RISE Workshop Toolkit

In Person Workshop Toolkit

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ENGENDERING SUCCESS IN STEM

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Overview

Why these workshops?

The Inclusive Innovation workshop was designed as part of a research project with Project RISE called Cultivating Collaborative Cultures. The key aim of the Cultivating Collaborative Cultures project was to develop and test the effectiveness of an evidence-based Inclusive Innovation workshop in a real world, controlled study with direct comparison to those from the same organization who have not participated in the same workshop. This kind of randomized control group research design is the gold standard for best practices in research but is very rare in field-based studies.

To achieve this aim, the Project RISE team developed two empirically-grounded workshops: The Inclusive Innovation workshop was designed as an intervention to foster greater inclusion for women in STEM organizations by educating people about implicit gender bias and social identity threat and encouraging them to create individualized action plans for everyday allyship behaviors. The Influential Leaders workshop was designed to be a matched control condition that included research on the effectiveness of different leadership styles and encouraged participants to developed individualized action plans for everyday leadership behaviors. This toolkit provides detailed information about how to run these workshops using the materials created by Project RISE. The workshops are designed to be done in person as a fully interactive half-day session. A shorter virtual version of the Inclusion workshop has also been developed and full detailed will be available at a later date.

About Engendering Success in STEM and Project RISE

Engendering Success in STEM (ESS) is a research partnership of social scientists, STEM experts, and stakeholders in STEM industries and education, united by the shared goal of fostering gender inclusion and success in STEM (Science, Technology, Engineering, and Math). We use an evidence-based approach to break down the biases girls and women face on their pathway to success in STEM. Applying two decades of research, our team tests interventions that harness the power of positive social interactions to reduce the effects of implicit gender bias. These interventions target the distinct obstacles that are unique to each step along the path from early education to industry (see successinstem.ca for more information).

Within ESS, 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 through effective allyship actions. Applying techniques to increase openness and understanding of the consequences of bias, our aims in Project RISE are to highlight women's often untapped potential, equip women with strategies for coping with social identity threat, and empower men to become effective allies for equality.

What have we learned from these workshops

The Inclusion and Leadership workshops had a parallel structure. In post-session evaluations, participants gave similarly positive ratings to both workshops. Most notably, over 95% of attendees recommended the Inclusive Innovation workshop to others in their organization. Click here for: Project RISE: Workshop Evaluation Report.

Compared with the Leadership workshop, participants in the Inclusion workshop gained greater awareness of their own implicit stereotypes, of gender bias as a problem in STEM, and that men's allyship can be an effective way to foster greater inclusion. Some of these changes in beliefs persisted for 18 months after the workshop and were stronger among men and those who at baseline were skeptical that gender bias is a problem. Although women were initially more likely than men to engage in allyship actions after taking part in the Inclusion workshop, by 18 months, this gender difference was eliminated. Whereas participants in the Leadership condition exhibited a decline in fit and engagement at the 18 months follow-up survey, participants in the Inclusion condition did not. Click here for: Project RISE Cultivating Collaborative Cultures Report

Intended workshop audience

These workshops were designed for STEM professionals – those who work in science, technology, engineering or mathematics. These workshops were tested in mixed gender groups of between 12-40 participants who were (when possible) paired with a fellow co-worker of a different gender and grouped together at tables of 4-6 people. Although the central focus of the Inclusive Innovation workshop was gender diversity and inclusion, examples are also provided of diversity and inclusion based on other attributes such as race/ethnicity or age.

Inclusion Workshop

Workshop objectives

The objectives of this workshop are to:

- Distinguish between diversity and inclusion and why inclusion is important for organizations.
- Support existing diversity and inclusion work by providing tangible examples and research on these topics in an engaging way that organizations can implement in their contexts.
- Increase participants' understanding of implicit bias and its connection to the workplace.
- Educate participants on the differences between reactive and proactive allyship in the workplace, and their effects.
- Lead participants through developing individualized allyship plans to encourage them to take action in situations they encounter after the workshop.
- Offer insights into research on inclusion in the workplace and suggested best practices.

Workshop Room set up

For this workshop, participants will be working in small groups (4-6) on tasks. Ideal room set up would include tables that can fit 4-6 people around them for the group tasks, depending on the overall workshop size.

In previous workshops, an additional table was provided at the back of the workshop space for workshop staff and facilitators who supported participants with materials and workshop questions.

Workshop Architecture and Materials

The workshop follows a topic-tailored content structure to achieve the above objectives using five interactive workshop elements organized sequentially in a 4-hour workshop.

Build trust and experience inequities

Reinforce shared values among the field and each other

Learn about evidence on effects of implicit gender bias

Share experiences with diversity and implicit bias

Foster skills and an intention to enact allyship

All the workshop materials are linked in the following table but also can be found on the Project RISE website at: https://successinstem.ca/projects/rise/rise-toolkit-3/. A parallel guide to workshop flow for the Leadership workshop with links to relevant materials can be found in the appendices.

