70% of SREB Doctoral Scholars.

GE FOUNDATION FACULTY FOR THE FUTURE PROGRAM

For over a decade, beginning in 1990, the GE Foundation’s Faculty for the Future (FFF) Program made grants to encourage underrepresented minorities and women to pursue faculty careers in the physical

sciences, engineering, and business administration. The GE Foundation invited a small group of institutions to apply for FFF grants, and in its selection process looked for substantial institutional costsharing, as well as support for the program goals from the institutions’ highest levels of leadership. Although doctoral fellowships were central to this program, its grants to colleges and universities underwrote an array of ventures, some quite novel and experimental in their time. To encourage bright college students to consider and prepare for doctoral study, undergraduate research programs received strong and consistent support. Grants to support research during the junior and senior years were made to liberal arts colleges as well as universities.

The GE Foundation also paid attention to the other end of the pipeline. As an affiliate of a corporation that recruits new staff from the leading colleges and universities, the Foundation was well aware of the strong corporate job market for scientists, engineers, and business leaders. It encouraged several efforts to provide incentives for students to choose teaching careers. Loans to support graduate students were forgiven for college- and university-level teaching after the Ph.D. was completed. In some years, GE Foundation grants to universities included funds to help minorities and women among the junior faculty get started on their

Faculty for the Future (phasing out)	
Type:	institution-based: financial assistance/ support services
Limited to minority students:	in part (women also included)
Need as criterion:	no
Fields:	sciences, engineering, business administration
Web site:	www.facultyforthefuture.org

own research. In the program’s final phase, universities awarded GE Foundation funds to their own new Ph.D.s to be used for research expenses on their first faculty jobs.

In 2000 the GE Foundation commissioned the Center for Youth and Communities at Brandeis University’s Heller School for Social Policy and Management to review the Faculty for the Future program. The study found that approximately 200 of the program’s students had earned their Ph.D.s and accepted faculty appointments, with nearly 900 students still in the pipeline. (The report did not indicate how many program participants had taken jobs other than faculty positions.)

After the review, the GE Foundation determined that it would begin phasing out this program. In an interview for this report the program director explained, “While progress was indeed made, when you consider the number 200 over 10 years, that’s not a very big number. It’s a fairly expensive approach in terms of time and dollars. This kind of investment limits us in terms of the potential impact we could have on the diversity of the pipeline much earlier in the education system. Basically, the root causes of underrepresentation start much earlier in the education system, so that’s where we need to start if we want to try to make a big impact.”

ALFRED P. SLOAN FOUNDATION

The Sloan Foundation's Minority Ph.D. Program aims to increase the number of underrepresented minority students earning Ph.D.s in mathematics, natural sciences, and engineering. The Foundation includes in

the program faculty in these disciplines in whom it comes to have confidence that they can successfully recruit, mentor, and graduate underrepresented minority students (African Americans, Hispanic Americans, and Native Americans) with Ph.D.s. This usually means faculty with a record of success in graduating minority students with Ph.D.s. Young minority faculty who are interested in participating will usually be included. The Foundation's intention is to increase the number of minority Ph.D.s, not to help faculty maintain their current level. During the program's ten-year period, the net increase in the number of underrepresented minority students beginning their Ph.D. has been approximately 600.

Faculty members may apply as individuals or in groups. Once faculty are in the program, their minority students become Sloan Scholars and are awarded Sloan Scholarships.

Sloan Foundation	
Type:	institution-based: financial assistance/ support services
Limited to minority students:	yes
Need as criterion:	no
Fields:	mathematics, natural sciences, engineering
Web site:	www.sloanphds.org

The amount of the scholarship varies depending on the completion rates for past students and is typically approximately \$32,000. In addition, for each Sloan Scholar appointed, the Foundation provides \$2,000 to the university for use in recruiting additional eligible students.

The program also makes three-year grants to some undergraduate and master's programs that are particularly successful in preparing underrepresented minority students for doctoral study. The purpose is to help these departments send even more of their minority graduates on into Ph.D. programs.

