SCIENTIFIC COMMUNITY

Faculty beliefs predict STEM achievement

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Underrepresented racial and ethnic minorities tend to have lower grades in STEM (science, technology, engineering, and mathematics) than their white peers.

Elizabeth Canning, of Indiana University, and colleagues investigated whether this racial achievement gap could be due to the expectations the professors had of their students. They asked 150 college professors questions to assess whether they believed that intelligence and ability are primarily permanent qualities that do not change (fixed mindset) or whether they believed that ability can be developed (growth mindset). Using these data in concert with university records of students' grades for courses taught by these college professors over seven terms revealed that students taught by faculty with fixed mindsets tended to perform less

well than their peers taught by faculty with growth mindsets; the racial achievement gap was nearly twice as large in courses taught by college professors who endorsed fixed (versus growth) mindset beliefs about intelligence and ability. The professors' beliefs predicted students' achievement above and beyond teaching ability, gender, age, race or ethnicity, and tenure status; it was also related to the motivation that students reported experiencing in those courses.

These findings suggest that changing faculty mindsets may improve the racial achievement gap in STEM fields.

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