Gender Inclusion & Fit
in STEM

Why do gender disparities persist in STEM despite women’s* increased involvement & interest?

*Gender identities go beyond the binary that most research portrays; women with marginalized identities also face barriers that are similar but distinct

Root causes of STEM attrition

Many women might self-select out of STEM because the environment does not fit

Expressing one’s true self (state authenticity) is a key motivator to attract, engage & retain people in a field, as people tend to prioritize careers that are a good fit

Gender stereotypes can erode women’s ability to feel a sense fit & belonging in a setting

SAFE Model & Person-Environment Fit

State
Authenticity is a signal of one’s
Fit to the
Environment

Women’s & girls’ interest & advancement in STEM is often a function of their ability to feel a sense of fit in STEM environment

Environmental characteristics
Do cues in the environment signal...

Self-concept fit?
Goal fit?
Social fit?

Masculine defaults vs. gender neutral
Encouraging dominance vs. collaboration
Cross-gender identity threat vs. respect/acceptance

State authenticity (am I able to express myself?)

This model can explain why people opt out of some settings to self-segregate into others, even without sign of clear bias or discrimination

How environments signal fit in STEM

Self-concept fit
Can I express & be my authentic self here?

De-emphasize the focus on brilliance in STEM fields, & decrease the presence of masculine default in policies, interactions, & communication to combat gender stereotypes

Goal fit
Does this fit my career goals? My values?

Frame work in terms of collaboration, instead of working on things & projects
Check institutional policies on how work is structured & rewarded; these may appeal more to men than women

Social fit
What does it feel like to work here?
Encourage interactions that are supportive & inclusive of women & people with marginalized identities
Demonstrate discussions where all are heard equally & not interrupted

Overall, STEM environments can be a bad fit for women; women are not a bad fit for STEM environments. Dismantling systemic barriers needs a multifaceted, intersectional approach to change organizational & educational cultures.
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References


About Project RISE
How can we educate adults about implicit bias in a way that fosters mutual respect and creates a more inclusive culture in the workplace? Project RISE (Realizing Identity-Safe Environments) will harness our understanding of implicit bias, intergroup contact, and social identity threat to create a more “identity safe” workplace culture. Interventions designed to create identity-safe contexts have been shown to narrow the gender gap in academic performance. Project RISE aims to create positive cultural change for women and men in science and engineering by: (1) educating participants about implicit bias, (2) fostering supportive and respectful interactions between men and women in the organization, and (3) providing them with a clear understanding for how to combat bias. Learn more at: successinstem.ca/projects/riser

About Engendering Success in STEM (ESS)
Engendering Success in STEM (ESS) is a research partnership focused on evidence-based solutions to foster positive working environments for people in STEM (Science, Technology, Engineering, and Math). We bring together social scientists, STEM experts, and stakeholders in the STEM industry and education to use an evidence-based approach to break down barriers people face on their pathway to success. Canada’s Social Sciences and Humanities Research Council reviewed and funded this project.