The program's director continually assesses the level of success of each participating group of faculty. Continuation in the program is dependent on being successful in recruiting and graduating students. The program is currently fully subscribed and is not accepting new applications for additional faculty.

THE MELLON MAYS UNDERGRADUATE FELLOWS PROGRAM

The Mellon Mays Undergraduate Fellowship (MMUF) Program is the centerpiece of the Andrew W. Mellon Foundation's efforts to increase representation of underrepresented minorities among faculty

in higher education. The program identifies disadvantaged students of great promise and encourages them to become scholars of the highest distinction.

Thirty-four colleges and universities, as well as the 38 member institutions of the United Negro College Fund collectively, participate in this talent-spotting and cultivation enterprise. On each campus faculty members or academic administrators coordinate institutional programs that serve up to eight students at any one time. (A single director serves the UNCF campuses, with the assistance of a five-person advisory committee.) Typically, undergraduates are identified in the sophomore year—selected according to demonstrated academic ability and interest in the specified fields—and funded for two academic years.

Begun in 1988, by March 2005 MMUF counted 2,500 fellows selected and 156 doctoral degrees earned. Another 423 were in the Ph.D. pipeline and 370 were current undergraduates. (In addition, 570 terminal master's and professional degrees have been earned or are in progress.) Given that ten of the 34 schools began participating in the program in 1996 or later, and that most students are in the

Mellon Mays Undergraduate Fellows	
Type:	institution-based support services/ some related financial assistance
Limited to minority students:	no
Need as criterion:	no
Fields:	designated humanities/ social sciences/sciences
Web site:	www.mmuf.org

humanities and humanistic social sciences, these are excellent results. The list of participating campuses leans heavily toward highly selective schools such as Harvard, Princeton, Stanford, Swarthmore, Bryn Mawr, and the like. The only public universities are Queens, Brooklyn, Hunter, and City Colleges of the CUNY system and Cornell (albeit through its liberal arts college, a highly selective private unit).

Selection as an undergraduate fellow provides students with four forms of support: faculty mentoring, modest term-time compensation for research activities, stipend support for summer research activities, and repayment of undergraduate loans of up to \$10,000 if fellows pursue doctoral study in one of the specified fields. Recently the foundation has encouraged all participating campuses to develop regional meetings for current undergraduate fellows.

Particularly interesting is MMUF's array of supplementary services, a range of post-collegiate programs intended to retain undergraduate fellows through the Ph.D. As graduate students, students who have, as undergraduates, received MMUF support are entitled to apply

for a Predoctoral Research Grant and attend the Annual Graduate Student Summer Conference. Advanced graduate students may apply for competitive Dissertation Grants and Travel & Research Grants to aid in the completion of the Ph.D. The former two programs are administered by the Social Science Research Council; the latter two, by the Woodrow Wilson National Fellowship Foundation.

Added to this core of programs explicitly related to MMUF is a set of other programs to increase diversity among both Ph.D. students and doctoral faculty. Mellon supports two additional programs aimed at cultivating the pool of potential graduate students—the Minority Undergraduate Research Assistant Program (MURAP) at the

University of North Carolina–Chapel Hill and the Institute for the Recruitment of Teachers—as well as Minority Ecology Programs and a pilot set of Academic Support Projects. Mellon efforts to support minority faculty include an initiative in faculty career development at UNCF colleges and universities, as well as another Woodrow Wilson program, the Career Enhancement Fellowships. The Career Enhancement Fellowships promote career development of junior faculty at a targeted group of colleges and universities, serving not only junior faculty from underrepresented groups but also those who are committed to the goal of eradicating racial disparities in core fields in the arts or sciences.

THE PHD PROJECT

The PhD Project—sponsored by the KPMG Foundation along with other corporate and academic funders—seeks to diversify business school faculty by recruiting

The PhD Project	
Type:	individual support services
Limited to minority students:	yes
Need as criterion:	no
Fields:	management education
Web site:	www.phdproject.org

prospective minority doctoral students (African American, Hispanic American, or Native American) into business doctoral programs. Tailored to the special environment of the field of business administration, the PhD Project casts a wide net to recruit the best prospects for business doctoral programs, many of them already working in industry.

