Implementation of a Sexual Harassment Workshop Targeting Female Engineers

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While sexual harassment (SH) of women in male-dominated fields was the focus of much research after the publication of Catharine MacKinnon's 1979 book, *Sexual Harassment of Working Women: A Case of Sex Discrimination,* investigations within this field have become much less frequent in the past decade. Nevertheless, SH continues to be considered an important obstacle in the retention and success of women in science, technology, engineering, and math (STEM). The workshop developed and implemented as described in this study helped educate female engineering students on how to recognize situations that could be construed as SH through the provision of a range of "What if…" scenarios. More importantly, it provided strategies to help female engineering students cope with SH through learning from the experiences of professional panelists with expertise in this area. On a scale of 1 (poor) to 5 (excellent), the overall impression of the workshop according to participants who took the evaluation survey was 4.74. Moreover, 100% of the survey participants felt that the workshop met their expectations. Furthermore, questions pertaining to perceived informational needs relative to SH were included in a survey administered to all graduating engineering students of a mid-Atlantic university. Almost half of survey respondents indicated that SH was an issue of concern, and 35% felt that more information on how to identify and cope with SH should be available to them as they enter the workforce, indicative of the need to continue offering workshops such as the one described in this study. By sharing the details and positive results of this inaugural workshop, we hope to instill confidence and provide the support necessary to recognize and address sexual harassment. In this way, we aim to increase the retention and general welfare of female engineers in both academic and industrial workplaces.

Introduction

Although the term sexual harassment can vary in meaning under different circumstances, the commonly accepted definition according to the U.S. Equal Employment Opportunity Commission (EEOC) is "unwanted sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature that tends to create a hostile or offensive work environment."[1] Legislatures and administrators have found it difficult to formulate an exact definition because the perception of the behavior that constitutes SH differs drastically from person to person. According to a study of university women, labeling SH may not be a valid criterion for determining who has experienced unwanted sexual behavior.[3] There has long been debate over this apparent non-labelling of SH. For this reason, Fitzgerald *et al*. purposely omitted the phrase "sexual harassment" from their Sexual Experiences Questionnaire, which instead focuses on five general areas: gender harassment, seductive behavior, sexual bribery, sexual coercion, and sexual assault.[2] By explicitly defining the aforementioned terms with regards to specific behaviors and only including the phrase "sexual harassment" at the end of the questionnaire, they were able to avoid the issue of non-labelling.[3] There has also been debate over the subtle differences between general workplace harassment, sex discrimination, and sexual harassment.[4, 5] For purposes of clarity and conciseness, we employ a broad definition of sexual harassment as any sexually offensive behavior (e.g. sexist remarks, unwanted sexual advances, etc.) regardless of environment, gender, or position of power.

After the publication of Catharine MacKinnon's 1979 groundbreaking book, *Sexual Harassment of Working Women: A Case of Sex Discrimination*, an influx of research on the topic emerged.[6] The results of various studies from this time have indicated that there are significantly higher rates of SH in male-dominated fields, with some studies even reporting up to 75% of respondents experiencing some form of harassment.[7-9] While SH remains an issue for female engineers in the United States, research in this field has diminished considerably in the past decade, with a shifting focus towards recruitment and retention programs since women are largely underrepresented in science, technology, engineering, and math.[10-12] However, SH is continually listed as one of the key barriers towards retaining and advancing women in STEM careers[13-15] and has also been negatively correlated with job satisfaction and physical and mental health.[16-19] A behavioral sciences perspective reveals that victims most commonly cope with SH by simply remaining silent, hoping that the situation will disappear without the embarrassment and retaliation associated with a formal complaint.[20] Indeed, some studies even suggest that targets of SH are selected partially because they are less likely to report the incident.[21] Those who do file a formal complaint are subject to interrogations and often made to recount the incident several times, with the focus of the trial on the behavior of the victim versus the perpetrator.[22] Juries consistently view SH experiences as welcome, nonexistent, or unimportant.[23] Moreover, possible retaliation by coworkers and employers causes many victims to silently cope with the situation through psychological means rather than reporting the incident.[24] Unfortunately, these negative results counter efforts to recruit and retain female engineers.

