

Expectations of brilliance underlie gender distributions across academic disciplines

Sarah-Jane Leslie, Andrei Cimpian, Meredith Meyer, & Edward Freeland

FREQUENTLY ASKED QUESTIONS

Q1: What's the main message of this work?

A: Our study proposes and tests a new explanation for gender gaps in academic disciplines. We propose that gender gaps may be larger in fields whose members believe one needs to be brilliant to succeed. The reason for this is that our society associates men, but not women, with brilliance. Our findings were consistent with this proposal. That is, we found that women were indeed less likely to obtain PhDs in fields that idolize brilliance and genius. This hypothesis was better able to explain the data on women's representation than several of the prominent hypotheses that are currently available in the literature.

Q2: What's the practical take-away of this work?

A: This research suggests it is important to be aware of the messages we send about how one becomes successful in a field. If the practitioners of a field avoid labeling and categorizing others based on their perceived intellectual gifts, and instead emphasize what can be achieved with sustained effort and dedication, they may create an atmosphere that is equally encouraging of men and women.

Q3: Are you arguing that intellectual ability (brilliance, genius, etc.) isn't important?

A: Not at all. We are not arguing that intellectual ability isn't important. Our paper isn't about what one *actually* needs to succeed in a field. Instead, our findings suggest that if members of a particular field believe strongly in the importance of brilliance and convey that to aspiring members, they are likely to undermine female participation. So our argument is about how the *culture within a field* might influence the likelihood that women will participate in that field.

Q4: Are you saying that women aren't as intellectually capable as men?

A: No, we are not arguing that women are less intellectually capable than men. According to our hypothesis, female underrepresentation is not the result of actual differences in intellectual ability but rather the result of *perceived or presumed* differences between women and men.

Q5: Could it be that women are underrepresented in fields that *actually* require brilliance?

A: There are several reasons why we think this is not the case. First, this alternative explanation is contradicted by the fact that there was no relationship between a field's selectivity in its graduate admissions and its female representation. If our results were simply due to women lacking the brilliance that is actually required by some fields, we should have seen a relationship here (with highly selective fields including fewer women). Second, in ongoing work from our group, we have preliminary evidence for a direct causal influence of messages about brilliance on women's involvement. That is, we have experimental evidence for the claim that brilliance-oriented messages directly undermine women's motivation to pursue a field. Thus, when confronted with a culture that idolizes brilliance in a certain field, women may be less motivated to pursue that field *regardless of their intellectual abilities*. This, again, goes against the idea that some fields have fewer women because women don't have the brilliance required to succeed in them. Third, in our reading of the literature, there is no convincing

evidence that women and men differ intellectually in ways that would be relevant to their success in the fields we surveyed.

Q6: Your results are correlational. What reason is there to believe that beliefs within a particular field *influence* women's participation?

A: Although our results are correlational, we were nevertheless able to provide evidence against some of the most plausible alternative explanations. For example, our response to Q5 above argues against one of the more salient alternatives. In addition, the main paper reports an analysis suggesting that participants weren't simply inferring whether brilliance is required based on their estimates of the proportion of women in their field (see p. 265). We are also actively pursuing experimental studies in order to test the hypothesized causal link between a field's ability beliefs/messages and women's involvement.