The program is essentially a marketing and mentoring enterprise, organized as a set of centralized national activities. The foundation, participating businesses, and partner graduate schools support a recruiting conference to encourage successful business practitioners to return to school, earn Ph.D.s, and become faculty members. Those recruited through the conference become part of a national minority doctoral students' association in their field of study (accounting, finance, information systems, management, or marketing), and these national associations meet annually. Members are encouraged to network and provide mutual support between meetings.

Recruiting among successful midcareer professionals, project leaders have noted, poses certain challenges:

- cultivating and demonstrating the strong quantitative skills demanded in business doctoral programs,

- ensuring that students are prepared for the initial hurdle of the Graduate Management Admissions Test (GMAT), and
- providing financial support during graduate work for doctoral candidates who are older, who often have dependents, and who are used to living well above subsistence level.

If funding were available, the PhD Project would consider ways to refresh and strengthen prospects' quantitative background, perhaps through a preparatory program in statistics and research methodology. The project encourages the students to take the GMAT seriously, and to take a preparation course. Some sessions at the national conference also emphasize preparation for the GMAT.

Though not directly part of the PhD Project, scholarships in accounting are available to project participants through the KPMG Foundation, because of its ties to the accounting industry. On the whole, other corporations and professional associations that sponsor the PhD Project's recruiting conferences and related activities have not had the resources to add scholarships to their contributions. In general, support for these doctoral students has come through the graduate schools, which provide tuition remission (or tuition fellowships) plus assistantships or fellowships from a variety

of sources paying stipends of \$15,000 to \$25,000 a year.

Leaders of the PhD Project, which maintains significant data on its own performance, believe that it has been key in more than doubling the number of minority faculty in business since its 1994 inception. The project has a 93% retention rate among participating students (a very high rate of success which seems characteristic of programs with well-

specified career objectives). For students with a vocation to teach, a midcareer period of low income can be offset by the prospect of a strong market for faculty in business fields plus the opportunity to supplement teaching income with research and consulting work after the Ph.D. is completed. This favorable set of market circumstances is relatively rare in the current academic economy.

THE RONALD E. MCNAIR POST-BACCALAUREATE ACHIEVEMENT PROGRAM

Started in 1986, McNair is a large federal program, administered with Federal TRIO Programs through the U.S. Department of Education's Office of Postsecondary Edu-

cation, to prepare disadvantaged college students for doctoral education. In fiscal 2002, \$41 million supported grants to over 150 separate programs. McNair is decentralized, and the actual content of each campus program is determined locally. Individual campuses compete for federal grants, proposing plans for services to fit their local situations. Typical grants are about \$200,000 per year and provide direct services for 20 to 30 students.

Institutions awarded grants in the national competition first identify eligible students with high academic potential, and then introduce them to doctoral education by providing services such as mentoring, tutoring and counseling, internships, research opportunities, and advising on graduate school admission and financial support.

The McNair Program	
Type:	institution-based support services
Limited to minority students:	no
Need as criterion:	yes
Fields:	all
Web site:	www.ed.gov/programs/triomcnair/index.html

The McNair Program gives highest priority to students of all races and ethnicities who are first-generation college students from low-income families. At least two-thirds of the participants in a campus program must fit this criterion. Additionally, any remainder must be from a group that is underrepresented in graduate education. In practice, about 20 to 25 percent of McNair participants are white, and 5 to 7 percent are Asian.

The focus of McNair is at the individual campus where directors are expected to recruit and mentor students and guide them through undergraduate years and into the transition to doctoral study. However, McNair has some central conferences where students can gather to discuss their research and meet graduate school recruiters.

THE NSF ALLIANCE FOR GRADUATE EDUCATION & THE PROFESSORIATE (AGEP) PROGRAM

Growing out of the Minority Graduate Education Program, which began in 1998, AGEP seeks to increase significantly the number of students from under-represented minorities obtaining graduate degrees in science, math, and engineering; it also works to enhance the preparation of minority students for faculty positions in academia.

