

Title: Uncovering hidden equity gaps in STEM pathways

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Abstract: not applicable for Letter

One-Sentence Summary: Policies for collecting data on student engagement in faculty-research labs are needed to advance equity in STEM.

Main Text:

Despite decades of federal investment in scientific training programs, rarely do we see reports that describe the undergraduate student population engaging in faculty-led research labs because these data are not reliably and systemically tracked. Missing demographic data at this stage is problematic because research experience is lauded as a high-impact practice that is critical for advancement in STEM. Faculty led research labs represent a gateway into graduate programs and advanced STEM workforce options. Opportunity gaps at this stage of the STEM educational path are particularly devastating because undergraduate research is an implicit, and often explicit, requirement for doctoral program matriculation. Demographic data are critical for identifying where participation gaps exist, informing decisions about STEM education and workforce pathway programs, and ensuring we can assess impacts over time.

Creating policy and structures to collect these data is essential for advancing institutional efforts and national goals of inclusive and equitable participation in STEM. Thanks to national policies implemented in past decades, federal reporting requirements have established infrastructure and access to national data on demographic statistics for undergraduate and graduate program enrollment. Regrettably, we do not have reliable data on the juncture between the two. Unlike other federally reported data, research participation is often not captured by institutional enrollment data. Students working in labs may be participating for pay, credits, or volunteering for experience. Indeed, it is the variety of ways that students participate in research experience that is a likely culprit for why these data are not already reported. Creative incentives and data solutions will be needed locally to accomplish this goal. Mandates will make any academic organization bristle of course, but this problem is urgent. Without a push we are unlikely to see any new data collected. National policies are needed to require tracking of who is participating in undergraduate research.

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