

February 2023

## Leading and Mentoring Women in STEM: Mitigating Gender & Microaggressions

Lilicia Bailey

Pepperdine University, lilicia.bailey@pepperdine.edu

April Curry

Pepperdine University, april.curryroberts@pepperdine.edu

Follow this and additional works at: <https://digitalcommons.pepperdine.edu/swbj>



Part of the [Leadership Studies Commons](#), and the [Other Education Commons](#)

### Recommended Citation

Bailey, Lilicia and Curry, April (2023) "Leading and Mentoring Women in STEM: Mitigating Gender & Microaggressions," *The Scholarship Without Borders Journal*: Vol. 1: Iss. 2, Article 6.

DOI: <https://doi.org/10.57229/2834-2267.1026>

Available at: <https://digitalcommons.pepperdine.edu/swbj/vol1/iss2/6>

This Article is brought to you for free and open access by the Graduate School of Education and Psychology at Pepperdine Digital Commons. It has been accepted for inclusion in The Scholarship Without Borders Journal by an authorized editor of Pepperdine Digital Commons. For more information, please contact [bailey.berry@pepperdine.edu](mailto:bailey.berry@pepperdine.edu).

## Leading and Mentoring Women in STEM: Mitigating Gender & Microaggressions

### Abstract

Microaggressions, behaviors that can be nonverbal or verbal, can occur when individuals “communicate negative, hostile, and derogatory messages to people rooted in their marginalized group membership (based on gender, race, ethnicity, sexuality).” This statistic, according to the Institutional Transformation program at the University of New Hampshire,<sup>1</sup> is in alignment with what researchers indicate regarding microaggressions, asserting that they can be “intentional or unintentional” can occur daily, and are unacknowledged (Making the Invisible Visible: Gender Based Microaggressions, n.d.).

We consider the various types of microaggressions, specifically those based on gender, and assess the effect it has on women in leadership roles in fields where women leaders are underrepresented. We consider their ability to lead efficiently, effectively and implement transformative change in the work environment, providing best practices for leaders to understand how to provide support. We also assess the impact gender based microaggressions have on well-being. While not new to the literary canon, gender based microaggressions at work are more nuanced and subtle as “considerable knowledge exists about blatant gender discrimination and violence targeting women”.<sup>2</sup> Experienced by women in the workplace regardless of field or discipline, gender based microaggressions are also prevalent in the

---

<sup>1</sup> Making the Invisible Visible: Gender Based Microaggressions  
[https://www.unh.edu/sites/default/files/departments/office\\_of\\_the\\_provost/Academic\\_Admin/gendermicroaggressions.pdf](https://www.unh.edu/sites/default/files/departments/office_of_the_provost/Academic_Admin/gendermicroaggressions.pdf)

<sup>2</sup> Gartner, R. E., Sterzing, P. R., Fisher, C. M., Woodford, M. R., Kinney, M. K., & Victor, B. G. (2020). A Scoping Review of Measures Assessing Gender Microaggressions Against Women. *Psychology of Women Quarterly*, 44(3), 283-306.

classroom and on graduate and undergraduate campuses.<sup>3</sup> We focus on women in fields where female leadership is in areas of the STEM fields, including engineering, healthcare, and biomedical sciences. Implicit bias in both word and action is in direct relationship to the “gender disparity” in the STEM field<sup>4</sup>.

**Keywords:** leadership, women, gender, microaggressions, work, workplace, workforce, diversity, transactional, transformational

---

## Introduction

We make an assessment on any challenges and drawbacks that women face in fields where they are underrepresented considering leadership challenges while conducting an in-depth study of the three specific kinds of microaggressions outlined in the literature including “microinsults, microinvalidations and microassaults” (Making the Invisible Visible: Gender Based Microaggressions, n.d.). As we examine social identity theory, defined as a “social psychological theory of the role of self-conception and associated cognitive processes and social beliefs in group processes and intergroup relations” we consider the emphasis placed on “social influence and group norms, leadership within and between groups, and marginalization” (Hogg, 2016).

---

<sup>3</sup> Basford, T. E., Offermann, L. R., & Behrend, T. S. (2014). Do you see what I see? Perceptions of gender microaggressions in the workplace. *Psychology of Women Quarterly*, 38(3), 340-349.