Emphasizing the importance of building administrative capacity to support doctoral-level change, AGEP fosters consortia of graduate schools and partner institutions that are committed to increasing minority participation in STEM doctoral programs. The participating doctoral granting institutions employ creative administrative strategies, develop infrastructure, and engage in substantive partnerships with non-doctoral granting institutions (including many minority-serving institutions) to enhance recruitment, retention, and advancement.

NSF awards AGEP funding in a national competition and specifies that the principal investigator for each funded program be a high-ranking administrator at the lead institution. Each applicant consortium proposes a set of activities suited to local situations and opportunities. AGEP funds services to undergraduate as well as graduate students. While some of these services may parallel those in the McNair program (and in AGEP's companion program for undergraduates, the Louis Stokes Alliance for Minority Participation [LSAMP]),

AGEP	
Type:	institution-based support services/ some related financial support
Limited to minority students:	no
Need as criterion:	no
Fields:	science/technology/ engineering/mathematics
Web site:	www.ehr.nsf.gov/ehr/hrd/agep.asp

AGEP's focus is on undergraduates as prospective doctoral students at particular universities. AGEP programs may focus as much on building an effective infrastructure to coordinate existing services for minority students as on funding and delivering new services. Although some programs include fellowship support, AGEP is not a fellowship program, and it is restricted to NSF-related disciplines.

Eligibility has been an evolving question in NSF programs since the Foundation agreed to settle a lawsuit by closing its Minority Graduate Fellowship Program in 1998. AGEP's specific goal is to increase the numbers of African American, Hispanic, and Native American students earning doctorates in NSF-funded fields. However, the AGEP program announcement does not prohibit including students from other groups in AGEP-funded services. In fact, the program announcements for LSAMP specifically state, "NSF strongly encourages potential awardees to permit participation by all students in LSAMP activities." (Note that LSAMP is not included in this review because for most of its history the program focused on completion of the undergraduate degree as a precursor to graduate school, rather than on preparation for and transitions to graduate study.)

MINORITY OPPORTUNITIES THROUGH SCHOOL TRANSFORMATION (MOST) PROGRAM

The American Sociological Association’s Minority Opportunities Through School Transformation (MOST) Program (1994–2002) took a radically different approach to the issue of increasing doctoral

diversity. It focused specifically on the academic department “as the instrument of systemic, institutional change.” Where other programs offer money, advice, or services to help students negotiate the doctoral system, MOST tried to change the system by improving the academic environment and expanding academic opportunities for minority students in sociology departments.

In particular, MOST intended to

- create lasting institutional change to foster diversity and excellence in higher education;
- attract students of color to graduate studies and academic careers;
- engender more diverse and inclusive academic communities;
- focus on the academic department as the instrument of change; and
- develop a model(s) of change that could be transported from sociology to other academic disciplines in a variety of institutional settings.

Funded mainly by the Ford Foundation, the eight-year effort worked with 18 graduate and

MOST (discontinued)	
Type:	institution-based support services/
Limited to minority students:	n/a
Need as criterion:	no
Fields:	sociology
Web site:	www.asanet.org/media/MOST_conf.html (concluding press release)

undergraduate sociology departments. The departments were competitively selected based on their commitment to rethink and alter “business as usual.” One of MOST’s primary emphases was to develop sustainable strategies and tactics that would transform departments using (for the most part) existing resources. Each department proposed measures, tailored to local circumstances and resources, that were intended to improve academic offerings and attract and retain more students from underrepresented groups to study sociology at all levels, undergraduate and graduate. As at the national level of the program, each local program set goals for curriculum, mentoring, research, climate, and the doctoral pipeline.

ASA provided departments with a range of support:

- an annual conference for MOST department coordinators and chairs;
- ongoing technical assistance from ASA staff, including telephone support and site visits;
- specialized training sessions at national conferences;

- workshops for representatives of participating departments at ASA meetings;
- sponsorship of student participation in a summer research institute for the early years of the program;
- summer workshops for MOST department faculties;
- funding and support for students presenting research papers at ASA annual meetings; and
- ASA participation in departmental retreats.

