

Nevertheless, She Persisted

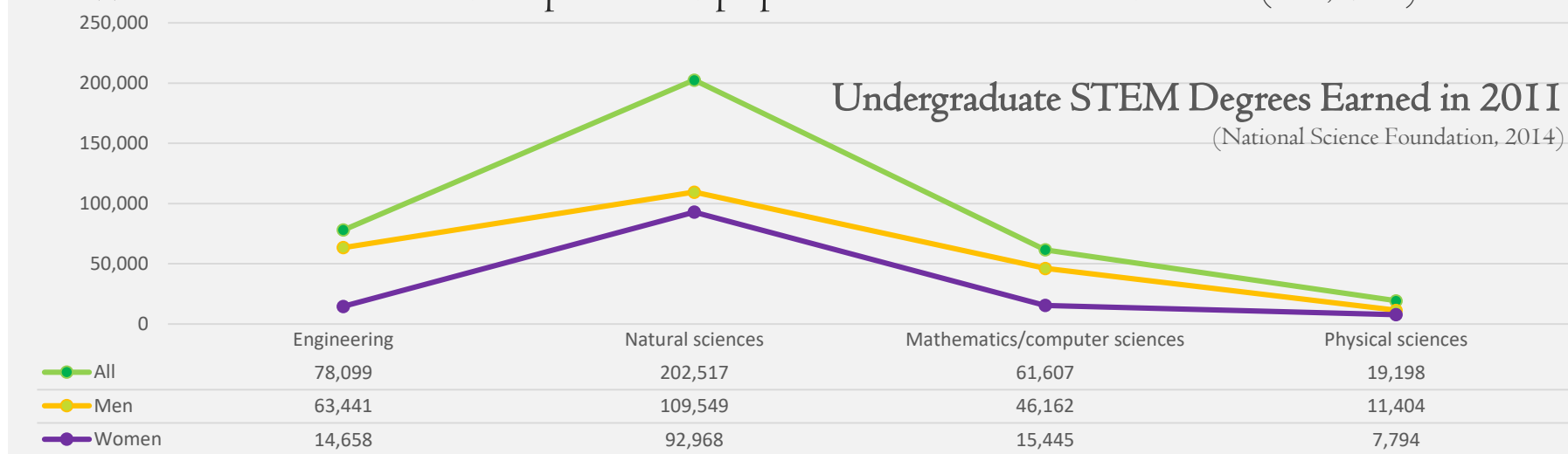
Applying Feminist Pedagogy to Academic Advising to Support Undergraduate Women Students in STEM

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THE PROBLEM

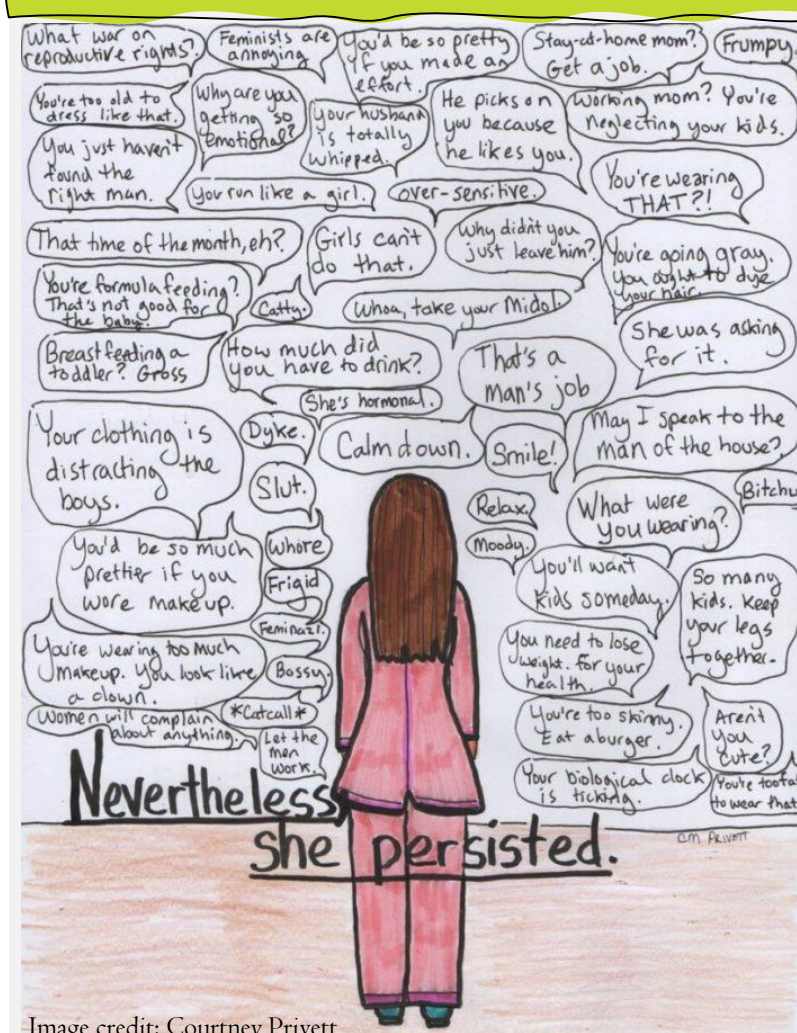
- Women earn 57% of undergraduate degrees in the US (Hill, Corbett, & St. Rose, 2008)
- Women earn only 20-35% of STEM¹ undergraduate degrees compared to their male peers (Hill, Corbett, & St. Rose, 2010; National Science Foundation, 2014)
- High-achieving and well-prepared female students who plan to major in a STEM field often do not persist and graduate with a STEM degree (Beasley & Fischer, 2012; George-Jackson, 2014; Hill, Corbett, & St. Rose, 2010; Parson & Ozaki, 2018)
- Women are still an underrepresented population in STEM industries (Soto, 2015)