The U.S. Supreme Court has declared that in order to reduce liability for harassment claims, companies must implement training programs for employees and supervisors, require formal reports of all incidents of harassment, thoroughly investigate these reports, and take corrective action as necessary.[25] To this end, sexual harassment training has become commonplace as a form of workplace prevention. According to the EEOC, however, employers are merely encouraged to take steps to prevent incidents of SH and are able to do so through SH training.[2] Thus, while sexual harassment training can reduce liability in courts, it is not mandated by the federal legislature, although it is required by certain states, such as California, Connecticut, and Maine.[26] Nevertheless, from a legal standpoint, some form of SH training has been implemented in over 90% of all businesses.[27] Employers' motivation for implementing these training programs is typically either strategic to leverage the value of human assets and increase company performance, or from a legal standpoint to limit the organization's liability in courts. According to the literature, significant and positive effects occurred only when the reason for training was strategic.[28] Therefore, the motivation behind SH training is an important factor in determining the success of the program, and we believe that a workshop targeted to the welfare of the participants will likely result in a high success rate.

It is important to note that there are several resources pertaining to SH that are available to students at the mid-Atlantic University where this workshop was held. All individuals on campus are provided with literature from the Office of Affirmative Action, Diversity and Inclusion that documents the resources available through this office and the University Police. Residence life staff, resident advisors and a group of peer educators are trained each year on the subject of SH and how to handle a situation if it is reported to them by the Counseling Center.

Additional material is also disseminated to students through campus life events by the Counseling Center throughout the year including during sexual assault awareness week.

While mandatory SH training programs have been shown to increase sensitivity towards harassment,[29] and several reports support their implementation,[30, 31] it is unknown whether or not they increase the incident report rate.[32] We hypothesize that informal, optional workshops may encourage reporting of incidents or seeking assistance with SH occurrences. We propose that targeting this workshop to female students will create an open environment in which women can freely express their opinions on this sensitive subject and speak about their own experiences of SH if applicable. Although we believe that it is also important to educate male students on this matter, we focused this workshop on female students for this reason. As further rationale for the structure of this workshop, we cite a similar workshop implemented at Stevens Institute of Technology in 1994 that focused on educating freshman students about SH and was highly successful.[33] The evaluation surveys from their implementation documented that 95% of participants believed the workshop improved their understanding of SH. In particular, they found the use of case studies to be a valuable tool in promoting reflection on this sensitive topic.[33] After this initial implementation, the Stevens Institute of Technology outlined plans to expand their training to upper classmen and graduate students; however, no further publications on the dissemination of this workshop could be found. To our knowledge, there have been no recent reports of analogous workshops although the subject of SH remains of importance today. We therefore propose that offering SH workshops such as the one described within this study to university women across the United States will provide a positive atmosphere to educate female engineers on sexual harassment early in their careers.

Methods

Planning the Harassment Workshop

A planning committee was assembled based upon personal interest in the development of a sexual harassment workshop for female engineering students in September 2012 with a goal of implementing the workshop in January 2013. The planning committee consisted of three female members of the university: an Assistant Professor (Teaching Track) of Chemical and Petroleum Engineering, the Associate Director of the First-Year Engineering Program, and the Section President of the Society of Women Engineers.

It was decided to limit the inaugural workshop to female engineering students, both undergraduate and graduate, with the rationale that the participants would be more comfortable discussing this issue. The workshop was limited to 50 registrants, with the expectation that approximately 67%, or 33 students, would attend. A small group size was preferable for this workshop to deter any unfavorable behaviors spurred by group dynamics. Participants were to divide into breakout groups of five or six students to discuss various scenarios.

We chose the date of the workshop to be at the beginning of the semester so that students would not be busy with exams. The duration for the workshop was set at one hour and pizza was provided. No signs or advertisements were placed outside of the room, so as to prevent any embarrassment associated with attending a workshop of a sensitive nature. A panel of professionals, including a human resources (HR) representative from both an academic and

industrial setting and a university counsellor was chosen to provide insight from various perspectives. To publicize the event, emails were sent to all female undergraduate and graduate students and all members of the local section of the Society of Women Engineers. Public flyers were not included in advertising material in an attempt to avoid potentially controversial conversations.

