Bridging the Gender Gap: A Canadian Study Examining Gender Inequality in Engineering Workplaces

Eda Pitka
Department of Sociology, University of Calgary
Corresponding author: eda.pitka@ucalgary.ca

ABSTRACT

Abstract: Despite considerable work to encourage women to enter the profession, engineering continues to be heavily male dominated. Research shows that women in engineering experience unequal treatment starting from their entry into the occupation. My research will discuss the experiences of gender inequality for women working in engineering fields by looking at the empirical literature examining the hiring process, unwelcoming climates, hostile work environments, pay and promotion inequalities, and the challenges women engineers face due to competing identities and motherhood. I will show that the oppression and inequality women experience reflects and perpetuates a culture that favors male-dominance and exclusionary practices within the engineering profession.

Introduction

It is well established that women are underrepresented in engineering and other STEM fields in Canada, with evidence suggesting that men are employed in STEM fields twice as frequently as women (Friedmann & Efrat-Treister, 2023). Despite many programs and initiatives including the Women in Engineering (WiE) Program, the Canadian Coalition of Women in Engineering, Science, Trades, and Technology (CCWESTT), and the Women in Science and Engineering (WISE) Atlantic programs aiming to increase the number of women in engineering, men still vastly outnumber women in the field. Recent Canadian initiatives such as the 30 by 30 initiative, which aims to increase the proportion of newly licensed women-identifying engineers to 30 per cent by the year 2030, seek to encourage more women to enter the engineering field (Engineers Canada, n.d.). However, the proportion of newly licensed engineers who are women was just 20.6% as of 2020 (Engineers Canada, n.d.). Charlesworth and Banaji (2019) state that "the reality is that a diverse workforce can provide both financial and intellectual benefits. Thus, gender diversity is necessary to meet the demands of innovation and productivity in complex STEM environments" (p. 7728). In addition, Galinsky et al.'s (2015) research on diversity in the workforce shows that diversity increases creativity and innovation, promotes higher-quality decisions, and enhances economic growth because it spurs deeper information processing and complex thinking. This complex thinking allows diverse groups to respond more effectively to dynamic contexts and unforeseen challenges. In this paper, I argue that it is not enough

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to target individuals and their motivations to enter the engineering field. Instead, engineering requires structural level changes to make it more accessible to women. Concepts relevant in conducting a gender analysis of the workplace culture present in engineering are the glass ceiling, sticky floor, androcentrism, and patriarchy.

Researchers have documented the existence of the glass ceiling, which I will define as a societally built invisible barrier which prevents women from advancing beyond a certain level in their careers due to factors such as organizational bias or inequality in the workplace (Powell & Butterfield, 1994; Salas-Morera et al., 2021). These biases prevent promotion by reproducing existing gender hierarchies that view women as less competent than men in the workforce (Purcell et al., 2010). Although women have the skills, qualifications, and desires to be in positions of power, they receive them far less often than white men (Purcell et al., 2010). Different researchers hypothesize that this barrier exists due to cultural structures such as stereotypes, gender discrimination, and the devaluation of women's competence, therefore creating inequality regimes that maintain these barriers in organizations and prevent women from joining top leadership positions in parity to their male coworkers (Acker, 2009; Cech & Blair-Loy, 2010; Cotter et al., 2001).

In addition to the glass ceiling, researchers use the concept of sticky floor to discuss gender inequality in the workplace. Like the glass ceiling, the sticky floor also represents a barrier preventing women from advancing beyond the lower ranks of organizational hierarchies. While the glass ceiling metaphor suggests that women cannot advance past mid-level positions, the sticky floor suggests that women are concentrated in lower organizational positions because they receive fewer institutional resources at the start of their careers than their male colleagues (Brown et al., 2020). As Shabsough et al. (2021) discuss, studies on gender inequality have often addressed the sticky floor concept by examining the gender wage gap in the workforce, especially at the upper or lower levels of the organizational hierarchies. At the time that equally qualified men are being promoted, the sticky floor represents a situation where women are held in jobs with lower wage and compensation, and minimal career advancement (Shabsough et al., 2021). Thus, women are less likely to ascend through a company than men in engineering fields. This underrepresentation of women reflects and perpetuates an exclusionary and inflexible male-dominated culture that persists in the field.

