BRIEF

Six Ways Predominantly White Institutions Can Interrupt Occupational Segregation

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KEY TAKEAWAYS

Students at predominantly white institutions (PWIs) are segregated across fields of study, with women and people of color overrepresented in majors that lead to lower-paying occupations. To reduce field of study segregation and shape a more equitable and dynamic future workforce, PWIs can:

- Prioritize representative faculty and administrative staff in every field of study.
- Reform "weed-out" courses and design curriculum structure, academic supports, and policies for inclusion and student success.
- Implement evaluation measures for ongoing institutional efforts to improve department climates for structurally excluded students.
- Foster inclusive teaching and pedagogy in every field of study.
- Track students' educational and early career outcomes by field of study, race, and gender, and use the resulting data to improve student outcomes.
- Provide equity-focused and robust career services and advising.

POSTSECONDARY EDUCATION'S ROLE IN OCCUPATIONAL SEGREGATION

Postsecondary education has the potential to expand opportunities for students to access upward economic mobility, secure a well-paying job, and achieve their full potential, especially for structurally excluded students.[1] Yet postsecondary education continues to amplify inequities through field of study segregation—which contributes to occupational segregation—harming individuals, communities, and our economy.

Women and people of color face substantial barriers to college access and equal opportunity of success across fields of study, despite gains in college accessibility in

recent decades.[2] Analysis of data on degree-seeking students at postsecondary institutions, including at PWIs,[3] shows that field of study segregation between women of color and white men has worsened over the past 30 years. In fact, assuming all women remained in their same field of study, 29 percent (nearly one-third) of men would have to switch their field of study to achieve equal field of study graduation patterns between men and women.

SIX WAYS PWIS CAN FOSTER INCLUSIVE FIELDS OF STUDY & CAREER CONNECTIONS FOR ALL STUDENTS

PWIs must play an active role in interrupting field of study segregation, including by making sure all fields are accessible for structurally excluded students. By implementing these recommendations, PWIs can better facilitate equitable degree attainment across fields of study.

1. PRIORITIZE REPRESENTATIVE FACULTY & ADMINISTRATIVE STAFF IN EVERY FIELD OF STUDY

Postsecondary institutions often fail to hire representative faculty and staff, particularly people of color and women. These hiring decisions are a form of passive discouragement that structurally excluded students experience when pursuing a highly-segregated field of study. Compared to faculty, college students are more than twice as likely to be Black and four times as likely to be Latinx.[4] In addition, faculty and staff who are women and people of color are more likely to be among the most precarious, low-paid junior positions with minimal benefits—such as adjunct and contingent work positions—and underrepresented in full professorships.[5] Lack of representative faculty and staff can contribute to Black and Brown students not persisting in a major or exiting postsecondary education altogether, which helps maintain the status quo of occupational segregation.

PWIs should prioritize diversifying their faculty and administrative staff across fields of study and at leadership levels to achieve racial and gender parity.[6] Further, PWIs should also invest in inclusive strategies

for faculty recruitment, retention, and advancement. Departments should train their administrators and faculty members in how to address implicit bias, which subtly but powerfully shapes hiring and retention dynamics.

2. REFORM "WEED-OUTS" & DESIGN CURRICULUM STRUCTURE, ACADEMIC SUPPORTS, & POLICIES FOR INCLUSION & STUDENT SUCCESS

Black and Hispanic students do not enroll in science, technology, engineering, and mathematics (STEM) at the same rate as white students and have disproportionately higher exit rates, with wider gaps in persistence than in other majors.[7] Introductory courses that are either intentionally designed as or unintentionally function as "weed-out" courses—to discourage some students from further pursuing a certain field of study—are a key contributor to these disparities.[8] When students struggle with "weed-out" classes, they are more likely to be encouraged to switch out of the major than receive support to stay and improve.[9]

PWIs should audit courses to determine which function as "weed-outs"—contributing to students exiting majors or leaving postsecondary education altogether—and reform these courses.[10] After determining which courses are functioning as "weed-outs," departments should monitor these identified courses to track metrics such as how many and which students fail a certain class and how many and which students are dropping a major after taking a certain class. PWIs should use the resulting data to reform such classes and mitigate these harmful student outcomes.[11] For example, instead of large, lecture-style introductory courses (that help institutions with budget considerations), PWIs could move toward smaller class sizes, create teams or pods within larger class sizes, and incorporate teaching methods proven to be effective in retaining structurally excluded students.[12,13] Team-based problem-solving sessions, such as those hosted by UMBC Chemistry Discovery Center,[14] can be the pedagogical opposite of "weed-out" classes, providing students ample opportunity to lean in and grow in mastery of the subject.

