#DISTRACTINGLYSEXIST: CONFRONTING SEXISM IN CANADA'S TECH TRIANGLE

An Interactive Photo-Research Exhibit

By
Eden Hennessey, D.S.W., M.A., PhD Candidate, Psychology

Inspired by women's real-world confrontations, this exhibit highlights experiences of female scientists and the consequences of confronting sexism in STEM (science, technology, engineering and math).

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#DistractinglySexist is a photo-research collaboration between Eden Hennessey and photographer Hilary Gauld that features real women in science and their allies from Wilfrid Laurier University and the local community.

The project was possible with supportive friends, family, research assistants, advisors, Hilary Gauld, Sarah Mueller, The Laurier Centre for Women in Science, and The Laurier Graduate Students' Association.

Researcher Biography

Eden Hennessey

Eden Hennessey is completing a PhD in Social Psychology with Dr. Mindi Foster where she focuses on how women respond to sexism in STEM (i.e., science, technology, engineering and math). Gender disparities in STEM continue; Eden's recent research shows that female WLU STEM students experience stereotyping; some report they are called 'weirdos' and even 'witches.'

One way to reduce sexism is to confront it; however, confrontation may have serious costs (e.g., social/professional consequences). Eden's dissertation assesses whether female confronters of sexism in STEM perceive and incur greater consequences than other women. Further, her research explores how virtual mentors and a strong scientific identity impact the consequences of confronting sexism in STEM. Eden's passion for research extends to her position as Student Research Coordinator of the Laurier Centre for Women in Science (WinS).

Eden's work has local and global relevance; a recent report named Waterloo Canada's worst city for women, linking gender disparities in STEM to stress, underemployment and one of the countries' largest gender-wage gaps. Given Waterloo's designation as 'Canada's Silicon Valley' it is essential we attract and retain female STEM talent. I hope these images inspire thought about gender disparities in science, but also impart a sense of optimism about the future of women in STEM.