<sup>4</sup> Sekaquaptewa, D. (2019). Gender-Based Microaggressions in STEM Settings. *NCID Currents*, 1(1).  
Hogg, M. A. (2016). Social identity theory. In *Understanding peace and conflict through social identity theory* (pp. 3-17). Springer, Cham

Examining the lived experiences of women through qualitative interviews, we focus on their experience in STEM fields attempting to shed light on issues women face. We aim to provide tangible solutions for non-profit organizations, businesses and colleges/universities in order to inspire dialogue on methods to mitigate microaggressions, in support of an environment that is productive for all.

### **The History of Microaggressions**

Microaggressions are experienced by marginalized groups by those in the majority in an attempt, conscious or unconscious, to undermine or invalidate. Harrison & Tanner (2018) draw from Chester Pierce's 1978 research on microaggressions as it relates to the African American experience. Sue (2010) introduced microaggressions not only based on race, but also gender and sexual orientation describing microaggressions as all consuming and all encompassing: "Constant and continuing everyday reality of slights, insults, invalidations, and indignities visited upon marginalized groups by well-intentioned, moral, and decent family members, friends, neighbors, coworkers, students, teachers, clerks, waiters, and waitresses, employers, health care professionals, and educators" (Sue, 2010, xv).

This captures the essence of both the frequency and the impact of microaggressions. For gender based microaggressions, Sue (2010) indicated that for women in the workforce, many indicate that microaggressions come in the form of experiencing disrespect, being dismissed, and disregarded by male coworkers. Harrison and Tanner (2018) reference Sue's work in describing microinsults, microassaults and microinvalidations, specifically in science using race, gender,

and sexual orientation. The science examples reference discrimination and bias that Nadal et al (2013) indicate concern “gender roles, sexist language and sexual objectification” (p. 194).

### **Impact on Women in STEM**

Barthelemy et al (2016) reference the impact of overt sexism women experience as medical students and as medical faculty, asserting that while there is research on women in academic medicine, littler research has been conducted on microaggressions experienced by women in the natural sciences, specifically in physics.

Sexism is defined as sex discrimination and overt bias, either conscious or unconscious, against women (Barthelemy et al, 2016; Basford et al, 2014; Sue, 2010). Sexism or microaggression impacts women’s ability to lead efficiently and effectively across the STEM disciplines. Kim and Miester (2021) assert that experiencing microaggressions can have a negative impact on women’s work identities that may trigger self-doubt in ways that manifest in work performance outcomes. An examination of the impact of microaggressions on career fulfillment, work performance and wellbeing on women in STEM, by scholars, policy makers, leaders and human capital practitioners’ is essential to go beyond the topical symptoms.

Sue (2021) suggests that the most detrimental aspects of microaggressions come from well-intentioned individuals who are unaware of the impact of “metacommunications” that are harmless on the surface, yet convey hidden messages that are cumulative over time. Research indicates that cumulative metacommunication slights have a powerful impact on the psychological well-being of marginalized groups that is manifested in education (Bell, 2002),

employment (Purdie-Vaughns, et al., 2008) and standards of living (Sue & Sue, 2008). Scholars suggest addressing the impact of microaggressions on women in STEM fields is important to educators and policy makers who strive to strengthen the workforce through inclusive practices as women are less likely than men to pursue or persist in STEM education and careers (Cheryan et al., 2017; Lord et al., 2011; Sekaquaptewa, 2019).

Social identity theory speaks to the social influence of group norms and marginalization (Hoagg, 2016). A consideration of social psychological theory emphasizes the association of cognitive processes, social beliefs, intergroup relations, and self-conception of the microinvaliations that women in STEM observe toward other female colleagues. Research demonstrates that women who witness the negative treatment of women in STEM may also experience diminished outcomes. In the laboratory experiment conducted by LaCosse, Sekaquaptewa, & Bennett (2016) it was concluded that mere witness of microaggressions may contribute to the leaky pipeline for women in STEM. This study demonstrates the impacts to women that dissuade participation in STEM career choices with limited advancement opportunities and cause for attrition from the profession. To gain advancements in attracting and retaining women in STEM professions, intentionality is required to address the impacts of microaggressive environments. Leaders and human capital practitioners are instrumental in eradicating the conditions that derail performance outcomes when there is recognition and acknowledgment of the impact of micro behaviors in the workplace followed by activating mitigation strategies (Meadows, 2020).

### **Best Practices for Leaders**

Leaders play a pivotal role in creating workplace environments that enable every member of the group to contribute their best efforts. Women who are on the receiving end of microaggressions

are given coping strategies to deal with the behavior. The responsibility is transferred to the people who are being targeted which diverts attention from the people who are committing the actions. This transference of responsibility allows the undesired behavior to fester and continue (Reese, 2022; Torino et al., 2018).

