Creating a Workshop to Disrupt Privilege in Engineering

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ABSTRACT

CONTEXT

Social privileges are unearned advantages that systemically accrue to individuals who belong to dominant social groups. However, privilege is rarely named, discussed, or challenged in engineering or engineering education contexts. It is an understudied and undertheorized aspect of diversity, equity and inclusion. One leading example of how privilege functions in engineering is that men engineers are often given the *presumption of competence* while women engineers are not.

PURPOSE

The three-fold purpose of this paper is: 1) to briefly introduce readers to the concept of social privilege, 2) to describe the creation and implementation of a workshop I created to help engineering educators, students, and practicing engineers identify and understand how privilege structures engineers' experiences, and 3) to call for collaborative evaluation of the workshop. The motivation to write this paper is so that others can implement the workshop themselves at their institutions. Sharing the workshop methods will expand the reach of this work.

APPROACH

This paper was inspired by *demo account* methodology and is a first step toward creating a full demo account of this project. After a brief literature review about social privilege, evidence from a mixed method longitudinal study that led to the workshop creation is summarized. Following that are details of how the workshop was created and instructions for how to implement it.

OUTCOMES

The first outcome from this paper is that readers will understand and identify leading forms of privilege and how they structure people's experiences in/of engineering. The second outcome is that engineering educators and faculty/staff developers will be able to implement a workshop to disrupt privilege at their institutions. It is hoped that the third outcome will be that an international body of evidence on the effects of the workshop can begin to be collected.

SUMMARY

While conducting a study on the organizational socialization of newcomer engineers, the ways in which certain dominant group privileges were structuring participants' experiences emerged as a key finding. It was found that privileges structured all key components of engineering organizational socialization, including relationship building and interactions, work assignments, learning and adaptation, and perceived performance, which in turn affected sense of belonging and value and ultimately satisfaction and retention. In order to address that problem, I created a workshop to help engineers understand those phenomena. In this paper, I share the workshop methods so that it can be scaled up for implementation in other universities and organizations.

KEYWORDS

gender, privilege, intersectionality, race/ethnicity, meritocracy

Introduction

A myth of *meritocracy* pervades engineering education (Cech, 2013). Against that backdrop, *privilege* is rarely named, discussed, or challenged in engineering or engineering education contexts. Privileges are the unearned advantages that systemically accrue to individuals because they belong to dominant social groups (Ferber et al., 2008; Flood & Pease, 2005; McIntosh, 1988, 2008; Middleton et al., 2009). Naming, discussing, and challenging privilege, then, confronts the myth of meritocracy in ways many engineers find threatening to their identities and successes. The unearned, systemic nature of privilege is taken as a challenge to those successes with the implication that the individual engineer did not earn them based solely on their own abilities and hard work (Cech, 2013). In order to advance conversations about privilege in engineering, I created a workshop designed to help introduce engineers to the concept of privilege and to understand how it structures their experiences in engineering.

The workshop described in this paper grew out of research findings on privilege in engineering. In that study, it was found that forms of White and male privilege are structuring engineers' career experiences and trajectories (Beddoes, 2021, 2022). These topics have been underexplored in engineering education contexts and represent an important new area of understanding for equity and inclusion in engineering. While some engineering educators have examined their privileges in their publications (Eastman et al., 2019; Douglas, 2015), much work remains to be done to help engineering educators, students, and practicing engineers understand how privilege structures experiences and outcomes. The purpose of this paper is to share the workshop methods and materials so that others can implement the workshop in their organizations.

Literature Review

Social privilege

Privilege can be most simply defined as unearned advantages that accrue systemically to individuals who belong to certain dominant groups. Such social privileges have been conceptualized as an "invisible, weightless knapsack of unearned assets [and] special provisions" (McIntosh, 1988, p. 1). Privilege is complex, elusive, normalized, and often invisible (to those who have it) (Ferber et al., 2008; Flood & Pease, 2005; McIntosh, 1988, 2008; Middleton et al., 2009). "One of the functions of privilege is to structure the world so that mechanisms of privileges are invisible – in the sense that they are unexamined – to those who benefit from them" (Bailey, 1998, p. 112). It is often easier to recognize discrimination and barriers than it is to recognize how privilege is operating (McIntosh, 2012; Wildman, 1996). But by making "visible the normative power of the practices and processes" (VanDeventer Iverson, 2007, p. 607) that structure engineering and engineering education, we can begin to see who is advantaged by those practices and processes, what the advantages are, and how they function to maintain the status of dominant groups.