According to Hacker (1981), "the culture of engineering" is a professional ideology that stresses the importance of technology over personal relationships and ultimately of male traits over female traits. This culture relates to a mind and body dualism that values rational thoughts over bodily emotions and associates rational thoughts with men. Like other professions, STEM has its own professional culture, which Blair-Loy and Cech (2022) theorize, is represented by the "work devotion schema" and the "schema of scientific excellence." They describe the "work devotion schema" as the expectation for work devotion which is socially contingent and variable across context and country and contributes to inequality through the idea that "women were too distracted by domesticity to achieve genius themselves" (p. 36). The "schema of scientific excellence" defines concerns about diversity as distracting from and polluting excellence by reinforcing the notion that minority colleagues raise "political" matters of identity in a space that should be a "pure" space of science (Blair-Loy & Cech, 2022). Further research suggests that the culture in engineering centers around gender marginalization and exploitation, where women are being cast by their male peers and superiors as unworthy, leading to marginalization in the workplace (Garriott et al., 2023). Androcentrism refers to the propensity to center society around men, men's needs, priorities, and values and to relegate women to the periphery. Androcentrism also positions men as the gender-neutral standard while marking women as gender-specific, thereby conflating men with people while construing women as specifically gendered (Bailey et al., 2019). For instance, when participants in Bailey et al.'s (2020) study were asked to fill in missing words in a story, they were more likely to refer to male characters using gender-neutral labels such as "person" and female characters using gender-

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specific language such as "woman". Androcentrism is rooted in the belief in male superiority and dismisses feminine-coded values, experiences, and behaviors as inferior (Newton & Zeitoun, 2003). Furthermore, Walby (1989) defines the concept of patriarchy as a system of social structures and practices where men as a group dominate, oppress, and exploit women as a group. According to Millett (1970), patriarchy can be described as a familial-social, political, and ideological system in which men, whether by force, law, language, education, or the division of labour, determine what women can and cannot do. For this paper, I will focus explicitly on gender inequality and will not discuss other relevant dimensions of inequality, such as race, ethnicity, age, and disability. While I acknowledge that different dimensions of inequality intersect, a complex discussion of these intersections is beyond the scope of this paper. Thus, I will summarize the existing empirical literature on some of the more contentious issues faced by women within the engineering field to show that the oppression and inequality women experience in engineering is the center of ongoing injustices.

Methodology

I conducted a non-systematic literature review using research articles I found from the University of Calgary online library system. After conducting a preliminary review of research topics focusing on gender inequality in engineering, I used search terms such as "engineering", "gender", "STEM", "interviews", "promotion", and "motherhood". I chose these keywords to help me target articles that cover a range of issues relevant to gender inequality in engineering to gather a comprehensive view of the literature on my research topic. Additionally, the terms "Interviews," "Promotion," and "Motherhood" identify disparities in career advancement and opportunities in the engineering field, as well as the impact of motherhood on women's careers in engineering. I further narrowed the scope of analysis by only reading peer-reviewed research articles. I selected relevant articles based on their subject matter focusing on women in STEM, with an emphasis on articles that focused explicitly on engineering. Other relevant articles I included provided information on themes prevalent within the engineering workforce, such as androcentrism, the glass ceiling, and other theoretical frameworks. I also included quantitative data from the Engineers Canada website, which provides information on the national and provincial averages of newly licensed women engineers in Canada, for example. The guiding questions I followed when conducting this review include:

1) In what ways is gender inequality prevalent in engineering?

2) How is gender inequality in engineering experienced by women in the field?

3) How does this inequality perpetuate exclusionary practices and male dominance within the field?

While conducting this literature review, I noticed themes relating to gender stereotypes, discrimination, and the devaluation of women's competence in the workforce. The literature shows that women in engineering are frequently overlooked within their jobs or criticized for joining a male–dominated career. It is also worth noting that women experience disadvantages due to cultural scripts related to parenting that require mothers, but not fathers, to balance their careers with family responsibilities that they are socially expected to perform. I will now discuss these themes in more detail, focusing on interviews, unwelcoming climates and sexual harassment, competing gender identities, motherhood role conflict, and pay and promotion inequalities.