1 — 35 MIN

Design Activity

- Introduction
- How we work

Materials

- Coloured sheets of paper (30 sheets per group)
- Small prize for tower competition (e.g. chocolate)
- Workshop Slides – PART 1

2 — 32 MIN

Affirm Values

- Why we work
- RISE culture data
- Values survey
- Discuss values
- Values and inclusion
- Discuss towers
- Org. stats & Summary
- Reflection survey #1

Materials

- Values survey
- Reflection survey #1
- Workshop Slides – PART 1

3 — 33 MIN

Learning Unit

Barriers to inclusion
- Gender similarities
- IAT demo
- Implicit bias

McKinsey video
Perception effects
Bias discussion
Fit and threat

Materials

- Bias buster cards – Buy here
- Workshop Slides – PART 1

Break – 15 Min

4 — 45 MIN

Dialogue Task

- Communication inclusion
- Reflection survey #2

Materials

- Dialogue Question Packets
- Reflection Survey #2
- Workshop slides Part 2

5 — 30 MIN

Learning Unit

Barriers to inclusion
- Gender similarities
- BIAT demo
- Implicit bias

- McKinsey video
- Perception effects
- Bias discussion
- Fit and threat

Materials

- Bias buster cards – Buy here
- Workshop slides Part 2

6 — 55 MIN

Action Plan

Allyship into Action
- Science of Goals
- Reactive worksheet
- Proactive example

- Proactive worksheet
- Discuss IF-THENs
- Make Action Card
- Reflection Survey 3

Materials

- Action Plan Worksheets
- Reflection Survey #3
- Action Plan Cards; Post-Workshop Evaluation
- Workshop slides Part 2

Workshop Dialogue Pairings

As part of the workshop design, the Project RISE team used assigned seating and paired name tag stickers to intentionally pair each participant with a partner who was:

1) someone of a different gender,
2) someone of similar authority or status in their workplace and,
3) someone of a similar age.

The first guideline (1) allows for increased benefit from workshop discussions, where men have an opportunity to learn about the discrimination their women counterparts have experienced within their shared workplace or their field broadly. The second (2) and third (3) guideline aims to reduce power imbalances between participants, so that participants can engage in dialogue without concerns of hierarchical or seniority-based influences on the conversation.

Fonts in use

The workshop slides (linked in the above table) are divided across two slide decks. Note, these PowerPoint slide decks use the following fonts, available for download on the google fonts site: Abril display, Abril text, Lato, Roboto (whole family, include condensed and Roboto light)

Crediting the work

When presenting, please ensure you credit workshop design and content creation to Project RISE of Engendering Success in STEM. The opening slide of each workshop PowerPoint presentation includes an acknowledgement that the workshop and associated materials were created by Project RISE, in collaboration with Women in Science, Engineering, Trades and Technology (WinSETT) and the Social Sciences and Humanities Research Council (SSHRC).

Questions about the content can be directed to one of the Project Co-Leads:

- Dr. Toni Schmader, University of British Columbia (tschmader@psych.ubc.ca).
- Dr. Hilary Bergsieker, University of Waterloo (hburbank@uwaterloo.ca)

Appendices

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Resources

Land acknowledgements

Learn more about land acknowledgements from the following sources:

CAUT (2016). CAUT Guide to Acknowledging Traditional Territory. Ottawa: Canadian Association of University Teachers. https://www.caut.ca/content/guide-acknowledging-first-peoples-traditional-territory

Wilkes, R., Duong, A., Kesler, L., & Ramos, H. (2017). Canadian university acknowledgment of Indigenous lands, treaties, and peoples. Canadian Review of Sociology/Revue canadienne de sociologie, 54(1), 89-120. DOI: 10.1111/cars.12140

Vowel. C. (2016). Beyond land acknowledgements. âpihtawikosisân: Law, language, life. Retrieved from http://apihtawikosisan.com/2016/09/beyond-territorial-acknowledgments/

Influential Leaders Workshop

Workshop Flow and Materials for Influential Leaders

The workshop on **influential leaders** also follows a topic-tailored content structure to achieve similar objectives to **Inclusion Innovation** Workshop using five interactive workshop elements organized sequentially in a 4-hour workshop.

1
35 MIN

Design Activity

- Introduction
- How we work

Materials

- Coloured sheets of paper (30 sheets per group)
- Small prize for tower competition (e.g. chocolate)
- Workshop Slides – PART 1

2
32 MIN

Affirm Values

- Why we work
- RISE culture data
- Values survey
- Discuss values
- Values and inclusion
- Discuss towers
- Org. stats & Summary
- Reflection survey #1

Materials

- Values survey
- Reflection survey #1
- Workshop Slides – PART 1

3
33 MIN

Learning Unit

Barriers to inclusion
- Gender similarities
- IAT demo
- Implicit bias

McKinsey video
Perception effects
Bias discussion
Fit and threat

Materials

- Bias buster cards – Buy here
- Workshop Slides – PART 1

Break – 15 Min

4
45 MIN

Dialogue Task

- Communication inclusion
- Reflection survey #2

Materials

- Dialogue Question Packets
- Reflection Survey #2
- Workshop slides Part 2

5
30 MIN

Learning Unit

Barriers to inclusion
- Gender similarities
- BIAT demo
- Implicit bias

Materials

- Bias buster cards – Buy here
- Workshop slides Part 2

6
55 MIN

Action Plan

Allyship into Action
- Science of Goals
- Reactive worksheet
- Proactive example
- Proactive worksheet
- Discuss IF-THENs
- Make Action Card
- Reflection Survey 3