In Australasia, Europe, and North America, two of the most widely operating privileges are White privilege and male privilege. Other types of privilege stem from being heterosexual and cisgender and not having physical limitations or challenges, among others. White privileges include feeling welcomed and 'normal' in most public institutional and social settings; coming home from work meetings feeling "somewhat tied in, rather than isolated, out of place, outnumbered, un-heard, held at a distance, or feared"; being able to take a job with an affirmative action employer without having co-workers suspect you got the job because of your race; being able to find people who are willing to talk about your career and give you professional advice; and having your voice heard in a group in which you are the only member of your race (Mcintosh, 1988, p. 4–7). Examples of male privilege include being taken seriously as competent and knowledgeable (Douglas, 2015; Franzway et al., 2009), feeling safe from sexual harassment and sexual assault in public spaces, receiving higher pay for equal work, typically having fewer childcare and household cleaning responsibilities (in heterosexual couples), being able to work and have children and not being thought selfish, less pressure to look physically attractive, rarely being

seen as 'delicate', or 'emotional', being easily able to find other men in positions of authority to serve as role models, and usually having your voice being heard in group settings (Case et al., 2014, p. 732–3; Schacht, 2001).

Privileges accrue intersectionally (Case et al., 2014; Ferber, 2012; Gutiérrez y Muhs et al., 2012). That is, they do not necessarily accrue in the same ways to men of color as they do to White men, or to White women in the same ways as White men, or to LGBTQ+ men in the same ways as straight, cisgender men, or to White men with a disability in the same ways as White men without disabilities. Forms of privilege interact in complex, overlapping, and reinforcing ways (Ferber, 2012), and those ways can vary across social and geographic contexts.

Privilege in engineering socialization

While conducting a study on the organizational socialization of newcomer engineers, the ways in which certain dominant group privileges were structuring participants' experiences emerged as a key finding (Beddoes, 2019, 2021, 2022). It was found that privileges structured all key components of engineering organizational socialization, including relationship building and interactions, work assignments, learning and adaptation, and perceived performance, which in turn affected sense of belonging and value and ultimately satisfaction and retention (Beddoes, 2022). For example, *presumption of competence* was identified as a leading privilege from stories such as this one from a first year civil engineer:

"This is cliché, but dealing with diversity is difficult because there is a severe lack of diversity in engineering. It's a male-dominant field . . . So that does become a challenge when we have a client that doesn't necessarily respect women as thinkers and engineers and decision-makers. So that can be a challenge I face regularly depending on what we are doing… We were in a meeting and we happened to have a guy with us that day but he didn't really know what we were doing. He had just been brought on, and it was good for him to come to the meeting to catch up on what we had been working on. And there were a couple of guys [clients] that were on the other side that kept directing questions to the guy that we brought. And he just kind of looked around like 'I have no idea. Why are you asking me? Why don't you ask the project manager?'" (Beddoes, 2021, p, 164). The project manager was a woman.

Demo account methodology

This paper is a first step toward creating a *demo account* of this intervention. A demo account is a way for engineering studies scholars to "better participate critically in practices of engineering education, labor, policy, research, and representation" (Downey, 2021). It is a form of *critical participation* in which "authors offer theoretically informed accounts of their own critical participation in practices of engineering education, labor, research, policy, and representation in order to help engineering practitioners reflect on images and practices of engineers and engineering, and perhaps to formulate and scale up alternatives" (Downey, 2021). Examples of demo accounts can be found in Downey and Zuiderent-Jerak (2021).

Workshop Creation

Inspiration for this workshop came from The Safe Zone Project's *Privilege for Sale* activity, which can be found on their website (The Safe Zone Project, 2024a). "The Safe Zone Project is a free online resource for powerful, effective LGBTQ Awareness and Ally Training Workshops" (The Safe Zone Project, 2024b). The privileges in their workshop centre around LGBTQ issues, with examples such as: "Sharing health insurance with your partner(s)", "Filing joint tax returns", "Being able to be promoted in your job without your sexuality playing a factor", and "Kissing/hugging/being affectionate in public without threat or punishment." Some of them are specific to the U.S. legal and social context.

The methods from the Safe Zone workshop were largely followed as described on their website, and in the following section. However, the list of privileges for the engineering workshop (see the final page of this paper) were created based on findings from the research study discussed above

(Beddoes, 2021, 2022) as well as the addition of a few that did not emerge in my study but which are known be common in engineering and/or the U.S. Several relevant items from the Safe Zone list were retained. While findings that informed the list were from engineering workplaces, most are salient to engineering education contexts as well.

The list of privileges I included is not exhaustive. It was selected with the intention of balancing breadth with manageability of comprehension in the 15-20 minutes allotted for choosing what to buy. Some of the privileges on the list are interrelated, and groups often discuss how they saw them fitting together.

The goal of the workshop is for participants to learn how leading forms of social privilege operate in engineering and influence participation in the profession and how patterns of privilege can be disrupted. I have conducted this workshop with undergraduate engineering students and engineering faculty members in the U.S. and Australia and found that it works equally well for both of those groups. Beginning this year, I will be conducting it in Europe and with practicing engineers as well.

Workshop Implementation

The workshop should be scheduled for a minimum of 60 minutes. If time allows, I recommend scheduling for 90 minutes so that the rich discussions that follow the activity do not have to be cut short. Ideally, it should be in a room where attendees can sit at tables in groups of 3 to 4, and the groups can spread out around the room.

