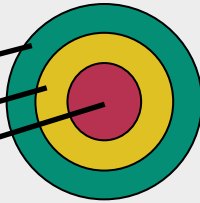


Find out what **strategies** (🎯) and **actions** (👤) you can take to counteract **implicit bias**⁵.

You can take action against **implicit bias** on three levels:

Institutional
Interpersonal
Individual



Implicit bias is the **unconscious, automatic** tendency to associate certain **roles or traits** with **one social group** more than another.⁶

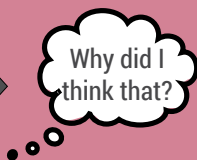
What Can We Do as Individuals?

Practice replacing biased responses¹

Notice the bias



Reflect



Replace the stereotype



Recognize when your response is based on biases or stereotypes, and reflect on why it occurred. How could this be avoided in the future? (🎯) (👤)

Consider examples that challenge gender biases²

Think of examples of people who don't fit common stereotypes. (🎯) (👤)

(e.g. business leaders, people in your networks, famous people)



Find out what makes others unique³

Prevent biases from influencing your views by learning about people from different groups. (🎯)

Learning what makes someone unique can override implicit biases. (👤)



Stay motivated⁴

Acknowledge the effects of bias and discrimination and actively work to set them aside. (🎯)

Reflect on why it's important that people are treated fairly and with respect. (👤)

Values can motivate you to overcome your biases



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Findings & References

1. Regulating your own biased responses can facilitate the reduction of bias.

Devine, P. G., Forscher, P. S., Austin, A. J., & Cox, W. T. (2012). Long-term reduction in implicit race bias: A prejudice habit-breaking intervention. *Journal of Experimental Social Psychology, 48*(6), 1267-1278.

2. Exposure to counterstereotypic examples effectively weakens stereotypes held about a given group.

Dasgupta, N., & Asgari, S. (2004). Seeing is believing: Exposure to counterstereotypic women leaders and its effect on the malleability of automatic gender stereotyping. *Journal of Experimental Social Psychology, 40*(5), 642-658

3. Getting to know more about people as individuals helps us evaluate members of different social groups based on personal, rather than group-based, attributes.

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta analytic tests of three mediators. *European Journal of Social Psychology, 38*(6), 922-934.

4. Being motivated to set biases aside predicts more equitable decisions and outcome for groups who would otherwise be disadvantaged by implicit bias.

5. Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review, 102*, 4–27.

6. Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., ... & Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology, 18*(1), 36-88.

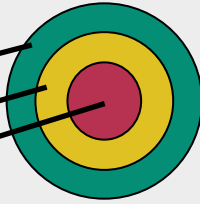
About Engendering Success in STEM (ESS)

Engendering Success in STEM (ESS) is a research partnership focused on evidence-based solutions. The shared goal of our research is to foster women's inclusion and success 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 the biases girls and women face on their pathway to success.

Find out what **strategies** (🎯) and **actions** (👤) you can take to counteract **implicit bias**⁵.

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What Can We Do in Our Social Interactions?

Take the perspective of a person in a stereotyped group¹ (🎯)

Listen and believe stories of subtle bias you might hear from other women. (👤)



Imagine what it might be like to go through their experience. (👤)

Seek out opportunities to engage with people from different social groups² (🎯)

Initiate a constructive dialogue with someone from a different background than you. (👤)

Build respect for each other by sharing your mutual experiences, concerns, and values. (👤)



Encourage women to pursue career-related opportunities. (👤)

Become an active ally³ (🎯)

Speak out against harassment and subtle forms of gender bias. (👤)

Be socially inclusive⁴ (🎯)

Avoid planning social activities you know would exclude certain team members. (👤)

Ensure women are represented in important decisions. (👤)



Volunteer to mentor women in your field. (👤)



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Findings & References:

1. Perspective taking increasing psychological closeness, which decreases bias.

Galinsky, A. D., & Moskowitz, G. B. (2000). Perspective-taking: decreasing stereotype expression, stereotype accessibility, and in-group favoritism. *Journal of Personality and Social Psychology*, 78(4), 708.

2. Increased contact can reduce implicit bias by changing our cognitive representations (how we imagine a group of people) of social groups, directly improving evaluations of the group, and fostering mutual respect between conversational partners.

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta analytic tests of three mediators. *European Journal of Social Psychology*, 38(6), 922-934.

3. Both men and women can advocate on behalf of underrepresented groups to facilitate change and break discriminatory norms.