Preparation of "What if..." Scenarios

Various scenarios of sexual harassment in diverse contexts were prepared by the planning committee. Not all scenarios constituted SH from a legal perspective, and some were subtle. To be prepared for the maximum number of participants, ten scenarios were developed and ranked by the planning committee based on their perceived value, to be assigned to the breakout groups. The scenarios were diverse in that they involved undergraduates, graduate students, engineering interns, and full-time employees, and they included situations in which the perpetrator was a peer, co-worker, or supervisor. Each scenario included the following questions:

1. Is this harassment? Why or why not?
2. What would you do in this situation?
3. What steps could have been taken to prevent this situation from occurring?

The phrase "sexual harassment" was purposely excluded from the questions to allow different interpretations of the scenarios.

The workshop was designed as follows:

I. **Introduction to workshop** (5 mins.)
   Overview of the planned activities, and introduction of personnel involved in planning the workshop as well as the three panel members.
II. **Introduction of "What if…" scenarios** (5 mins.)
   Introduction of hypothetical scenarios as situations that may or may not be perceived as sexual harassment.
III. **Discussion of "What if…" scenarios in breakout groups** (15 mins.)
   Groups of five were encouraged to discuss the subtleties of SH, their reactions to the scenarios, and potential preventive measures that could have been taken.
IV. **Feedback on "What if…" scenarios** (10 mins.)
   Each group summarized its conclusions and panelists offered additional insights.
V. **Question and answer session with panel members** (10 mins.)
   Opportunity for further questions about the scenarios or discussion of additional topics.
VI. **Workshop evaluation** (5 mins.)
   A short survey was administered to gain feedback on the positive and negative aspects of the workshop.
VII. **Additional time for discussion** (10 mins.)
   Continuation of conversations and the opportunity to ask one-on-one questions of the panelists.

Post-Workshop Survey

To obtain feedback and suggestions for future implementations of the workshop, a survey was distributed to all participants at the end of the session. Participants were asked to evaluate various aspects of the workshop, using a 1 to 5 scoring system representing poor, satisfactory, good, very good, and excellent ratings. The following aspects were evaluated: 1) harassment scenarios, 2) interaction opportunities, 3) the panel, 3) amount of material covered, 4) organization of the workshop, and 5) training environment.

Additionally, participants were asked whether their expectations had been met and for any additional topics of interest that had not been covered or included.

Senior Exit Survey

To obtain an understanding of the perceived informational needs of graduating engineering students as they prepared to move forward with their engineering careers or graduate studies, questions were asked on the senior exit survey. These questions were as follows:

1. If you feel that sexual harassment is an issue of concern within an engineering environment (academic, industry, etc.), which of the following topics do you feel are important (check all that apply)?
   a) How to identify it?
   b) What to do if you encounter it?
   c) Which departments or persons to contact for help and/or advice?
   d) Sexual harassment is not an issue of concern

2. Do you feel that further information on how to identify and cope with sexual harassment within engineering may be useful to you as you enter into the workforce?
   a) Yes
   b) No

Graduating seniors were contacted for participation in this on-line survey through e-mail and were sent reminders as well. All data collected as part of this survey is shared with departments within the engineering school and used in aggregate as part of assessment. All senior exit survey data was de-identified prior to being provided to our team and proper human subjects' approval was obtained for this study.

Results and Discussion

Fifty students registered for the workshop, and the event was attended by 30 for a final turnout of 60% of those registered. The students were divided into six groups of five to discuss the "What if..." scenarios. The post-workshop survey was completed by 80% of participants, with some students leaving early to attend class.

The evaluation survey results are summarized in Table 1. Each panelist received a similar average score, indicating that perspectives from industry, academia, and human resources

/ law were equally important in understanding different harassment situations and how to cope with them. The individual average panelist scores were in the range 4.79 to 4.83.

