

8-21-2019

Workplace incivility against women in STEM: Insights and best practices

Mahima Saxena

University of Nebraska at Omaha, msaxena@unomaha.edu

Timothy Adam Geiselman

Sheng Zhang

Follow this and additional works at: <https://digitalcommons.unomaha.edu/psychfacpub>



Part of the [Psychology Commons](#)

Recommended Citation

Saxena, M., Geiselman, T. A., & Zhang, S. (2019). Workplace incivility against women in STEM: Insights and best practices. *Business Horizons*, 62(5), 589-594. <https://doi.org/10.1016/j.bushor.2019.05.005>

This Article is brought to you for free and open access by the Department of Psychology at DigitalCommons@UNO. It has been accepted for inclusion in Psychology Faculty Publications by an authorized administrator of DigitalCommons@UNO. For more information, please contact unodigitalcommons@unomaha.edu.

Workplace incivility against women in STEM: Insights and best practices

Mahima Saxena, Timothy Adam Geiselman, Sheng Zhang

Illinois Institute of Technology, 3424 S. State Street, Chicago, IL 60616, U.S.A

Abstract

As demonstrated by both empirical and non-empirical research, women are more likely than men to be a target of workplace incivility. This manifests in a variety of negative outcomes for female employees, including turnover intentions, poor performance, and higher levels of stress. The problem is exacerbated for women in STEM fields due to factors unique to these industries. Herein, we outline the unique characteristics of STEM organizations that can foster the creation and sustenance of an atmosphere promoting workplace incivility against female employees. Then, we provide five best practice recommendations geared toward reducing incivility, improving work climate, and promoting overall retention of women in STEM.

KEYWORDS

Workplace incivility; Women in STEM; Women at work; Women in business; Civility training

1. Workplace incivility explained

Workplace incivility is defined by Andersson and Pearson (1999, p. 457) as “low-intensity deviant behavior with ambiguous intent to harm the target” and is associated with various negative outcomes for the target of such mistreatment. Due to its relatively covert, ambiguous, and mild nature of deviancy, incivility tends to be a very common form of mistreatment in the workplace. Extant empirical and non-empirical work has noted that women are at a higher risk of being a victim of workplace incivility (Cortina, Kabat-Farr, Leskinen, Huerta, & Magley, 2013; Hershcovis, 2011). This manifests in a variety of toxic outcomes for women at work, including turnover intentions, poor performance, increased stress, reduced wellbeing, and increased work-life conflict

(Armstrong, Riemenschneider, Allen, & Reid, 2007; Blackwell, Snyder, & Mavriplis, 2009; Hall, Schmader, & Croft, 2015).

Recent reports by the National Science Foundation have brought attention to this issue in regard to women professionals in the STEM disciplines of science, technology, engineering, and mathematics (Fouad & Singh, 2011; National Science Foundation, 2017; Noah, 2017). According to Fouad, Singh, Cappaert, Chang, and Wan (2016), two key forms of incivility are experienced by women in STEM: undermining and hostility. Undermining tends to occur when a supervisor or coworker attempts to interfere with an employee's ability to maintain positive interpersonal relationships, achieve work success, and have a favorable reputation (Duffy, Ganster, & Pagon, 2002; Kammeyer-Mueller, Wanberg, Rubenstein, & Song, 2013). Duffy et al. (2002) suggested that negative affect toward women, severe criticism, belittling ideas, or intentionally directed derogatory comments frequently take the shape of undermining women in the STEM workplace.

Hostility is expressed by actively attempting to worsen the interpersonal working climate for women in STEM (Fouad et al., 2016; Miner-Rubino & Cortina, 2007). These can include both sexual and non-sexual harassment, making jokes at the target's expense, interrupting someone while speaking, and/or addressing the target inappropriately (Neuman & Baron, 1998). Hostility may also have secondary victims in terms of those who are vicariously exposed to the negative behavior. Hostility and undermining tend to occur together and work collectively to form a network of interrelated barriers that serve to stimulate each other (Fouad et al., 2016). Feelings of helplessness and distress, negative social judgments and self-representations, reduced self-efficacy, and lower organizational commitment are associated with such acts of incivility (Duffy et al., 2002). Incivility is particularly problematic since it has the potential to become a part of the workplace climate if left unresolved (Miner-Rubino & Cortina, 2007).