Interview Process and Hiring of Women in Engineering

The process of applying for jobs in engineering fields can present challenges for women. As mentioned previously, women in engineering experience a glass ceiling and sticky floor, limiting their career advancement and opportunities. In the hiring process, gender stereotypes also play a significant role in the challenges women experience (Gorman, 2005). Gender stereotypes are defined as "cultural constructs,

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shared at the societal level, that describe what men and women are 'known to be like'" (Gorman, 2005, p. 703). For instance, men may be societally perceived as aggressive or assertive. In comparison, women are more likely to be seen societally as nurturing or caring (Gorman, 2005). Secules (2019) explains that gender has always been embedded in the technologies and culture of the engineering practice. Men are socialized and expected to be competitive, get dirty at work, and physically predisposed to lift heavier equipment. These traits are valued in the engineering culture and are seen as promotable characteristics. As a result, women who seek positions in engineering frequently experience hiring discrimination and limited opportunities for advancement (Casad et al., 2021). For example, when faced with the dilemma of selecting a candidate for a job, women who were perceived to be slightly less suitable for the job due to these characteristics were bypassed for a male candidate 95.2% of the time (Casad et al., 2021).

The process of applying for jobs in engineering fields can present challenges for women. On the demand side, women are less likely to be interviewed for engineering positions at all. However, according to Blair-Loy et al. (2017), when they are interviewed, interviewers hold women to double standards, which include greater scrutiny of women in masculine-typed workplaces, and higher sets of expectations for women in engineering compared to men. Blair-Loy et al. (2017) attributes this to both female and male interviewers viewing women as less competent and qualified for a role in engineering. Due to the biased evaluation of women's competence, interviewers ask women more questions and confront them with more follow-up questions compared to male interviewees (Blair-Loy et al., 2017). The lack-of-fit model described by Koch et al. (2015) makes a similar argument. This model argues that a lack of fit between stereotypical gender characteristics and stereotypical job requirements results in certain individuals being unable to succeed in jobs where gendered job requirements are at odds with the individual's assumed gendered qualities and behaviours. For instance, characteristics wanted for masculine-coded professions may include traits such as dominance, emotional toughness, and aggression, which are strongly associated with men.

After interviews, women applicants were half as likely as men to be offered a job as a senior engineer, which requires a more advanced interview process than entry–level engineering positions (Shantz et al., 2011). When offered jobs, women were more likely to be hired into lower paying and lower status positions than their male counterparts. For instance, Campero (2021) demonstrates that women hired into software engineering were much more likely to be hired into software quality assurance than in other software subspecialities. Engineers perceive this area of software engineering as lower status, and it is less paid than the other software subspecialties that men are more likely to be hired into. In recent years, efforts have been made by hiring companies to eliminate or reduce unequal treatment, although they have yielded mixed outcomes. For instance, diversity training is effective at reducing stereotypical labelling of male candidates (i.e., competitive) and female candidates (i.e., submissive) (Kubiak et al., 2023). However, this type of training fails to guarantee gender equity in hiring despite its widespread use. In addition, the use of hiring algorithms has been another potential solution, because they allow researchers to go beyond intuition and cognitive biases by bringing in standardization and structure to hiring decisions. However, research has regarded it as a tool that amplifies human prejudices due to studies revealing that they persistently give higher employability scores to men than women (Kubiak et al., 2023). This can occur through algorithms unintentionally extending existing biases within the recruitment process. Algorithmic bias takes on discriminatory aspects when it results in consistent disparities linked to legally protected factors, such as gender. These subtle differences in how women and men candidates are treated likely fall outside the conscious awareness of the hiring departments (Blair-Loy et al., 2017), suggesting that more effective methods for reducing hiring inequality are needed.