Table 1. Workshop Evaluation Scores (Scale: 1 to 5)

Overall Aspect of Workshop	Average Evaluation Score
Harassment scenarios	4.43
Interaction opportunities during workshop	4.43
Industry/ academic panel	4.67
Amount of material covered	4.38
Organization of workshop (time allotted for sessions, breaks, etc.)	4.46
Training environment (room temperature, set up, food, etc.)	4.88
Overall impression	4.74

It is encouraging that the average scores for each aspect was between "very good" and "excellent." The highest score was given to the training environment, which we believe provided optimal conditions for this type of workshop. The least positive response was associated with the amount of material covered, suggesting that more topics should be covered in subsequent workshops. Additionally, 100% of survey respondents answered "yes" to the question "Did this workshop meet the expectations you had when you signed up for it?" Of the 12 comments that offered suggestions for improvement, five involved additional material to be covered, three suggested a longer duration for the session, two suggested a shorter duration, and one proposed a longer question and answer period. The comments regarding additional material showed that two respondents wanted to learn about other types of harassment besides SH. Two participants suggested including further information on "subtle" SH situations and one student suggested emailing the participants links to online resources.

Several students also provided expressions of gratitude for organizing the event, and one survey respondent wrote that the workshop was "very well presented and opened my eyes to the different harassment possibilities that may affect me and ways to possibly handle these situations." Another participant noted "I enjoyed working in groups and meeting new people (especially in the same major)." Although this was not an intended outcome of the workshop, the students were able to meet other females in the same department. Overall, the results of this event were overwhelmingly positive, and we hope that other universities across the U.S. will follow by implementing workshops of a similar nature.

Senior Exit Survey
In total, 97 graduating engineering students completed the senior exit survey. This sample consisted of students from all engineering departments within the school and a mixture of female and male students. Table 2 outlines the sample characteristics.

Table 2. Senior Exit Survey Participant Demographics

Number of participants	97
Gender	74% Male, 26% Female
Ethnicity	85% White, 4% Black/African American, 6% Asian, 1% American Indian, 1% African American/White, 1% Asian/White, 1% American Indian/White, 1% Hispanic/White
Engineering major	23% Mechanical, 21% Chemical, 21% Civil, 21% Industrial, 7% Electrical, 3% Computer, 2% Civil/Industrial dual, 1% Bio, 1% Bio/Electrical dual

The analysis of student responses to question #1 showed that 52% of students did not feel that SH was a concern within an engineering environment, with the result not differing by gender. This data indicates that for nearly half the population of graduating senior engineers SH is still a concern. Of the remaining 48% (i.e. 47 students), 1) 32 believed identifying it was important, 2) 39 were interested in what to do if they encounter it, and 3) 32 were interested in understanding which department or person(s) they should contact for advice. Female students appeared to be slightly more concerned with what to do if they encounter it and who to turn to for advice, compared to male students.

The second question sought to assess whether students felt they should have access to more information on the subject of SH prior to entering the workforce. This question provided rationale for continuation of this workshop in the future. Survey results demonstrated that 35% of students wanted more information on how to identify and cope with SH as they entered the workforce. Subsequent analysis of this data revealed differences in this question by gender. As shown in Figure 1, 44% of
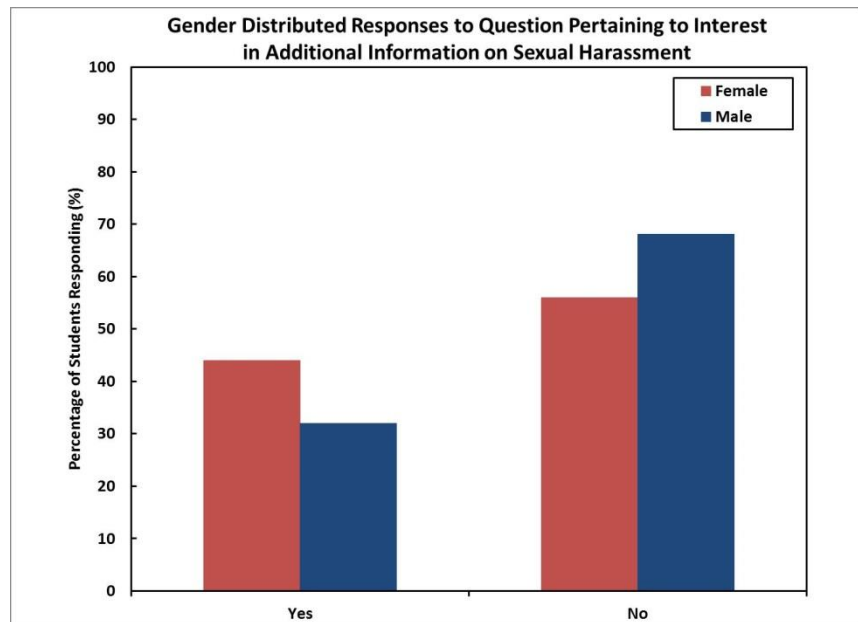
Figure 1. Responses by gender to the question "Do you feel that further information on how to identify and cope with sexual harassment within engineering may be useful to you as you enter into the workforce?"