It has been suggested that female employees in STEM fields are more likely to quit due to increased mistreatment in the form of workplace incivility directed toward them by coworkers, clients, customers, and superiors. Indeed, while women are particularly at risk for being a target of incivility, this problem is exacerbated for women in STEM fields (Fouad et al., 2016). This is a serious problem. While federal funding and higher education bodies strive to have increasing representation by women in STEM academia and industry, the current state of affairs suggests that once women enter STEM, they are faced with highly challenging and difficult circumstances that create uneven and extremely difficult conditions that may prevent them from succeeding and having healthy and positive work experiences (Danbold & Huo, 2017). This is particularly evident in certain fields such as nursing (Roberts, DeMarco, & Griffin, 2009) in which incivility has the potential to turn into workplace bullying over time—an aggressive deliberate interpersonal mistreatment directed toward the target, such that the victim becomes increasingly susceptible to burnout, emotional exhaustion, and less

equipped for professional success (Felblinger, 2008). Leiter, Laschinger, Day, and Oore (2011) found that younger nurses are at a larger risk of experiencing burnout due to uncivil work relationships. As many as 40% of women in physics and astronomy report experiencing a hostile work environment and about 18% women of color and 12% white women professionals in these fields report skipping professional events due to feeling unsafe (Clancy, Lee, Rodgers, & Richey, 2017). Similar trends are observed in academia for women faculty in STEM fields (Pedersen & Minnotte, 2017). Ultimately, these lead to higher rates of turnover for women in STEM (Glass, Sassler, Levitte, & Michelmore, 2013).

2. Goals of this article

This article has two overarching goals. First, we highlight the psychological nuances of workplace barriers faced by women in STEM that create an environment supporting incivility against women. The focus will be on examining the social and organizational factors that promote or lead to a greater incidence of workplace incivility as it occurs specifically in STEM fields. Second, based on the above, we provide five best practice recommendations for managing incivility in the workplace. These recommendations will focus on facilitating positive workplace experiences for women in STEM by reducing incivility and thereby potentially improving their chances of success and, eventually, promoting retention.

At the outset, we would like to make clear that this article is not focused on STEM-pertaining barriers and challenges faced during childhood, schooling, and college education. This article also does not focus on factors that influence the entry of females into STEM education and beyond; rather, it is focused on work experiences and factors that influence women's work life as they pertain to the workforce in the STEM industry. In other words, the focus of this article is on the nature of the experiences of women employees once they enter STEM fields to when they exit the STEM workforce.

3. Factors promoting workplace incivility against women in STEM

In this section, we highlight the key psychological factors that act as proximal as well as distal antecedents of workplace incivility. These also include factors fundamental to creating a negative atmosphere that can, in turn, promote workplace incivility. While some of the following may not be direct antecedents of workplace incivility, they engender an atmosphere that may be toxic to interpersonal harmony and thereby create conditions that facilitate uncivil interactions among coworkers. Cortina et al. (2013) noted that incivility is a form of selective discrimination. This makes sense—there is, indeed, a history of negative work attitudes against women in STEM fields (Ayre, Mills, & Gill, 2013; Cadaret, Hartung, Subich, & Weigold, 2017; Fouad et al., 2016). This section highlights the major challenges that women face in the STEM industry that then translate into incivility experiences.

3.1. Male-dominated STEM industry

STEM culture tends to be largely male dominated (Blickenstaff, 2005; Diekman, Weisgram, & Belanger, 2015). About 72% of employees in the STEM workforce are males, compared to 53% in the total workforce. Specifically, women constitute only about 28% of scientists and about 14.5% of engineers National Science Foundation, 2017). The low representation of women in the STEM field has not changed since the year 2000 (Noah, 2017). This predominantly male-centric culture leads to the creation and perpetuation of social norms that tend to embody the majority group's male characteristics (Ceci, Williams, & Barnett, 2009; Cheryan, Ziegler, Montoya, & Jiang, 2017; Danbold & Huo, 2017). Those who align closely with the prototypical male group tend to be evaluated positively. Those who do not or those who challenge the norms may be viewed as outgroup members, consequently facing exclusion, isolation, and negative evaluation by the majority group members (Servon & Visser, 2011). These aspects of the STEM workplace frequently put women at a disadvantage. Evidence suggests that women cope with these circumstances by using impression management and discarding feminine characteristics to fit in with prototypical male cultural standards (Buse, Bilimoria, & Perelli, 2013; Danbold & Huo, 2017; Servon & Visser, 2011). Not only does this place an extra burden on women but it also creates feelings of resentment, exhaustion, and falsehood.

