NO REGRETS: NEW STUDY SHOWS HOW AFRICAN-AMERICAN PH.D. CHEMISTS OVERCAME DISCRIMINATION TO BUILD CAREERS

A national study of career experiences among African-American Ph.D. chemists shows how these scientists dealt with discriminatory practices and attitudes to build careers in academia, industry and government. While seven out of ten respondents felt they had been hindered by discrimination, less than a handful regretted choosing a career in chemistry.

“Regardless of the experiences they had, these people had remarkably positive feelings about chemistry,” said Willie Pearson, Jr., the study’s author and chair of the School of History, Technology and Society at the Georgia Institute of Technology. “If they had it to do all over again, they would still see chemistry as an attractive field.”

Results of the study, “Beyond Small Numbers: Voices of African-American Ph.D. Chemists,” was presented February 15 at the annual meeting of the American Association for the Advancement of Science (AAAS). The study explores the divergent career experiences of 44 randomly-chosen African-American Ph.D. chemists who received degrees prior to 1994.

“The opportunity structure differed dramatically in many cases over time,” said Pearson, who conducted face-to-face interviews with all but one of the scientists. “Most felt that race was an issue, and that it had impacted them in certain ways. But they didn’t let that cripple them or stifle their achievement. Racism was just part of the reality that confronted them.”

Most respondents began their careers in the academic world, with slightly more than half taking positions at historically black colleges and universities. Ph.D. chemists choosing academic careers were attracted to institutions similar to the ones where they obtained their undergraduate degrees.

Other key findings include:
• The respondents often found themselves torn between the research they were trained to do and administrative roles that provided salary and advancement opportunities beyond what they could achieve as practicing chemists. For industrial chemists, these administrative positions were often in Equal Employment Opportunity, human resources or community outreach areas with little impact on company decision-making.

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Many of the respondents reported that good work overcame discrimination. “It’s difficult not to reward excellence,” said Pearson. “While there may be discriminatory practices, by and large the system tended to work for those who did good work.”

In academia as well as industry, experiences varied among departments even within the same institution. “While there might be a company culture, there are also individual unit cultures,” he explained. “At one company, chemists reported different career advancement experiences depending on the division in which they worked. For example, in one unit, a chemist had filed racial discrimination complaints, while chemists in two separate units reported supportive and welcoming environments.”

African-American women often had to also confront gender discrimination and were expected to meet a higher standard than their male counterparts. “But I think you would find the same thing with women in general, because chemistry is still largely a male-dominated field,” Pearson said.

If they were the only persons of color in their organizations, African-American chemists sometimes suffered feelings of isolation, which caused stress and depression. In academia, isolated chemists often had difficulty attracting graduate students, which hurt their research and therefore their stature in the field.

Among industrial chemists, eight of 13 respondents (62 percent) said they were satisfied or very satisfied with their jobs. Among the academic chemists, 16 of the 22 (72 percent) reported that level of satisfaction – while five said they were very dissatisfied.

Segregation in the South contributed to a “brain drain” in which African-Americans pursuing chemistry doctorates entered universities outside the region. Most never returned.

Daryl Chubin, senior vice president at the National Action Council for Minorities in Education (NACME), said the study is unusual in using interviews to provide an in-depth look at complex issues.

“The value of the analysis is that it looks across a half-century of experience on the part of these minority chemists,” he said. “Because of the interviews, the study puts a human face on their experiences. There is a great deal of commonality in what these Ph.D. chemists are saying.”

Chubin noted that the experiences reported by the chemists parallel those of today’s minority science and engineering students, who often suffer from lack of access, isolation, tokenism, lack of acceptance from others at the institution and limited mentoring opportunities.

“The good news is that they prevailed,” he added. “Some of them had very distinguished careers despite this. But it points out the climate in which they had to work, and which still confronts faculty of color.”

The qualitative study highlights the importance of mentoring, Chubin and Pearson agree. To be successful in academia, scientists must not only teach and do research, but also write papers, submit grant applications, make professional presentations, compete for graduate students and manage their laboratories. That knowledge isn’t taught in the classroom, but comes from working with top faculty.

“Many in the first generation of Ph.D.s didn’t have a sense that the degree is only the beginning,” Pearson said. “Finishing at a top academic institution is a great achievement, but in the research community, the degree is only the key to get in. Those who did not have a rich publishing experience and knowledge of how to write a grant had a very difficult time.”

A shortage of African-American faculty poses a threat to the modest diversity at U.S. colleges and universities as today’s full professors look toward retirement. “When we are only producing 30 or so African-American Ph.D.s a year and a number of African-American chemists are at or near retirement age, we risk losing ground, especially in academia,” Pearson warned.

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**Images:** The image shown on this release and an alternative horizontal portrait are available in 300 dpi JPG format in color.

**Georgia Tech Research News and Research Horizons magazine are available on the Web at (gtresearchnews.gatech.edu). High resolution images may be downloaded from the same site.**