female students felt that more information was necessary on the subject, while only 32% of male students felt this way. Therefore, we believe that our workshop is an excellent opportunity to provide additional training and information pertaining to SH to students within engineering.

Conclusions and Future Directions

Sexual harassment continues to be an important issue to address to prepare students as they enter into the workplace. We believe that it is important to build upon the resources that are provided at an institutional level by offering a workshop that creates a positive and comfortable training environment for female engineers who are interested in learning more about SH. Results from our initial implementation of the workshop showed very positive results, with several students expressing gratitude for the existence of this type of session. We plan to continue offering the SH workshop on a yearly basis. We have made slight modifications to the design based upon participant feedback. Proposed changes include less time spent on break out discussions allowing more time for question and answer, an additional one hour time block where participants and panelists can speak to one another on an informal basis, distribution of information and literature on campus-based resources, and addition of new panelists with different types of experience in handling SH situations. We also aspire to encourage other universities to emulate this workshop for females in engineering programs across the country and believe that publication of our program in this conference paper is a first step towards achieving this goal.

Acknowledgements

References

1. EEOC. http://www.eeoc.gov/eeoc/publications/fs-sex.cfm. Accessed December 1st, 2013.
2. Harned, M.S. (2004). Does it matter what you call it? The relationship between labeling unwanted sexual experiences and distress. *Journal of consulting and clinical psychology*. **72**(6): 1090.
3. Fitzgerald, L. F., S.L. Shullman, N. Bailey, M. Richards, J. Swecker, Y. Gold, A.J. Ormerod, L. Weitzman (1988). The incidence and dimensions of sexual harassment in academia and the workplace.*Journal of Vocational Behavior.* **3:** 152-175.
4. Jones, C. (2006). Drawing boundaries: Exploring the relationship between sexual harassment, gender and bullying. *Women's Studies International Forum*. Elsevier.
5. Lopez, S.H., R. Hodson, and V.J. Roscigno (2009). Power, status, and abuse at work: General and sexual harassment compared. *The Sociological Quarterly*. **50**(1): 3-27.
6. MacKinnon, C.A. (1979). *Sexual harassment of working women: A case of sex discrimination*. Vol. 19. Yale University Press.
7. Lafontaine, E. and L. Tredeau (1986). The frequency, sources, and correlates of sexual harassment among women in traditional male occupations. *Sex Roles*. **15**(7-8): 433-442.
8. Hulin, C.L., L.F. Fitzgerald, and F. Drasgow (1996). *Organizational influences on sexual harassment.*
9. Hesson-Mcinnis, M.S. and L.F. Fitzgerald (1997). Sexual Harassment: A Preliminary Test of an Integrative Model. *Journal of Applied Social Psychology*. **27**(10): 877-901.
10. Nixon, A.E., H. Meikle, and K. Borman (2013). The Urgent Need to Encourage Aspiring Engineers: Effects of College Degree Program Culture on Female and Minority Student STEM Participation. *Latin American and Caribbean Journal of Engineering Education*. **1**(2): 57-63.

11. Sinkele, C.N. and D.M. Mupinga (2011). The Effectiveness of Engineering Workshops in Attracting Females into Engineering Fields: A Review of the Literature. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*. **84**(1): 37-42.

12. Yost, E., V. Winstead, S.R. Cotten, D.M. Handley (2013). The Recruitment and Retention of Emerging Women Scholars in Stem: Results from a National Web-Based Survey of Graduate Students, Postdoctoral Fellows, and Junior Faculty. *Journal of Women and Minorities in Science and Engineering*. **19**(2): 143-163.