3.2. Lack of work and non-work socialization opportunities

Research suggests that most opportunities for socialization, workplace events, and non-work engagement with coworkers tend to be male oriented and often considered inappropriate or outside the interest of female STEM employees (De Welde & Laursen, 2011). A consequence of being left out of such social engagement leads to reduced access to ingroups and a lack of social support (Clancy et al., 2017; Gill, Mills, Franzway, & Sharp, 2008). It has been suggested that women face similar forms of discrimination at the work-place on a daily basis when events and activities do not cater to their identities (Clancy et al., 2017; Roberts & Ayre, 2002). Even in STEM fields such as astronomy that are relatively well-represented by women employees, women report not attending socialization events due to feeling unsafe or experiencing a hostile environment (Clancy et al., 2017). Having events and activities that cater to all genders will be paramount in facilitating civility among all employees.

It is important to also explore the notion of the boys' club within STEM. This is an exclusive group that provides additional resources and opportunities to its members. However, membership is exclusive and hard to obtain (De Welde & Laursen, 2011). This club acts as a gating mechanism to professional and formal breaks behind informal events such as being invited for coffee, drinks, or other social events. De Welde and Laursen (2011) suggested that these events/activities have an important impact on being able to provide individuals with prospects for advancement and support. Unfortunately, women tend to not be a part of the boys' club. This perpetuates feelings of isolation. The resulting exclusion serves to foster experiences that tend to be undermining in nature and can ostracize women (Fouad et al., 2016). Over time, such

negative workplace experiences are perceived as incivility. Inability to access ingroups and left without social support leads to women employees missing out on crucial opportunities for development, mentorship, and support for work-related success (Duffy et al., 2002; Servon & Visser, 2011).

3.3. Prototypical threat

In recent times, scholars have argued that the male majority group in STEM fields may experience what is known as prototypical threat (Danbold & Huo, 2017). Prototypical threat is the dominant groups' concern that they will no longer be the dominant or majority group in a community. This happens when strongly identifying members of a group perceive that the group identity is facing a threat. Introduction of an outgroup (women employees) through deliberate policies on part of the organization may cause ingroup members in a male-centric work culture to experience prototypical threat. It has been suggested that the prototypical threat experienced by men in the STEM workforce tends to manifest itself in the form of exclusionary tactics, covert and overt attempts to undermine their female colleagues, and hostility, all of which can result in incivility toward women (Danbold & Huo, 2017; Hall et al., 2015).

4. Recommendations and best practices

4.1. Civility training

In recent times, research in organizational psychology (Leiter et al., 2011), management (Pearson & Porath, 2005), and practice (Catalyst, 2008) considered the role of civility trainings as a deliberate effort to reduce workplace incivility. While a number of different types of civility trainings exist, the major focus of these programs tends to be on improving workplace interactions between colleagues. Civility trainings focus on making employees aware of what counts as incivility: missing thank yous and apologies for personal gaffes, casual acts of rudeness toward coworkers, not following norms of interpersonal courtesy or manners, and similar such acts of careless interactions perceived as offensive, disrespectful, and derisive to the recipient of such behavior. The workplace is replete with norms of interpersonal conduct. While of a relatively mild or sometimes even covert nature, acts of incivility violate codes of relational workplace conduct and have an extremely negative impact on the target of such counterproductive behavior. Civility training must include the following elements in order to be particularly effective within the STEM domain:

- Bringing norms of interpersonal respect to the forefront of one's consciousness;
- Making employees aware of when civil interactions become uncivil;
- How to monitor one's behavior;
- Engaging employees into actively understanding the negative impact of being uncivil; and
- In case incivility occurs, how to best handle the episode, both from the standpoint of a perpetrator and of a target.

The organization must take responsibility to have a zero-tolerance policy for uncivil incidents which often go unreported or tend to be minimized due to the seemingly minor or trivial nature.