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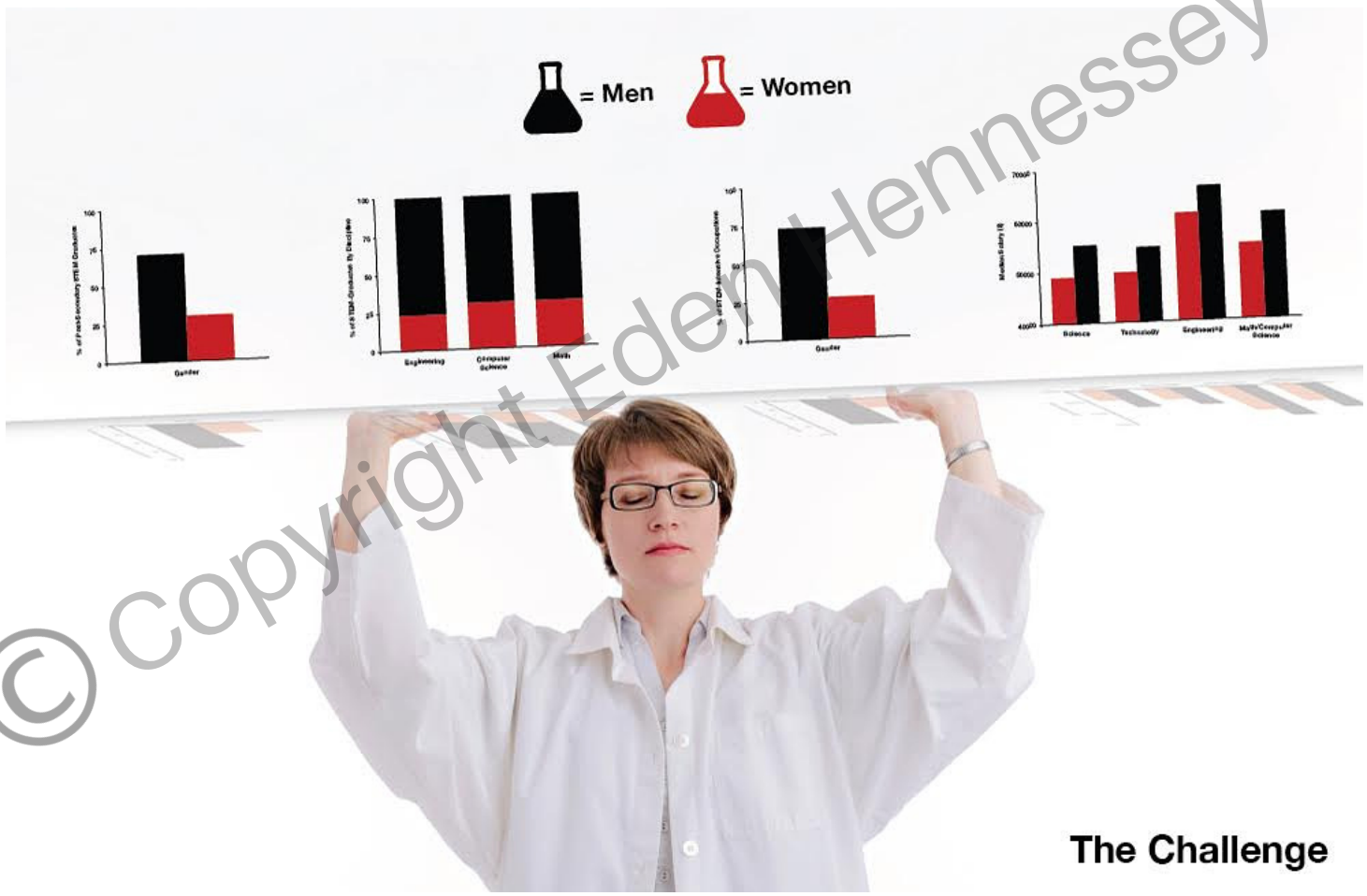

1. The Challenge, 2015
Digital Print 24” X 36”
Dr. Allison McDonald, Associate Professor, Biology
Wilfrid Laurier University

Women in Canada comprise 70% of university graduates, yet only 30% of science, technology, engineering and math (STEM) graduates are female (Hango, 2013). Women are similarly underrepresented in STEM occupations; in 2011, women’s STEM unemployment rate was greater than men’s (7% versus 4.7%). When women are hired in STEM, they earn lower salaries, occupy fewer full-time positions, have unequal access to resources and experience more sexual harassment than men (Ceci et al., 2011; Hango, 2013). This gender disparity named the ‘brain drain;' (Hewlett et al., 2008), will negatively impact the economy; less workplace gender diversity is associated with lower returns and revenue (Herring, 2009; OECD, 2012). To ensure Canada’s economic viability and scientific success, we must understand how to attract and retain women in STEM.

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2. The Confrontation. 2015
Digital Print 24” X 36”
Jennifer Moss, Co-founder & CMO, Plasticity Labs

One response to sexism is confrontation; however, confronters fear retaliation and are viewed as ‘complainers,’ (Czopp et al., 2003; Saunders et al., 2009). Considering STEM careers are stereotypically masculine (Nosek et al., 2009), the mere presence of women in STEM roles versus more feminine roles (Eagly et al., 2002). may elicit heightened hostility. Further, confrontation is inconsistent with female stereotypes (e.g., submissiveness; Swim et al., 1999). Women in stereotype-incongruent STEM roles who also confront may therefore incur a ‘double dose’ of hostility as they violate gender stereotypes in two ways.