3. IMPLEMENT EVALUATION MEASURES FOR ONGOING INSTITUTIONAL EFFORTS TO IMPROVE CLIMATES FOR STRUCTURALLY EXCLUDED STUDENTS

Certain fields of study have "chilly climates"[15] where curriculum and course structure, pedagogy, policies,

culture, faculty, other students, and advising can all contribute to an unwelcoming, discouraging, and even hostile environment for structurally excluded students. This phenomenon may be most apparent in STEM departments, but structurally excluded students experience chilliness in social science[16] and business[17] fields of study, too. If PWIs mitigate their chilly climates, fields of study can better serve as inclusive pathways for structurally excluded students to enter more segregated professions.

PWIs should design and implement evaluations for efforts to improve departmental climates for structurally excluded students. By regularly surveying all students on classroom climate—department by department— PWIs can learn about students' experience of chilliness, measure the effectiveness of community-building efforts, and assess where investments in community-building are most needed. It is important that students have input in the design of these evaluation measures so that the measures are relevant and useful for identifying "chilly" aspects of departments. Students' involvement will help ensure the evaluation measures are designed so that students feel safe sharing openly and have confidence that their feedback will be applied to improve department climates for structurally excluded students.

4. FOSTER INCLUSIVE TEACHING & PEDAGOGY IN EVERY FIELD OF STUDY

Tenured faculty, who may be a student's first exposure to a field of study, can promote inclusion or perpetuate exclusion depending on their teaching, mentoring, and advising practices. For example, in a survey of chemists and chemical engineers about their pursuit of a STEM career, respondents identified that professors were the most common source of discouragement (compared to colleagues, family members, or advisors).[18] African-American women experienced discouragement from professors more than respondents of other races and genders.[19]

Faculty across disciplines—including traditionally white-male-dominated subjects like STEM and economics— should teach with an anti-racist,[20] feminist approach[21] to make their courses as inclusive of structurally excluded students as possible. This anti-racist, feminist approach would include course materials, readings, discussion topics, and guest speakers. To support this effort, PWIs should facilitate department-specific anti-racist training for faculty,[22] with accountability for implementation.

5. TRACK STUDENTS' EDUCATIONAL & EARLY CAREER OUTCOMES BY FIELD OF STUDY, RACE, & GENDER, & USE THE RESULTING DATA TO IMPROVE STUDENT OUTCOMES

Postsecondary institutions do not have sufficient data on students' journeys through postsecondary education and into the labor market.[23] Federal and state policy limitations[24] and institutions' lack of robust data collection contributes to this structural data limitation. Data limitations create additional roadblocks for stakeholders working to analyze and address equity in postsecondary education and early career.[25]

As a result, postsecondary institutions, students and their families, policymakers, and other stakeholders have limited ability to fully understand the experiences of students who enter, exit, or complete their degree programs[26] or to evaluate different fields of study within and across universities for their commitment to structurally excluded students' success.

PWIs should track students by field of study, race, and gender throughout their journey in postsecondary education and into their early careers and analyze this data to enable them to identify[27] and address inequities[28] that harm structurally excluded students. PWIs should meaningfully engage students in the design of data collection mechanisms for student outcomes, as student input will make the data more valuable. The robust data set that will develop over time from consistent data collection will enable institutions and other stakeholders to analyze areas of progress, promising ideas, and areas for improvement within and across fields of study at postsecondary institutions. PWIs' collection and analysis of this data will help build knowledge and facilitate greater accountability throughout the higher education field.[29]

6. PROVIDE EQUITY-FOCUSED, ROBUST ADVISING & CAREER SERVICES

Racial and economic segregation in the U.S. contributes to a reality where structurally excluded students have less exposure to and awareness of the range of potential fields of study and related career fields.[30] Uneven access to employment-related social networks[31] can compound the disparate barriers structurally excluded students face to finding full-time employment in their desired field. Because structurally excluded students face additional challenges in obtaining full-time employment within their field,[32] increasing programming that connects students to their future careers is an important opportunity for interrupting occupational segregation.[33]

PWIs can increase access to quality career advising by:

- Providing equitable and comprehensive career services and advising to students.[34]

- Establishing anti-racist and feminist standards to guide activities of career services and advising departments[35]—and extending these standards to employers who seek to recruit on their campuses.[36]

