

Academic fields valuing 'brilliance' less welcoming to women, new analysis shows

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Academic fields valuing brilliance are less welcoming to women: Fewer women enter and more women leave these fields, partly due to prevalent gender stereotypes, shows a new analysis of 30 disciplines by an

international team of researchers.

"Using a massive database of academic CVs, we were able to uncover the career dynamics by which beliefs about brilliance give rise to [gender segregation in academia](#)," says Aniko Hannak, an assistant professor at the University of Zürich and an author of the paper, which appears in the *Journal of Personality and Social Psychology*.

"Our findings highlight the persistent role of prejudice against [women](#) in perpetuating gender imbalances in academia—especially in fields that prize brilliance—underscoring the need for continued efforts to promote inclusivity and diversity in all fields," adds Andrei Cimpian, a professor in New York University's Department of Psychology and one of the study's researchers.

The other authors on the paper were Kenneth Joseph of the University at Buffalo and Daniel Larremore of the University of Colorado Boulder.

While it has long been known that academic fields are marked by substantial levels of [gender segregation](#), less clear are the underlying dynamics that give rise to these imbalances and how they relate to career trajectories.

To better understand these phenomena, the researchers studied differences in field-specific ability beliefs (FABs) as an explanation. These beliefs reflect whether or not respondents think "brilliance" is required for success in their own field.

"FABs may contribute to gender segregation," Joseph observes, "because brilliance—exceptional intellectual ability—is culturally associated with men more than women."

Previous [work in PLOS ONE](#) has documented a relation between

academic fields' FABs and their gender composition, but without identifying factors that explain it.

To address this, the researchers created a data set—of more than 86,000 individuals—that combined information from two sources: the author-tracking service ORCID (Open Researcher and Contributor ID), where researchers can fill out information about their publications and their educational and professional histories, and information from a survey of US academics across 30 fields.

The results showed that women were underrepresented among those who enter fields with brilliance-oriented FABs—fields seen as requiring "brilliance"—and overrepresented among those who exit these fields.

The authors also looked at reasons for these phenomena, focusing on gender-based prejudice. To do so, they drew from a [2015 study published in *Science*](#), co-authored by Cimpian, that tapped academics' perceptions of prejudice against women in their respective fields with questions such as "Women face more challenges than men if they pursue careers in [my field]" and "[My field] as a discipline is welcoming to women." This measurement strategy is consistent with a long tradition in industrial and [organizational psychology](#), where it is common to ask participants to report on the level of prejudice and discrimination they perceive in their organizations.

The data showed that fields with more brilliance-oriented FABs scored significantly higher on perceived prejudice against women. Importantly, Larremore adds, "we also found that gender segregation is partially explained by this perception that women encounter more prejudice in fields with brilliance-oriented FABs."

"Despite efforts to address gender segregation in academia, our research—using the largest database of academic CVs to date—reveals

that fields valuing brilliance as a marker of success are less welcoming to women, leading to fewer women entering and more women leaving these fields due to prevalent gender stereotypes," says Hannak.

At the same time, the researchers emphasize that this work will help them to continue their search for interventions that will help address gender segregation, in academia and beyond.

"Our team's [prior work](#) shows that with committed, sustained efforts, interventions that reduce gender segregation are possible and powerful," says Joseph.

More information: Aniko Hannak et al, Field-specific ability beliefs as an explanation for gender differences in academics' career trajectories: Evidence from public profiles on ORCID.Org., *Journal of Personality and Social Psychology* (2023). [DOI: 10.1037/pspa0000348](https://doi.org/10.1037/pspa0000348)

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