

PRESS RELEASE

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CGS Report Highlights Completion Trends of Underrepresented Minorities in STEM Doctoral Programs Findings Suggest New Strategies for Improving Retention and Completion

Washington, DC — The Council of Graduate Schools (CGS) today [released findings](#) from the Doctoral Initiative on Minority Attrition and Completion (DIMAC), a 3-year study that examined patterns of degree completion and attrition among underrepresented minorities in Science, Technology, Engineering, and Mathematics (STEM) fields. Funded by the National Science Foundation (NSF #1138814), the project collected data from doctoral students at [twenty-one universities](#) in the United States, including universities affiliated with NSF's Alliances for Graduate Education and the Professoriate (AGEP) program.

The most recent project in a series of CGS research studies on doctoral completion trends, DIMAC has resulted in the most comprehensive account of STEM doctoral completion and attrition for underrepresented minorities (URM) in the U.S. In the context of the study, URM includes U.S. students and permanent residents who self-identify as American Indian/Alaska Native, Black/African-American, and Hispanic/Latino.

Completion Trends

The DIMAC report provides completion rates, attrition rates, times-to-degree and times-to-attrition of URM STEM doctoral students using data spanning academic years 1992/93 to 2011/12. There is some data to suggest that from the earliest cohort to the most recent, there have been slight improvements in completion outcomes.

A key finding of the data on student completion rates is that completion outcomes vary by student characteristics, with some of the most notable differences emerging in the analysis of race/ethnicity and field of study. Over a ten-year period, 54% of students completed a doctorate. *Looking at ten-year completion data by student characteristics,*

- doctoral students in the life sciences completed at 63%, while candidates in physical & mathematical sciences experienced a rate of 45%.
- Hispanic/Latinos completed at a rate of 58%, while Black/African Americans completed at a rate of 50%.
- women completed at a rate of 56%, while the ten-year completion rate for men was 52%.
- ten-year completion was 57% for students with a prior master's degree, and 52% for those without a master's.

More analysis of trend data by student characteristics can be found in Chapter 3 of the report.

Student Experiences

DIMAC also collected data on students' experiences of their doctoral programs through a Doctoral Student Survey, conducted in fall 2012, and focus group interviews at 16 institutions conducted throughout 2013. While many respondents reported a positive sense of their peers, advisors, and their doctoral programs overall, a minority expressed uneasiness as they moved into the dissertation phase of study. Students in this advanced stage of study, for example, were more likely to report that faculty did not understand the challenges they were experiencing.

CGS President Suzanne Ortega remarked that the findings demonstrate the need to support underrepresented doctoral students at every stage of a doctoral program. "One of the striking lessons from this study is that the dissertation phase is a particularly critical time for students. Our country's STEM workforce will lose a great deal of potential talent if we don't help underrepresented doctoral students cross the finish line."

Key Recommendations

The study also explored institutional practices that can help support underrepresented minorities working to complete STEM doctoral programs. Data sources shed light on the value of four particular elements: 1) conducting interventions throughout the entire doctoral process; 2) providing students with enhanced academic support; 3) monitoring and evaluating programs and interventions; and 4) cultivating a culture of diversity and inclusion.

Additional information about student experiences of program features and interventions (i.e., advising and mentoring, networking, research and professional development, and non-financial support) can be found in Chapter 4 of the report.

About the report

The [DIMAC project](#) collected and analyzed four main sources of data: student-level enrollment data provided by institutions; an inventory of institutional policies; responses to a student survey; and information obtained from focus group interviews with students and university personnel. Active participation from 21 institutions resulted in over 7,500 student records. Over 1,600 URM STEM doctoral students were surveyed and 320 URM STEM doctoral students (and as many or more faculty and administrators) participated in focus groups at 16 institutions.

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About CGS

The Council of Graduate Schools (CGS) is an organization of over 500 institutions of higher education in the United States and Canada engaged in graduate education, research, and the preparation of candidates for advanced degrees. Among U.S. institutions, CGS members award 91% of the doctoral degrees and 81% of the master's degrees. The organization's mission is to improve and advance graduate education, which it accomplishes through advocacy in the federal policy arena, research, and the development and dissemination of best practices.*

** Based on data from the 2013 CGS/GRE Survey of Graduate Enrollment and Degrees.*