AN EXPLANATION

Many theories have been explored to help explain the gender disparity regarding STEM degree completion; ranging from math proficiency, classroom climate, strength of interest, and stereotype threat. There is evidence to suggest each one of these factors may be at play. This model is using the phenomena of stereotype threat to explore the low rate of women persisting in undergraduate STEM majors.

HYPOTHESIS

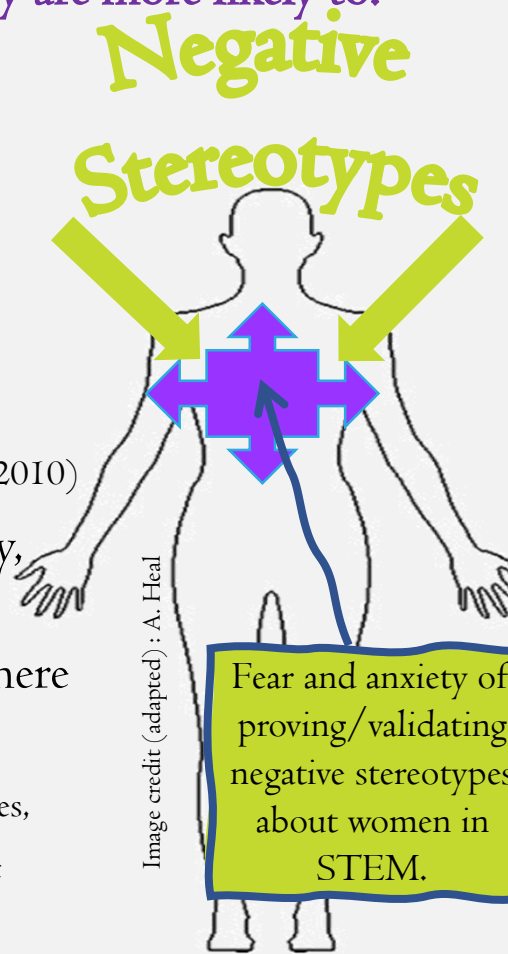


With an emphasis on the development of **community**, **empowerment**, and **leadership**, approaching the advising conversation through the lens of **feminist pedagogy** is one way of supporting women pursuing STEM majors and aid in overcoming *stereotype threat*.

Stereotype threat: a situational predicament where an individual is at risk of *confirming a negative stereotype* about a group with which they identify (Steele & Aronson cited by Inzlicht & Schmader, 2012). This phenomena hinges on *cultural assumptions* or beliefs where *women are devalued, hold less social status*, or believed to not “have a place in”, or don’t “have the ability to” succeed in stereotypically male-dominated or masculine domains. When women are in the position to “perform” (on an exam or participate in class), the overwhelming fear of exhibiting culturally-associated stereotypical behaviors inhibits their ability to perform to their abilities (often around math or spatial skills) (Steele, 2010).