4.2. Social support

STEM organizations could make deliberate efforts to improve social support for women employees. This could be done in multiple ways. The organization could make deliberate efforts to organize events and activities that actively tap into the interest and engagement of its female workforce (Diekman et al., 2015). These efforts should be initiated even if the number of women employees in the unit or across the organization are few to begin with. Social support may also be fostered by making deliberate attempts to have formal and informal networks of peer support for women. A simple way of facilitating this may be through the creation of organization-wide email listserves or discussion boards that provide an opportunity for women employees to connect.

Further, supervisors could be encouraged to take on a mentoring role. It has been suggested that women employees respond better to a management style that is collaborative and encourages growth and support (Roberts & Ayre, 2002). Smith and colleagues (2018) found that implementing programs to support STEM women faculty improves participants' sense of autonomy, competence, and relatedness, as well as job satisfaction for both men and women faculty members. Implementing peer support programs among STEM women faculty may also positively impact the institutional atmosphere and working environment for everyone involved (Thomas, Bystydzienski, & Desai, 2014).

Social support has been shown to have a major impact on strain by acting as a buffer against stress, providing opportunities to cope with negative work experiences, promoting work success, and aiding career growth. Increasing social support and involvement with others at work can foster positive relationships, promote group cohesiveness, and facilitate harmony in interpersonal interactions. To the extent such a positive work climate exists, callous, negative interactions that are perceived as uncivil may decline.

4.3. Mentorship

Mentorship has been shown to be an effective stimulant of growth and development for women employees (Million Women Mentors, 2014; Roberts & Ayre, 2002). It has been found that women who do not have access to mentors have lower rates of promotion, organizational growth, and reduced access to opportunities for advancement in STEM (Million Women Mentors, 2014). Importantly, for workplace incivility, having access to positive trusting relationships with powerful mentors may serve two critical functions. One, it may help women who are targets of incivility cope with the negative experience in a healthy manner by discussing and engaging in appropriate next steps. This is especially vital if the perpetrator of incivility happens to be a senior in terms of organizational hierarchy. Second, this may exert a distal positive

effect on controlling turnover. As workplace incivility is a major cause of turnover for women in STEM (Fouad & Singh, 2011), mentors can provide an important intervention between acts of incivility with women targets, lessening turnover intentions on part of the target woman employee, or prevent leaving the organization or STEM altogether.

4.4. Fostering a culture of openness and inclusion

Engendering a culture that actively promotes openness and is truly inclusive of all genders can help to create a sense of acceptance within the STEM work community. It has been found that women who succeed in STEM often use high levels of impression management in order to model and adopt the characteristics of masculine behavioral traits and suppress self-perceived feminine characteristics in order to fit in with the boys' club (Jorgenson, 2002). This has been found to lead to exclusion and deliberate isolation of female employees by their female coworkers in order to mimic the behavior of males in the boys' club (Servon & Visser, 2011). In the worst cases, this may even lead to undermining of female coworkers by same-sex employees (Jorgenson, 2002). On the other hand, in fields such as nursing and health care management, scholars have noted a culture of double oppression due to socialization as both nurses and women and silencing self-voice to preserve status quo (DeMarco, 2002; Roberts et al., 2009). Creating a culture of openness and acceptance would foster social support, provide authentic voice to women employees, increase organizational commitment, and, most importantly, reduce factors that promote hostility and other forms of workplace mistreatment that contribute to incivility against women in STEM (Clancy et al., 2017; De Welde & Laursen, 2011).

4.5. Gender-balanced teams

Organizations and institutions that are male dominated may also consider building teams that are gender balanced. This becomes particularly relevant in team-based environments such as information technology, engineering, and design in which women may be more likely to lose their voice and assume a more subservient or passive role due to conspicuous minority identity salience. Gender-balanced teams may work to dispel multiple constraints unique to STEM (male dominated, lack of social support for women, feelings of ostracism, lack of inclusion, and so on) and may, therefore, encourage greater social support and feelings of belonging (Glass et al., 2013; Roberts & Ayre, 2002). Gender-balanced teams may also alleviate stereotype threat thereby creating an environment that focuses less on self-regulating to manage impressions versus promoting genuinely positive interactions that will foster a pleasant work climate and reduce incivility.

