Does Implicit Bias Affect Hiring in Science?

The **under-representation** of women in science, technology, engineering, and math (STEM) is well documented.[1,2,3]
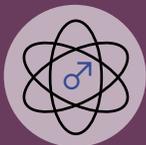
There is a debate about whether **implicit bias** plays a role in hiring.

Implicit Bias

occurs when **stereotypes** that are **automatically activated** bias outcomes.[5-6]

A common **automatic association** is between **science and men**.[7-9] It can be linked to differences in performance[7] and participation[10] rates in STEM. Can it bias decision-making in real-world hiring contexts?

These associations sometimes bias decisions, and sometimes do not.[11] Because of this, they are especially important to examine in decision-makers.[11]

Explicit Beliefs About Bias

People sometimes feel justified in letting their implicit stereotypes bias their decisions.[11]

If they believe bias isn't a problem, they might not suppress their implicit stereotypes.

Implicit stereotypes can be **justified** by a person's **explicit beliefs**,[12,13] which can help us:

control the effect of implicit bias on behavior

or

increase their impact if a person believes their actions are rational or objective.[14]

Hiring Committee Study

Do implicit stereotypes and explicit beliefs predict hiring outcomes for women in a real world STEM context?

39 committees hiring elite research positions were tested over 2 years for their **implicit stereotypes**, **explicit beliefs**, and **selection outcomes**.[11]

This study measured the committee average of the following biases:

Implicit stereotypes: science=male association

Explicit beliefs about biases: do women face external barriers to their success (e.g. discrimination)?

Explicit awareness that women face barriers to success

Implicit stereotypes → **Biased hiring decisions**

Group norms may affect how much stereotypes are acknowledged, set aside, or justified.

Half of the committees **did not believe** gender bias is a problem.[11]

Habit-Breaking Interventions[6]

make decision-makers aware of implicit biases

provide effective strategies for reducing impact of implicit biases

understand the consequences of implicit biases

To have a greater effect, **education strategies** should be paired with strong **accountability** measures.

Learn more about implicit bias, what you can do to combat it, and our research in our white paper series on our website: successinstem.ca

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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/rise/

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 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.