13. Maskell-Pretz, M. and W.E. Hopkins (1997). Women in engineering: Toward a barrier-free work environment. *Journal of Management in Engineering*. **13**(1): 32-37.

14. Rosser, S. and E.O.N. Lane (2002). Key barriers for academic institutions seeking to retain female scientists and engineers: Family-unfriendly policies. Low Numbers, stereotypes, and harassment. *Journal of Women and Minorities in Science and Engineering*. **8**(2): 161-189.

15. Settles, I. H., L.M. Cortina, A.J. Stewart, J. Malley (2007). Voice matters: Buffering the impact of a negative climate for women in science. *Psychology of Women Quarterly*. **31**(3): 270-281.

16. Schneider, K.T., S. Swan, and L.F. Fitzgerald (1997). Job-related and psychological effects of sexual harassment in the workplace: empirical evidence from two organizations. *Journal of Applied Psychology*. **82**(3): 401-415.

17. Willness, C.R., P. Steel, and K. Lee (2007). A meta-analysis of the antecedents and consequences of workplace sexual harassment. *Personnel Psychology*. **60**(1): 127-162.

18. Chan, D.K.S., S.Y. Chow, C.B. Lam, S.F. Cheung (2008). Examining the job-related, psychological, and physical outcomes of workplace sexual harassment: a meta-analytic review. *Psychology of Women Quarterly*. **32**(4): 362-376.

19. Rospenda, K.M., J.A. Richman, and C.A. Shannon (2009). Prevalence and Mental Health Correlates of Harassment and Discrimination in the Workplace Results From a National Study. *Journal of interpersonal violence*. **24**(5): 819-843.

20. Fitzgerald, L.F., S. Swan, and K. Fischer (1995). Why didn't she just report him? The psychological and legal implications of women's responses to sexual harassment. *Journal of Social Issues*. **51**(1): 117-138.

21. Blackstone, A., C. Uggen, and H. McLaughlin (2009). Legal consciousness and responses to sexual harassment. *Law & society review*. **43**(3): 631-668.

22. Magley, V.J. (2002). Coping with sexual harassment: reconceptualizing women's resistance. *Journal of Personality and Social Psychology*. **83**(4): 930-946.

23. Estrich, S. (1991). *Sex at work.* Stanford Law Review. p. 813-861.

24. Bergman, M.E., R.D. Langhout, P.A. Palmieri, L.M. Cortina, L.F. Fitzgerald (2002). The (un)reasonableness of reporting: antecedents and consequences of reporting sexual harassment. *Journal of Applied Psychology*. **87**(2): 230-242.

25. USSC, *Faragher v. City of Boca Raton, 524 U.S. 775 (1998); Burlington Industries v. Ellerth, 524 U.S. 742 (1998).*

26. California AB 1825, C.H.R.a.O.A., Maine's Title 26, Section 807 General Training Requirements, *California AB 1825, Connecticut Human Rights and Opportunities Act, Maine's Title 26, Section 807 General Training Requirements*.

27. Dolezalek, H. (2005). *The 2005 industry report.*

28. Perry, E.L., C.T. Kulik, J. Bustamante, F.D. Golom (2010). The impact of reason for training on the relationship between "best practices" and sexual harassment training effectiveness. *Human Resource Development Quarterly*. **21**(2): 187-208.

29. Antecol, H. and D. Cobb-clark (2003). Does Sexual Harassment Training Change Attitudes? A View from the Federal Level*. *Social Science Quarterly*. **84**(4): 826-842.

30. Bell, M.P., J.C. Quick, and C.S. Cycyota (2002). Assessment and prevention of sexual harassment of employees: An applied guide to creating healthy organizations. *International Journal of Selection and Assessment*. **10**(1-2): 160-167.

31. Smolensky, E. and B.H. Kleiner (2003). How to prevent sexual harassment in the workplace. *Equal Opportunities International*. **22**(2): 59-66.

32. Goldberg, C.B. (2007). The impact of training and conflict avoidance on responses to sexual harassment. *Psychology of Women Quarterly*. **31**(1): 62-72.

33. Bott, K.A. (1994). Designing & Implementing A Sexual Harassment Prevention Program On A Bare Bones Budget. *WEPAN National Conference, June 5 - 7, 1994. Washington, D.C.*.