When women in STEM majors experience stereotype threat, they are more likely to:

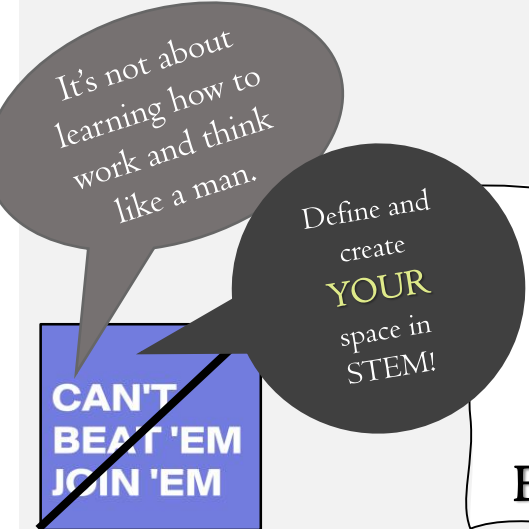
- Lose confidence in their academic abilities
- Underperform in STEM-related courses
- Feel isolated amongst their peers
- Struggle to see themselves succeeding in the discipline
- Fear affirming negative stereotypes about women in STEM
- Feel like a misfit and the need to compromise who they are to fit in (Beasley & Fischer, 2012; Hill, Corbett, & Rose, 2010; Steele, 2010)



Feminist pedagogy: an educational application of feminist theory, suggests both educator [academic adviser] and student work to envision a holistic transformation of the academic experience, where students are empowered through the discovery of self-agency, independence, and finding their own voice (hooks, 1994; Mayberry & Rees, 2009; Shrewsbury, 1993). Knowledge is developed from lived experience (Parson & Ozaki, 2018).

To claim an education, you assert your right to be there (Rich, 1977).

The development of community helps to establish a sense of belonging and facilitates connection. To empower students, feminist pedagogy encourages students to develop agency. Through leadership, students are given the skills and opportunity to embody their own abilities and willingness to act on their beliefs. (Hassel & Nelson, 2012; Shrewsbury, 1993)



Using Penn State’s Women in Engineering Program (WEP) program as a successful paradigm, where participants graduate at a rate of over 70%, academic advisers can employ intentional strategies to help students achieve higher levels of **Community**, **Empowerment**, and **Leadership** to not only “survive” - but to thrive.

WEP achieves this through many programming efforts that include a first-year orientation, women-only FYE sections, guided study groups led by upper-class women, monthly workshops, mentoring, career preparation and networking with WEP alumnae and MORE!

PROPOSED FEMINIST* ADVISING PRACTICES

To model the success in WEP...

What can academic advisers do to support the cultivation of **community**...
 What opportunities can academic advisers create to facilitate **empowerment**...
 What connections can academic advisers make to promote **leadership**...
 ...among and in undergraduate women pursuing STEM majors?

- Teach students about stereotype threat-** acknowledge and explicitly teach students about the phenomena (Hill, Corbett, & St. Rose, 2010)
- Promote identity-oriented group participation-** help students connect with a community of women in STEM (such as Women in Science and Engineering- WISE) to provide opportunities to develop connection and leadership roles (Hill, Corbett, & St. Rose, 2010)
- Make visible specific examples of success-** seeing and knowing individuals who achieve success is more impactful than seeing companies or industries who support women in STEM (Hill, Corbett, & St. Rose, 2010; Shapiro & Williams; 2011; Steele, 1997)
- Affirm their belonging-** stress they have the potential and capacity for success; rejecting an internalization that obstacles are signals of failure (Parson & Ozaki, 2018)
- Success is not uniform-** help students define success on their own terms, and encourage them to consider multiple ways to ‘be in’ a STEM field (Steele, 2010)
- Value multiple perspectives-** support students in challenging traditional, hierarchical, masculine educational culture (Rich, 1977; Steele, 1997; Weiler, 1991)
- Encourage challenging over remedial opportunities-** this confirms respect for their potential, discredits impression they embody an ability-demeaning stereotype (Steele, 2010)
- Acknowledge the expandability of intelligence-** reinforce that capacity for knowledge is not fixed; encourage a growth mindset to counteract and reduce their sense of stereotype threat relating to academic performance (Hill, Corbett, & St. Rose, 2010; Steele, 1997)
- Support the visibility of minority leadership-** challenge the administration on who they project as success in the discipline, and advocate for a broader spectrum of opportunities for underrepresented groups in leadership positions (Steele, 2010)
- Honor multiple ways of knowing and experiences-** help students envision “pathways” rather than “pipelines” to achieve their goals (Hill, Corbett, & St. Rose, 2010; Steele, 1997), and emphasize different and nonconformity does not assume a negative value (Weiler, 1991)
- Check yourself-** be mindful of your own gender schema, advising mission, stated values, physical and environmental gender cues in your advising space

¹For the purpose of this poster, STEM includes the physical, earth, and biological sciences, computer science, engineering, and mathematics.

*In many ways, recommended advising practices are feminist in nature!