Materials

- Action Plan Worksheets
- Reflection Survey #3
- Action Plan Cards; Post-Workshop Evaluation
- Workshop slides Part 2

Glossary

Definitions

Allyship: Taking action to support those who might otherwise be or feel excluded

- Reactive Allyship: Reacting to bias when we see it (e.g., confronting disrespectful, biased remarks)
- Proactive Allyship: Proactive efforts to increase inclusion (e.g., inviting women onto key projects)

BIAT: The "Brief Implicit Association Test" (Sriram & Greenwald, 2009) is a reaction-time measure of participants' implicit or automatic associations. Our BIAT tested participants' relative speed in associating 'Engineering' or 'Science' with men vs. women.

Engagement: Experiencing work as meaningful, feeling less burnout and greater commitment to organization

Fit: Participants' feelings that they fit in their fields. Fit assesses how well participants feel their self-concepts, goals, and values align with their fields, and how well they feel they are accepted by others in their field.

Gender Bias: Unequal treatment toward someone based on their gender (e.g., dismissing a woman's suggestion because she isn't expected to have technical expertise)

Implicit Gender Stereotypes: An automatic tendency to associate STEM more with men than with women.

Leadership Strategies: Strategies for influencing people

- Autocratic Direction: Initiating structure and delegating tasks
- Technical Mastery: Technical expertise and related mentoring
- Collaborative Optimization: Process optimization and catalyzing team skills
- Organizational Innovation: Innovation and shifting paradigms

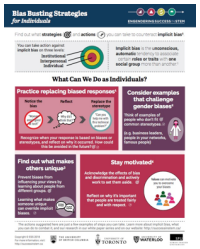
Meaningful work: Participants' feelings that the work they do in their organization is meaningful, inspiring, and worthwhile, key components of workplace engagement.

Self-efficacy: Participants' appraisals that they are well-prepared for their jobs/careers and that they have the skills and abilities to be successful.

Social identity threat: Participants' worries or concerns that they will be evaluated on the basis of gender stereotypes or that their own behaviour will reflect on other men/women.

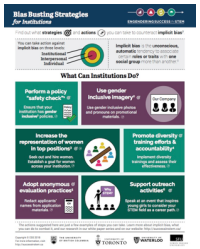
Recommended White Papers

http://successinSTEM.ca/resources

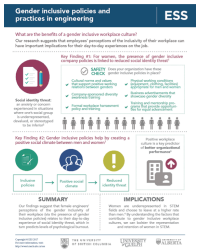


Bias Busting Strategies for Individuals

Bias Busting Strategies for Interpersonal Interactions



Bias Busting Strategies for Institutions

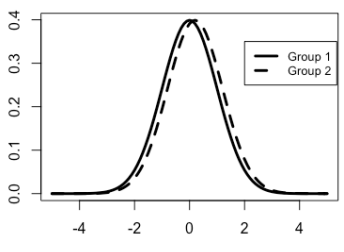


Gender-Inclusive Policies & Practices

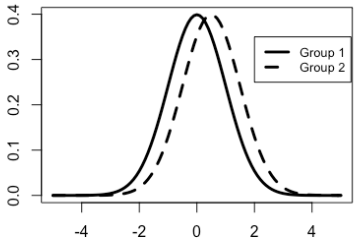
Statistical Interpretation Guide

Cohen's *d*

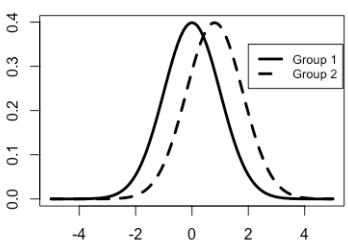
d is a measure of the size of the difference between two groups (e.g., Group 1 & Group 2)



Difference of d = .2



Difference of d = .5



Difference of d = .8

Assuming normally distributed groups, each with a standard deviation of 1, the figures above show the degree of overlap between two groups for effect sizes of d = .2, d = .5, and d = .8

Effect size interpretations

Values of *d*	Interpretation
.2	Small effect
.5	Medium effect
.8	Large effect

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Thank You to Our ESS Partners

UNIVERSITIES

University of British Columbia
Simon Fraser University
University of Toronto
University of Waterloo

PROFESSIONAL ASSOCIATIONS

Canadian Institute of Mining, Metallurgy, & Petroleum
Engineers Canada
Engineers and Geoscientists BC
Mining Industry Human Resources Council

SCIENCE EDUCATION

Actua
Engineering Science Quest
Geering Up
Science Al!ve
Science World

NON-PROFIT CHANGE AGENTS

Engineering Change Lab
Gender and the Economy
WinSETT Centre
NSERC Chairs for Women in Science and Engineering
Ontario Network for Women in Engineering
Society for Canadian Women in Science and Technology

ENGINEERING & RESEARCH ORGANIZATIONS

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