5. Summary

In this article, we highlighted the often ignored and understudied problem facing women in STEM: work-place incivility. We identified the negative consequences of being a target of workplace incivility and how it may push women to disengage and

leave STEM fields. We outlined factors that may create a work environment that promotes incivility against women employees and suggest five best practice recommendations to reduce workplace incivility. These include:

- Civility trainings in organizations;
- Social support;
- Mentorship;
- Fostering an open and inclusive work culture; and
- Creating gender-balanced teams in the STEM workforce.

Based on evidence from existing literature in psychological sciences and business management, this information can be implemented in organizations to reduce incivility against women in STEM and ultimately have a positive impact on their work experiences and retention.

References

- Andersson, L. M., & Pearson, C. M. (1999). Tit for tat? The spiraling effect of incivility in the workforce. *Academy of Management Review*, 24(3), 452—471.
- Armstrong, D. J., Riemenschneider, C. K., Allen, M. W., & Reid, M. F. (2007). Advancement, voluntary turnover, and women in IT: A cognitive study of work – family conflict. *Information and Management*, 44(2), 142-153.
- Ayre, M., Mills, J., & Gill, J. (2013). ‘Yes, I do belong’: The women who stay in engineering. *Engineering Studies*, 5(3), 216—232.
- Blackwell, L. V., Snyder, L. A., & Mavriplis, C. (2009). Diverse faculty in STEM fields: Attitudes, performance, and fair treatment. *Journal of Diversity in Higher Education*, 2(4), 195—205.
- Blickenstaff, J. C. (2005). Women and science careers: Leaky pipeline or gender filter? *Gender and Education*, 17(4), 369— 386.
- Buse, K., Bilimoria, D., & Perelli, S. (2013). Why they stay: Women persisting in US engineering careers. *Career Development International*, 18(2), 139—154.
- Cadaret, M. C., Hartung, P. J., Subich, L. M., & Weigold, I. K. (2017). Stereotype threat as a barrier to women entering engineering careers. *Journal of Vocational Behavior*, 99, 40—51.
- Catalyst. (2008). Women in technology: Maximizing talent, minimizing barriers. Available at <https://www.catalyst.org/research/women-in-technology-maximizing-talent-minimizing-barriers/>

- Ceci, S. J., Williams, W. M., & Barnett, S. M. (2009). Women's underrepresentation in science: Sociocultural and biological considerations. *Psychological Bulletin*, 135(2), 218—261.
- Cheryan, S., Ziegler, S. A., Montoya, A. K., & Jiang, L. (2017). Why are some STEM fields more gender balanced than others? *Psychological Bulletin*, 143(1), 1—35.
- Clancy, K. B., Lee, K., Rodgers, E. M., & Richey, C. (2017). Double jeopardy in astronomy and planetary science: Women of color face greater risks of gendered and racial harassment. *Journal of Geophysical Research: Planets*, 122(7), 1610—1623.
- Cortina, L. M., Kabat-Farr, D., Leskinen, E. A., Huerta, M., & Magley, V. J. (2013). Selective incivility as modern discrimination in organizations: Evidence and impact. *Journal of Management*, 39(6), 1579—1605.
- Danbold, F., & Huo, Y. J. (2017). Men's defense of their prototypicality undermines the success of women in STEM initiatives. *Journal of Experimental Social Psychology*, 72, 57—66.
- DeMarco, R. (2002). Two theories/A sharper lens: The staff nurse in the workplace. *Journal of Advanced Nursing*, 38(6), 549—556.
- De Welde, K., & Laursen, S. (2011). The glass obstacle course: Informal and formal barriers for women PhD students in STEM fields. *International Journal of Gender, Science, and Technology*, 3(3), 571—595.
- 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.
- Duffy, M. K., Ganster, D. C., & Pagon, M. (2002). Social undermining in the workplace. *Academy of Management Journal*, 45(2), 331—351.
- Felblinger, D. M. (2008). Incivility and bullying in the workplace and nurses' shame responses. *Journal of Obstetric Gynecologic and Neonatal Nursing*, 37(2), 234—241.
- Fouad, N. A., & Singh, R. (2011). Stemming the tide: Why women leave engineering. Available at https://www.energy.gov/sites/prod/files/NSF_Stemming%20the%20Tide%20Why%20Women%20Leave%20Engineering.pdf
- Fouad, N. A., Singh, R., Cappaert, K., Chang, W., & Wan, M. (2016). Comparison of women engineers who persist in or depart from engineering. *Journal of Vocational Behavior*, 92, 79—93.