- Seeking out partnerships with employers and professional associations like the National Society of Black Engineers, whose attention to equity is central to their work.[37]

- Ensuring that career services and institutional fundraising efforts include a focus on removing barriers that structurally excluded students face when seeking internships, such as by offering scholarships or award programs to make internships financially feasible.[38]

- Collaborating with employers to help students access a range of quality, paid internship experiences.[39]

- Promoting internal coordination between career services and academic departments so that faculty and staff, to whom students often turn first as trusted information sources, can provide field-specific information about the job search and job market.[40]

This brief adapts key concepts from "From Exclusion to Opportunity: The Role of Postsecondary Education in Labor Force Segregation & Recommendations for Action" by Vincent Palacios, Laura Tatum, Natalia Cooper, and Siddhartha Aneja. Georgetown Center on Poverty and Inequality, August 2022. Available at https://www.georgetownpoverty.org/issues/from-exclusion-to-opportunity/.

ENDNOTES

1.   This brief defines women and students of color as structurally excluded students because research has demonstrated that students of particular races and genders—namely Black and Brown students and women—typically fare worse in various ways when pursuing a four-year degree than students who are white or men.

2.   Museus, Samuel D., María C. Ledesma, and Tara L. Parker. "Racism and Racial Equity in Higher Education." *ASHE Higher Education Report*, 42(1) 1-112, 2015. Available at https://doi.org/10.1002/aehe.20067.

3.   This project analyzed data from all bachelors degree-granting institutions, but additional unpublished analysis of 2020 Integrated Postsecondary Education Data System and 2016 National Postsecondary Student Aid Study data finds that students at PWIs experience field of study segregation of the same levels.

4.   Davis, Leslie, and Richard Fry. "College Faculty Have Become More Racially and Ethnically Diverse, but Remain Far Less So Than Students." Pew Research Center, 31 July 2019. Available at https://www.pewresearch.org/fact-tank/2019/07/31/us-college-faculty-student-diversity/.

5.   "Race/Ethnicity of College Faculty." National Center for Education Statistics, retrieved on 21 April 2022. Available at https://nces.ed.gov/fastfacts/display.asp?id=61.

6.   An additional benefit of improving outcomes for structurally excluded students in segregated fields of study—via recommendations like those in this brief—is it will help address faculty pipeline issues. As more structurally excluded students succeed in attaining degrees in highly-segregated fields, more of these students will have the opportunity to attend graduate school and become faculty in the long term.

7.   Riegle-Crumb, Catherine, Barbara King, Yasmiyn Irizarry. "Does STEM Stand Out? Examining Racial/Ethnic Gaps in Persistence Across Postsecondary Fields." *Educational Researcher*, 48(3): 133-144, May 2019. Available at https://doi.org/10.3102/0013189X19831006.

8.   Koch, Andrew K. "It's About the Gateway Courses: Defining and Contextualizing the Issue." *New Directions for Higher Education*, 180: 11-17, Winter 2017. Available at https://doi.org/10.1002/he.20257.

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12.   Koch, Andrew K. "Many Thousands Failed: A Wakeup Call to History Educators." *Perspectives on History*, 1 May 2017. Available at https://www.historians.org/publications-and-directories/perspectives-on-history/may-2017/many-thousands-failed-a-wakeup-call-to-history-educators.

13.   Fink, John. "Toward a Practical Set of STEM Transfer Program Momentum Metrics." Community College Resource Center, October 2021. Available at https://ccrc.tc.columbia.edu/media/k2/attachments/stem-transfer-momentum-metrics_1.pdf.

14.   "Department of Chemistry & Biochemistry: Discovery Center." University of Maryland, Baltimore County, retrieved 5 April 2022. Available at https://chemistry.umbc.edu/overview/discovery-center/.

15.   Hall, Roberta M., and Bernice R. Sandler. "The Classroom Climate: A Chilly One for Women?" Association of American Colleges, February 1982. Available at https://files.eric.ed.gov/fulltext/ED215628.pdf.

16.   See Bayer, Amanda, Gary A. Hoover, and Ebonya Washington. "How You Can Work to Increase the Presence and Improve the Experience of Black, Latinx, and Native American People in the Economics Profession." *The Journal of Economic Perspectives*, 34(3): 193-219, Summer 2020. Available at https://www.aeaweb.org/articles?id=10.1257/jep.34.3.193.

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19.   Ibid.

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