ASA also created a structure to help departments network and collaborate to support one another, to learn across contexts, and to be open and frank about barriers and problems.

ASA's MOST-II followed four years of MOST-I, which operated a classic "prep for grad school" boot camp. While MOST-I was successful in terms of individual undergraduate minority students going on to graduate school, both the Ford Foundation and ASA staff felt that efforts to change the academic

environment, rather than the individual student, would be more sustainable (and more in keeping with sociological principles).

MOST-II, with a department focus, broke new ground in doctoral education with expectations that the department would have a coherent, quality curriculum and that mentoring would be systemic. While the classic mentoring dyad can and does work, many students of color fall through the cracks in departments that do not create formal mentoring structures. Further, if and when students of color have fellowships, they often are not integrated into department activities through teaching and research assistantships. MOST-II asked departments to be intentional about plans to make sure all students received mentoring from several faculty (including through graduate seminars), had a sequenced curriculum in research training (regardless of their funding source), and could not be left out of mentoring efforts.

THE NSF INTEGRATIVE GRADUATE EDUCATION & RESEARCH TRAINEESHIP (IGERT) PROGRAM

Initiated in 1997, the Integrative Graduate Education and Research Traineeship (IGERT) program was created to help cultivate among Ph.D. scientists and engineers the multidisciplinary approach and range of skills needed

IGERT	
Type:	institution-based (to faculty at individual institutions and consortia)/ fellowships/support services
Limited to minority students:	no
Need as criterion:	no
Fields:	science and engineering
Web site:	www.nsf.gov/crssprgm/igert/intro.jsp

for contemporary faculty careers. The program catalyzes a cultural change in graduate education—for students, faculty, and universities alike—by establishing new, innovative models of graduate education and collaborative research that transcend traditional disciplinary boundaries. It is also intended to facilitate greater diversity in student participation and preparation and to contribute to the development of a diverse, globally aware, science and engineering workforce. A total of 125 IGERT awards have been made to 120 programs since 1998; five of these were renewals.

IGERT has two primary goals: to promote interdisciplinary research and to encourage faculty to mentor and train doctoral students, not just rely on them as research assistants. To that end, the major portion of grant funding goes to training fellowships for science and engineering students working with interdisciplinary faculty teams at research universities.

Although its primary goal is not minority recruitment, IGERT seeks to ensure a significant representation of underrepresented minorities among the program participants. This mandate derives from NSF's two key merit criteria, one of which includes the question: "How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)?"

In order to help the principal investigators in the various IGERT projects recruit underrepresented minority students, IGERT funds the IGERT National Recruitment Program (www.igert.org) to increase the participation of women and minorities. This project group seeks out prospects for all IGERT programs and helps faculty connect with students interested in their research specialties. The individual sites then take over and recruit these individual students.

CGS & PETERSON'S AWARD FOR INNOVATION IN PROMOTING AN INCLUSIVE GRADUATE COMMUNITY

Sponsored jointly by CGS and Peterson's and first presented in 1994, this \$20,000 annual award recognizes innovative institutional programmatic efforts in the identification,

recruitment, retention, and graduation of minority graduate students. The competition considers both start-up efforts and efforts to expand or deepen existing initiatives in ways that make them more inclusive. In each case an endorsement from the president or the chief academic officer at the institution is required, as is a commitment of matching funds.

The matching requirement confirms a level of institutional buy-in crucial to the success of this program. Very little money is involved; awards provide \$20,000 over three years. When institutions obligate themselves to

CGS/Peterson's Award	
Type:	institution-based support services
Limited to minority students:	n/a
Need as criterion:	no
Fields:	all
Web site:	www.petersons.com/inclusiveness/about.html

match these awards, they demonstrate a commitment to bringing about systemic change and policy and practices that will increase the diversity of the doctoral community.

CGS believes these application requirements inspire important campus conversations and commitments during the application process, and may even help to effect change at campuses beyond the winning institution. Program leadership reports that many unsuccessful applicants go ahead with their proposed programs, doing the work they had envisioned even without funding from the prize.

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