Paluck, E. L., & Shepherd, H. (2012). The salience of social referents: A field experiment on collective norms and harassment behavior in a school social network. *Journal of Personality and Social Psychology*, 103(6), 899.

4. Because men and women can be interested in different social activities, women are often excluded from opportunities that arise from informal networking.

De Welde, K., & Laursen, S. (2011). The glass obstacle course: Informal and formal barriers for women Ph. D. students in STEM fields. *International Journal of Gender, Science and Technology*, 3(3), 571-595.

5. Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, 102, 4–27.

6. Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., ... & Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology*, 18(1), 36-88.

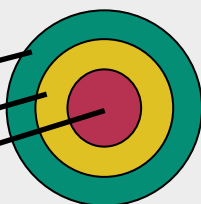
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What Can Institutions Do?

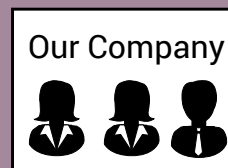
Perform a policy "safety check"¹ 🎯

Ensure that your institution has **gender inclusive**² policies. 🚶



Use gender inclusive imagery² 🎯

Use gender inclusive photos and pronouns on promotional materials. 🚶



Increase the representation of women in top positions³ 🎯 🚶

Seek out and hire women. Establish a goal for women across your institution. 🚶

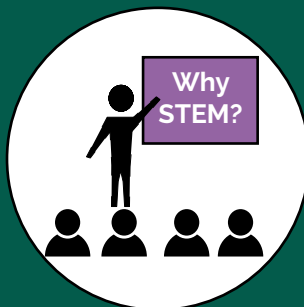


Promote diversity training efforts & accountability⁴ 🎯

Implement diversity trainings and assess their effectiveness. 🚶

Adopt anonymous evaluation practices⁵ 🎯

Redact applicants' names from application materials. 🚶



Support outreach activities⁶ 🎯

Speak at an event that inspires young girls to consider your STEM field as a career path. 🚶

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Findings & References:

- 1. Women who work at companies with gender inclusive policies are less worried about experiencing workplace sexism. These policies create a positive social climate between men and women by helping to improve interaction quality.**
Hall, W. M. (2016). *Interpersonal triggers and cultural moderators of social identity threat* (Doctoral dissertation). University of British Columbia. Retrieved from <https://open.library.ubc.ca/cIRcle/collections/24/items/1.0307372>
- 2. Women are more attracted to companies that use gender inclusive photos and pronouns in their promotional materials.**
Murphy M. C., Steele C. M. and Gross J. J. (2007) Signaling threat: How situational cues affect women in math, science, and engineering settings. *Psychological Science*, 18(10), 879–885.
- 3. Having female role models in leadership positions can reduce automatic gender stereotypic beliefs. The more frequent the exposure to these successful women, the stronger this effect becomes.**
Dasgupta, N., & Asgari, S. (2004). Seeing is believing: Exposure to counterstereotypic women leaders and its effect on the malleability of automatic gender stereotyping. *Journal of Experimental Social Psychology*, 40(5), 642-658.
- 4. The percentage of women selected for positions dramatically increases when judges are unaware of the candidate's gender. Gender biases favoring men are likely to occur when judges are aware of the candidate's gender.**
Moss-Racusin, C. A., Dovidio, J. F., Brescoll, V. L., Graham, M. J., & Handelsman, J. (2012). Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences*, 109(41), 16474-16479.
Rouse, C. (2000) Orchestrating impartiality: The impact of 'blind' auditions on female musicians. *American Economic Review*, 90, 715-741.
- 5. When done well, knowledge about the importance of diversity and inclusion is powerful, especially when it is paired with organizational structures designed to hold those in top-level positions (e.g., managers) accountable.**
Kalev, A., Dobbin, F., & Kelly, E. (2006). Best practices or best guesses? Assessing the efficacy of corporate affirmative action and diversity policies. *American Sociological Review*, 71(4), 589-617.
- 6. Motivating women and girls to pursue careers in fields where they are highly underrepresented (e.g., science, technology, engineering, and math) can increase the gender diversity of the field.**
Diekman, A. B., Weisgram, E. S., & Belanger, A. L. (2015). New routes to recruiting and retaining women in STEM: Policy implications of a communal goal congruity perspective. *Social Issues and Policy Review*, 9(1), 52-88
- 7. Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, 102, 4–27.**
- 8. Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., ... & Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology*, 18(1), 36-88.**

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