Mechanisms that raise awareness on the impact of micro-demeaning behaviors on individual, group or organizational performance are necessary to bring visibility to the forefront. The subtleties of the impacts may go unnoticed or be regarded as mere words that should not cause detriment or demotivation to women's performance (Kim & Meister, 2021). Herein lies an important role for leaders, becoming consciously aware of microaggression occurrences in the workplace and committing to be a disrupter of incivility through behavioral modeling of allyship.

An examination of the influence leaders have is informed by the theoretical lens of inclusive leadership. Inclusive leadership is conceptualized as “a set of positive leader behaviors that facilitate group members perceiving belongingness in the work group while maintaining their uniqueness within the group as they fully contribute to group processes and outcomes (Randel et al., 2017).” This leadership approach focuses on the leader's behaviors that facilitate all members feeling part of the work group while retaining their individuality in collectively contributing to performance outcomes (Randel et al., 2017; Brewer, 2012; Shore et al., 2011; Turner et al., 1987). In essence, the benefit of inclusive leadership is its focus on valuing the unique attributes, contributions, perspectives of women and all members of a group as a vehicle in increasing higher performance.

Leaders can model inclusive leadership practices in deploying microintervention strategies which is derived from the idea that silence is complicit and signals condoning the behaviors (Sue,

2021). In the publication *Microintervention Strategies: What You Can Do to Disarm and Dismantle Individual and Systemic Racism and Bias*, “being motivated to help is simply not enough when well-intentioned individuals lack the necessary strategies and tools required for effective anti-bias measures (Sue, 2021).”

Leading by example is a powerful practice for leaders to adopt in building a supportive culture that will create an iterative change toward a productive work environment for all. Groysberg & Connelly (2013) amplify the impact of the influence leaders have in creating inclusive behaviors that are desirable to all group members and give voice to addressing microaggressions. Leaders can pave the way to mitigate adverse consequences of microaggressions at the organizational, team and individual levels by providing opportunities to educate themselves and willingly taking individual actions to model inclusive leadership behaviors (Devine et al., Cox, 2012).

Microaggressions are not only harmful to those they are intended for, but also bystanders. Seemingly minor actions may be experienced as demotivating or detrimental to women contributing at the optimal levels of performance. There are ways leaders can work to create an environment that is conducive to productivity with conditions that foster mutual respect.

- 1. Be aware of biases** Examine the qualities and traits of leadership. It is important to ensure that the leadership qualities that are admired in men are not considered reprehensible in women (Kiser, 2015). Consider your environment. How are the leaders perceived in your organization based on gender roles? Action in the workplace that may be considered assertive or exemplifying good leadership skills in men sometimes when women exhibit the same behavior, they are labeled aggressive (Carly & Eagly, 2011).



2. **Adjust your lens** Statements and actions that set the example of accountability. Taking active steps to engage in important moments of learning to shape future leadership behaviors. For example, recognition of a female group member's ideas in meetings versus crediting a male for repeating the same idea previously voiced and authored by the female.
3. **Showcase and support.** Do you ask your male colleagues to take notes in work meetings as often as your female colleagues? Do you insist that your male employees “drive” the powerpoint presentation or slidedeck or is this task relegated to your female colleagues? Are you the boss or CEO? Who do you ask to order lunch or do administrative tasks? Male and female leaders can reduce microaggressions by supporting and choosing to showcase the strengths of their female employees.
4. **Be an ally.** A colleague told me about a time when she was in a meeting giving a presentation and her male boss, who was encouraging and familiar with the presentation content, took out his phone and started checking emails. She felt that unknowingly, he sent a message to everyone in the room that her presentation was not worth his undivided attention. Men can be allies against gender based microaggressions in the workplace (Smith & Johnson, 2020). The authors discuss men as allies in support of gender equality and working to mitigate inequity in pay, limited representation and serving as mentors.
5. **Your silence is louder than you think.** Consider the impact of your silence. Allies that remain silent become a part of the problem. Make your support known and speak against microaggressions, microinvalidations and microinsults.