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3. The Costs, 2015
Digital Print 24” X 36”
Dr. Kyra Jones, Educational Developer, CAS Instructor, Biology
Wilfrid Laurier University

One challenge in attracting and retaining women in STEM is sexism. For instance, women in STEM are stereotyped, excluded and devalued (Gibson, 2006, Blickenstaff, 2005; Rosser, 2006), in a notoriously chilly STEM climate (Settles et al., 2006); one explanation for women’s attrition from science fields. My recent research similarly shows female STEM students at face stereotyping and discrimination; participants reported being called ‘weirdos’ and ‘witches’ (Hennessey et al., *Under Review*). Terms in this image come from qualitative research interviews with first-year female STEM students at Laurier.

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4. The Censored, 2015
Digital Print 24” X 36”
Eden Hennessey, PhD Candidate, Social Psychology
Wilfrid Laurier University
The Laurier Centre for Women in Science (WinS)

Given the severity of costs faced by confronters in non-STEM contexts, I hypothesize that female scientists who confront sexism will face greater social and professional consequences than other women. Indeed, research shows that fear of the consequences of confronting perpetrators prevents victims of discrimination from taking action. Yet, confrontation reduces future bias (Czopp et al., 2006; Mallet, 2011), so understanding how to reduce these costs is vital to attracting and retaining women in STEM.

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5. The Tools, 2015
Digital Print 24” X 36”
Parvina Shodieva, Chemistry Instructional Assistant
Wilfrid Laurier University

Gender imbalances in STEM persist; however, some tools have proven beneficial, for instance;

- Institutional and social support
- Encouraging a growth vs. fixed mindset
- Exposure to successful role models
- Increasing awareness of stereotype threat

(See Hill et al., 2010 for a review)

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6. The Sci-dentity, 2015
Digital Print 24” X 36”
Dr. Anne Wilson, Professor, Psychology
Wilfrid Laurier University

A strong gender identity buffers women from the negative effects of sexism (Branscombe et al., 1999); however, this may not be true for STEM women, for whom gender identity is stigmatized. For example, female STEM faculty derogate women with feminine attributes to distance themselves from a female gender identity (Rhoton, 2011). Indeed, emphasizing gender can produce stereotype threat, whereby women risk being judged according to negative stereotypes, such as 'women are not scientific' (Spencer et al., 1999). Thus, higher gender identification may not buffer the effects of sexism in STEM as it does in other contexts. Instead, fostering an identity that is less likely to elicit stereotype threat, namely one consistent with science, may be more beneficial.

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7. The Mentors, 2015
Digital Print 24” X 36”
Farah Ateeq, MSc Student, Chemistry & Kate Camilleri, Aspiring Forensic Scientist

Research shows it is possible to inoculate women against stereotype threat; the stereotype inoculation model (SIM) posits that contact with female STEM mentors enhances women’s STEM self-concept by challenging negative stereotypes of women in STEM (Stout et al., 2011). When inoculated against such stereotypes, women report greater identification with STEM, self-efficacy, and intentions to pursue STEM; however, same-sex STEM mentors are scarce in reality (Stout et al., 2011). Thus, in the absence of actual mentors, the virtual presence of such experts to inoculate women from social costs may be more helpful.

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The Change

8. The Change, 2015
Digital Print 24” X 36”
Dinah Davis, Director of R&D at Arctic Wolf Computer Security

Waterloo ON boasts almost 1000 technology-based companies. Recently the federal government invested $9.7 million dollars in such firms, which employ STEM graduates in high-paying jobs (Barrenechea, 2014). However, the gender disparity in STEM education results in fewer female STEM graduates and fewer women pursuing STEM careers (Hango, 2013). Such disparity directly impacts the gender wage gap, as STEM occupations are among the highest paid (Langdon et al., 2011). This may explain in part, why Kitchener-Waterloo-Cambridge was recently named Canada’s worst place for women (McInturff, 2014). Given the region is a hotbed of tech innovation, it is imperative we become a champion of change in reducing gender disparities in science.

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Contact Eden at:
Email: ejvhennessey@gmail.com; henn8280@mylaurier.ca
Twitter: @EdenHennessey

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