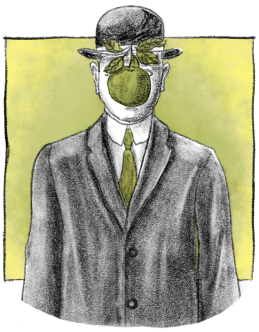

Summary of recommendations related to

Representation and Belonging

The Problem: Personal and societal perceptions about who is suited to science remain a barrier to belonging for communities who do not fit the public's image of a typical scientist. These challenges are most often exacerbated in fields where innate "brilliance" or "genius" are part of the stereotype. Studies have shown that girls as young as elementary school are less likely to see themselves as capable of being scientists than boys performing comparably in STEM subjects. Female faculty in science are less likely to be included in conversations about science and are judged less competent than comparable men – in academic rank, field, and research output – when they do participate. Negating those ideas, though, has been demonstrated to improve both perception and subsequent performance, which is impacted by anxiety incurred by underrepresentation and the pressure of being potentially reinforcing negative stereotypes. Women and girls who are exposed to female scientists (even in popular media) are more likely to pursue science themselves, but in very male-dominated fields, role models may be few and far between.

Recommendations:

- The scientific community must work to nullify the public perception that some fields are only open to those who exhibit "brilliance", "genius", or some other intangible quality. It is incumbent on individuals, in communicating the reality of their trajectories, and on educators, in shaping classroom policies and curricula, to emphasize a growth mindset, focusing on the importance of persistence and hard work rather than innate intellect.
- Having a supportive community can play a critical role in increasing a sense of belonging in science. Cultivating a strong personal network, both of peers and those who can act as mentors, improves resilience and persistence in the field. Both creating intentional "counterspaces," where underrepresented groups are momentarily the majority, and encouraging allyship from majority groups can help foster connection.
- Women's research is less likely to be externally promoted, and there is a long history of dismissing women's accomplishments (e.g., who gets credit for the research conducted at Harvard Observatory across the turn of the 20th century?). Institutions, departments, and individuals should be purposeful in whose work is highlighted and how that work is presented, both in the classroom and while engaging the public.

Picture an Astronomer: Best Practices for Retaining Talent in Astrophysics
https://arxiv.org/abs/2512.24465
https://pictureanastronomer.github.io/whitepaper