## Conclusion

Microaggressions are experienced by marginalized groups by those in the majority in an attempt, conscious or unconscious, to undermine or invalidate. The dearth of female leadership in STEM professions draws attention to an examination of how microaggressions impact women in the field. This matter remains an important aspect of recruiting and retaining women to strengthen the STEM workforce (Cheryan et al., 2017; Lord et al., 2011). Leaders, through self efficacy, can gain a rich understanding of the work conditions women experience and act on ways to mitigate the factors that undermine a culture of inclusivity. Further, modeling inclusive leadership coupled with demonstrating allyship facilitates a work environment that encourages transparent support for women and cultivates communities of support.

## References

- Bell, S.J. and Menguc, B. (2002) The Employee-Organization Relationship, Organizational Citizenship Behaviors, and Superior Service Quality. *Journal of Retailing*, 78, 131-146. [http://dx.doi.org/10.1016/S0022-4359\(02\)00069-6](http://dx.doi.org/10.1016/S0022-4359(02)00069-6)
- Brewer, M. B. (2012). Optimal distinctiveness theory: Its history and development. In P. A. M. VanLange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 81–98). Sage Publications.
- Carli, L. L., & Eagly, A. H. (2011). Gender and leadership. *The Sage handbook of leadership*, 103-117.
- Catterall, L. G. (2017). A Brief History of STEM and STEAM from an Inadvertent Insider. *The STEAM Journal*, 3(1), 5.
- 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. doi:10.1037/bul0000052
- Devine, P. G., Forscher, P. S., Austin, A. J., & Cox, W. T. L. (2012). Long-term reduction in implicit race bias: A prejudice habit-breaking intervention. *Journal of Experimental Social Psychology*, 48(6), 1267–1278. doi:10.1016/j.jesp.2012.06.003

Harrison, C., & Tanner, K. D. (2018). Language matters: Considering microaggressions in science. *CBE—Life Sciences Education*, 17(1), fe4.

Groysberg, B., & Connolly, K. (2013). Great leaders who make the mix work. *Harvard Business Review*, 91, 68-76.

Kim, J. & Meister, A, (2021). Disrupting the effects of gender microaggressions: Allies as triggers of redemptive sense-making. *Proceedings*, 2021, <https://doi.org/10.5465/AMBPP.2021.281>

Kiser, A. I. (2015). Workplace and leadership perceptions between men and women. *Gender in Management: An International Journal*.

LaCosse, J. L., Sekaquaptewa, D., & Bennett, J. (2016). STEM stereotypic attribution bias among women in an unwelcoming science setting. *Psychology of Women Quarterly*, 40(3), 378–397. doi:10.1177/0361684316630965

Lord, S. M., Layton, R. A., & Ohland, M. W. (2011). Trajectories of electrical engineering and computer engineering students by race and gender. *IEEE Transactions on Education*, 54(4), 610–618. doi:10.1109/TE.2010.2100398

Meadows, L. (2020). *Microaggressions: A Barrier To Leadership*. Forbes. July 14, 2020.

Nadal, K. L., Hamit, S., Lyons, O., Weinberg, A., & Corman, L. (2013). Gender microaggressions: Perceptions, processes, and coping mechanisms of women. *Psychology for business success*, 1, 193-220.

Olds, T. (2011). Marginalizing the President." The Concerted Effort to'Other' Obama". *Race, Gender & Class*, 100-109.

Reese 2022?

Randel, A.E., *Human Resource Management Review* (2017), <http://dx.doi.org/10.1016/j.hrmr.2017.07.002>

Sekaquaptewa, D. (2019). Gender-based microaggressions in STEM settings. *Currents*, 1(1), 1-10. <http://dx.doi.org/10.3998/currents.17387731.0001.101>

Shore, L. M., Randel, A. E., Chung, B. G., Dean, M. A., & Ehrhart, & Singh, G. (2011). Inclusion and diversity in work groups: A review and model for future research. *Journal of Management*, 37, 1262–1289.

Smith, D. G., & Johnson, W. B. (2020). *Good guys: How men can be better allies for women in the workplace*. Harvard Business Press.

Sue, D. W. (2010). *Microaggressions in everyday life: Race, gender, and sexual orientation*. John Wiley & Sons.

Sue, D. W. (2020). *Microaggressions in everyday life*, 2nd ed. John Wiley & Sons.

Torino, G. C., Rivera, D. P., Capodilupo, C. M., Nadal, K. L., Sue, D. W. (2018). *Microaggression theory: Influence and Implications*. John Wiley & Sons.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S., & Wetherell, M. (1987). *Rediscovering the social group: A self-categorization theory*. Basil Blackwell Ltd.