I begin with a brief 5-minute presentation on the concept of social privilege and the study from which this workshop emerged. Slides are available upon request by emailing me. Participants are then put in groups of 3 or 4 people (or more if necessary, depending on attendance). Each person receives a copy of the handout that is provided on the final page of this paper. Each group also receives a set of mock dollar bills/notes. Different groups are given different amounts of bills/notes. I recommend that every group receives a minimum of four $100 notes. On top of that, several groups receive one or two additional $100 bills/notes and some receive one or two $10 and $50 bills/notes. The amounts are arbitrary and not important. The purpose is to get the groups to think about the "value" these privileges have to their careers, and that the groups who received extra money did nothing to earn it. Keeping the number of notes relatively small forces the groups to have more discussions and think more deeply about what they value.

Groups are given 15-20 minutes to complete the instructions on the handout. After 15-20 minutes, one person from each group shares what their group decided to buy and why, which takes approximately 15 minutes. After that, there are two options for how to proceed. The second option works best when 90 minutes have been allotted for the workshop.

First option: The remaining time can be used to facilitate a discussion about their choices and what we can do now to mitigate how these privileges structure people's experiences of/in engineering. Participants sometimes initiate the discussion themselves, and if it unfolds in productive ways, I allow that to happen. When doing the workshop for engineering educators, if discussion prompts are needed, the discussion questions I pose are: "Is there anything on the list you had never thought of before?", "Was anyone surprised by what other groups bought?", "How might these same patterns be affecting your students and colleagues?", and "What can we do now so that we aren't talking about these same things in another ten, twenty or thirty years?" And, if it has not already been commented on, "Did anyone notice that some groups received more money than others?" When doing the workshop with students, I substitute "Have you noticed or experienced any of these phenomena in your degree program or courses?" for "How might these same patterns be affecting your students and colleagues?"

Second option: Attendees can be put back in their small groups for 15 minutes and told to identify three things they can do now or in the future to disrupt these privileges when they see or experience them. Each group then reports back to the entire group what ideas they came up with. Then a discussion with the entire group can be facilitated as described above.

The activity aligns with expected learning outcomes by drawing participants' attention to how the careers of members of dominant groups benefit from membership in those groups, and having participants actively engage in a thought experiment about how they value those privileges and why.

Results

Feedback on the workshops has been encouraging from engineering faculty members and students. For example, evaluation results indicated that the workshop helped students: 1) realize that the extent of their privilege was more significant than they had previously acknowledged, 2) became more aware of the ongoing challenges women face in the workplace, 3) feel empowered by the understanding that they can take actions to make the world a more equitable place, 4) learn techniques for providing criticism in a non-aggressive manner, and 5) recognize when certain behaviors or mannerisms are problematic. They "gained practical skills for navigating sensitive discussions, which can be beneficial in both research and interpersonal interactions."

Next Steps – A Call for Collaborative Evaluation

I ask that anyone who intends to conduct this workshop contact me so that we can conduct evaluation research. Producing an international body of evidence on the effects and outcomes of this workshop is an important next step in scaling it up. Conducting the evaluation in a systematic way that uses the same techniques across contexts will provide the best evidence of impact and facilitate robust evaluation claims. Thank you in advance for honouring this request.

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Acknowledgements

Copyright statement

Engineering Privileges for Sale - Workshop Handout

Instructions

- Read and consider the following list of privileges.
- Imagine you have none of these privileges.
- As a group, you must decide which privileges you want to purchase to help you in your career as an engineer. Each privilege costs one bill/note.
- After 15 minutes, one person in each group will report what your group is buying and why.

Privileges

1. I'm given the same opportunities for work assignments as other coworkers.
2. I'm given the same presumption of competence as other engineers.
3. Clients talk to me and do not ignore me when other men are around.
4. Clients do not complain about how I speak.
5. On job sites, contractors/builders listen to me.
6. I am treated like other engineers and not like a secretary.
7. I am treated like other engineers and not like someone to date.
8. I go to work without fear of sexual harassment.
9. I don't miss out on company social and networking events because they involve activities I don't want to participate in
10. I don't miss out on company social and networking events because of childcare responsibilities.
11. My performance evaluations do not depend on how bubbly or cheerful I am.
12. I am invited to informal social activities with coworkers.
13. I do not have to perform femininity correctly to have clients like me.
14. I do not have to spend time trying to be nicer than my men co-workers to be liked.
15. I don't worry that my normal speaking voice will be criticized by my supervisor.
16. I don't worry about asking for accommodations or whether or not to disclose a disability.
17. Physical limitations don't make my work a challenge on a daily basis.
18. I can have children without worrying about how they will affect my career.
19. My coworkers say "hi' and chat with me at the office.
20. I have multiple positive career role models.
21. I feel safe in my interactions with coworkers.
22. I can take my partner to work events.
23. My coworkers accept me for who I am.
24. I don't worry that my sexuality will be a factor in whether or not I'm promoted.
25. I don't worry that my gender will be a factor in whether or not I'm promoted.
26. I can celebrate my marriage with coworkers.
27. I have role models of the same sexual orientation as myself.
28. I feel like I belong in my organization.
29. My ideas are heard in meetings.