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Unwelcoming Climates and Sexual Harassment

Women in engineering more frequently report feeling hostility, tension, and discomfort in their work environments compared to male workers. Moreover, women often experience and witness sexist and harassment behaviors and comments at their workplaces (Smith & Gayles, 2018). Sexual harassment refers to direct or indirect sexual conduct that is not welcomed and is prevalent within science and engineering fields. Over half of women in engineering have reported incidents of sexual harassment while at work, compared to the average of 25% of women and 17% of men in other careers (Smith & Gayles, 2018; Statistics Canada, 2021). However, research shows that it is common for women to not report sexual harassment when it happens due to their efforts to adapt to their workplace. Instead of reporting these incidents, women resort to using coping mechanisms including ignoring the harassment or seeing it as a part of their job. Often, they do so because of desires to fit into their workplace and maintain good relationships with their work colleagues (Smith & Gayles, 2018). For example, Ranson's (2005) study shows that many women engineers downplay the significance of overt sexism and harassment at work such as verbal and physical abuse, with one participant stating:

It can be irritating sometimes, but usually it's just a matter of just getting in and not having any attitude, just go in there and try and get along with all of these guys I'm working with, you know? I don't have any attitude of being, well, you guys are out to get me. You've just got to fit in and it seems everything is going to go OK. It usually does. (p. 152)

This quote illustrates women's attempt to fit into engineering workforce culture by accepting and ignoring harassment by male coworkers. As discussed before, instead of reporting incidents, women often believe that harassment is a part of their job and need to adapt to it.

Despite being underreported and framed as minor incidents, Willness et al. (2007) identify sexual harassment as one of the most damaging and significant barriers to career success and satisfaction for women, as well as for the company. Targets of sexual assault in the workplace report experiencing heightened mental and physical stress, diminished satisfaction with their coworkers, supervisors, and workplace, as well as lower productivity, increased absenteeism and turnover (Chamberlain et al., 2008). Schneider et al.'s (1997) research supported this point, showing that women employees who experienced at least one incident of harassment at work reported less organizational commitment and a greater sense of role ambiguity, role conflict, and stress. The effects of sexual harassment in the workplace go beyond individual worker consequences. Multiple studies suggest that these effects also have consequences for the company as a whole, including decreases in organizational performance, employee well-being, customer satisfaction, organizational reputation, trust of leadership, and company income (McLaughlin et al., 2012; Pearson, 2010; Pelletier & Bligh, 2008).

Competing Gender Identities

According to Ranson (2005):

> If a woman's entry to male occupational turf is largely based on liberal assumptions that women are for practical purposes the same as men, it follows that women themselves will need to "manage gender" in order to fit themselves into existing organizational cultures and structures. (p. 149)

As discussed earlier, engineering is a masculine-coded profession, which has produced the perception that engineering is unsuitable for women (Powell & Butterfield, 1994). Dryburgh (1999) states that every profession is associated with a unique professional culture, and occupational success depends on adjustment and adaptation to this culture. This process involves the acceptance of specific work values and norms. For women in engineering, Dryburgh (1999) argues, this process involves professionalization, where women learn to project a confident and capable image to

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the public and their employers. This process includes at least the appearance of being willing to adapt to the masculine culture in engineering (Dryburgh, 1999). Consequently, those who do not conform to the workplace culture are "weeded out." West and Zimmerman (1987) argue that men and women 'do' gender in their daily social interactions, despite their perceptions that they act in gender neutral ways. This implies that women who enter male-dominated workplace cultures are forced to act like men to blend into the workforce. For instance, in a study conducted by Maji and Dixit (2020), a participant states:

In an organization, there are some women who have a very strong personality and who are very independent, they believe that if I think like a man, then, I will be equal and everyone will respect me. This lady I am referring to is like that, she is a very strong personality, she is very individualistic and independent, it is all good, but you don't have to think in that way to portray that you are strong. The male-dominated society has put it in that way that if you want to be strong, you have to be more masculine. (p. 3078)

Particularly, women engineers who perform in feminine ways, such as carrying a purse, were likely to be seen as incompetent by their male coworkers. Women in engineering are stated as needing to conform to the dominant culture within engineering to survive, and overtime, end up incorporating these values into their personal value systems (Miller, 2004). However, these women must walk a fine line between being like the valued masculine prototype and avoiding implications that they are not really women.