- Gill, J., Mills, J., Franzway, S., & Sharp, R. (2008). 'Oh you must be very clever!' High-achieving women, professional power, and the ongoing negotiation of workplace identity. *Gender and Education*, 20(3), 223—236.
- Glass, J. L., Sassler, S., Levitte, Y., & Michelmore, K. M. (2013). What's so special about STEM? A comparison of women's retention in STEM and professional occupations. *Social Forces*, 92(2), 723—756.
- Hall, W. M., Schmader, T., & Croft, E. (2015). Engineering exchanges: Daily social identity threat predicts burnout among female engineers. *Social Psychological and Personality Science*, 6(5), 528—534.
- Hershcovis, M. S. (2011). Incivility, social undermining, bullying... Oh my!: A call to reconcile constructs within workplace aggression research. *Journal of Organizational Behavior*, 32 (3), 499—519.
- Jorgenson, J. (2002). Engineering selves: Negotiating gender and identity in technical work. *Management Communication Quarterly*, 15(3), 350—380.
- Kammeyer-Mueller, J., Wanberg, C., Rubenstein, A., & Song, Z. (2013). Support, undermining, and newcomer socialization: Fitting in during the first 90 days. *Academy of Management Journal*, 56(4), 1104—1124.
- Leiter, M. P., Laschinger, H. K. S., Day, A., & Oore, D. G. (2011). The impact of civility interventions on employee social behavior, distress, and attitudes. *Journal of Applied Psychology*, 96(6), 1258—1274.
- Million Women Mentors. (2014). Corporate best practices: Developing a STEM mentoring strategy. Available at <https://www.millionwomenmentors.com/sites/default/file/Final%20Mentoring%20Report.pdf>
- Miner-Rubino, K., & Cortina, L. M. (2007). Beyond targets: Consequences of vicarious exposure to misogyny at work. *Journal of Applied Psychology*, 92(5), 1254—1269.
- National Science Foundation (2017). Women, minorities, and persons with disabilities in science and engineering: 2017 (Special Report NSF 17-310). Arlington, VA: National Center for Science and Engineering Statistics.
- Neuman, J. H., & Baron, R. (1998). Workplace violence and workplace aggression: Evidence concerning specific forms, potential causes, and preferred targets. *Journal of Management*, 24(3), 391—419.
- Noah, R. (2017). Women in STEM: 2017 update (ESA Issue Brief #06-17). Washington, DC: US Department of Commerce.

- Pearson, C. M., & Porath, C. L. (2005). On the nature, consequences, and remedies of workplace incivility: No time for “nice”? Think again. *Academy of Management Executive*, 19(1), 7—18.
- Pedersen, D. E., & Minnotte, K. L. (2017). Workplace climate and STEM faculty women’s job burnout. *Journal of Feminist Family Therapy: An International Forum*, 29(1/2), 45—65.
- Roberts, P., & Ayre, M. (2002). Did she jump or was she pushed? A study of women’s retention in the engineering workforce. *International Journal of Engineering Education*, 18(4), 415—421.
- Roberts, S., DeMarco, R., & Griffin, M. (2009). The effect of oppressed group behaviours on the culture of the nursing workplace: A review of the evidence and interventions for change. *Journal of Nursing Management*, 17(3), 288—293.
- Servon, L. J., & Visser, M. A. (2011). Progress hindered: The retention and advancement of women in science, engineering, and technology careers. *Human Resource Management Journal*, 21(3), 272—284.
- Smith, J. L., Handley, I. M., Rushing, S., Belou, R., Shanahan, E. A., Skewes, M. C., et al. (2018). Added benefits: How supporting women faculty in STEM improves everyone’s job satisfaction. *Journal of Diversity in Higher Education*, 11(4), 502—517.
- Thomas, N., Bystydzienski, J., & Desai, A. (2014). Changing institutional culture through peer mentoring of women STEM faculty. *Innovative Higher Education*, 40(2), 143—157. 594 M. Saxena et al.