Evidently, entrance into the engineering workforce involves women adopting masculine values and behaviors while in the workplace to get closer to achieving parity with male engineers. In Miller's (2004) study, many women reflected on why women leave engineering, and their explanations contain important insights. For instance, one participant stated:

My two theories on why women don't make it all the way to the top are that either they decide they can't do it anymore, and they need to move out, or they are just not playing the game and they get dumped. I think that women who have chosen a non-traditional, difficult to work in area because they love it don't put up with a lot of crap. When you get to the point where you don't like what's happening and you don't want to live with it anymore, you leave. I know women who have left — they just said, 'I'm not doing this'. (Miller, 2004, p. 68)

This quote indicates that the successful women in engineering are there because they can "manage their gender" and deal with the difficulties that being a female engineer brings. Adapting to this masculine culture also varies depending on what field of engineering a woman enters. According to Miller (2004), the oil industry, for example, is expressed as masculine, "not only in the historical and contemporary demographic composition of its employees, but in its assumptions, values and everyday practices" (p. 48). To adapt to the hegemonic masculine culture present in the oil industry, one of the respondents in the study explained:

When you go to the field, you don't take a purse because you're really rubbing that female helplessness thing in, and you put all your junk — the feminine hygiene stuff — in your little pockets. Another thing you do when you work downtown is you always wear wide skirts because sometimes you're going to be going to the field in the afternoon. And you can wear high heels to the office but keep a pair of flat loafers there. I always wore skirts to the office, never pants. (Miller, 2004, p. 54)

This quote represents women adapting to the masculine culture in the oil industry by hiding items relating to femininity, such as a purse or hygiene products, because they are inconsistent with the masculine culture present in engineering. At the same time, women are expected by coworkers to still wear skirts to the office instead of pants, so they do not appear as an incompetent woman and overly masculine. In a study conducted in India, women in software engineering found the organizational environment to be so heavily embedded in masculine culture that women often experienced fear of being judged for having a conversation with an opposite gender colleague (Maji & Dixit, 2020). In one instance, a participant states that talking to male work colleagues was viewed by their male coworker as "flirting" (Maji & Dixit, 2020). Consequently, being perceived by their male coworker as flirting may lead to unwanted sexual conduct,

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which relates back to the discussion about sexual harassment.

Gendered processes in an organization frequently impact the identity of a person (Maji & Dixit, 2020). This could entail a person changing their dress code, language use, and self-representation to fit into a gendered script. This also entails gender management strategies such as blending, which Maji and Dixit (2020) describe as "very careful management of being 'feminine enough'...while simultaneously being 'businesslike enough'" (p. 3070). Clearly, women participating in engineering are confronted with the masculine values and cultures that are entrenched in this field (Herman & Lewis, 2012). Therefore, women have the consistent challenge of managing the tensions between their personal and professional identities, which are at odds with one another.

Motherhood Role Conflict

The gender revolution of the 1960s and 70s led to significant changes within families, incentivizing women to increase their participation in the paid labour force. Although women have entered into previously male-dominated domains, men have not embraced female-typed domains, such as childcare and housework, with similar vigor (Yavorsky et al., 2015). Parenthood in particular continues to place unequal responsibility on men and women, with women primarily raising the children (Yavorsky et al., 2015). According to Ranson (2005), the arrival of children is a critical point at which women, but not men, leave the profession, move to part-time work, and in many other ways put their careers on the back burner. Unlike most working fathers, many working mothers are confronted with cultural expectations that their children deserve devotion, which is challenging to combine with paid work (Cech & Blair-Loy, 2019). Therefore, what may appear as a woman's personal choice to leave her career for family is often a choice shaped by social expectations that constrain mothers (Cech & Blair-Loy, 2019).

Empirical research suggests that there are significant challenges for women in combining masculine-coded professional work and motherhood (Ranson, 2005). While the engineering workforce can be described as a hegemonic masculine institution which requires a full adoption of masculine behaviors by women who enter the field, motherhood is socially constructed as requiring the complete opposite: hyper-feminine characteristics including nurturing and caregiving. Correspondingly, women in engineering must adapt to the masculine expectations about work performance and career progress, while also living up to cultural expectations surrounding motherhood (Ranson, 2005). This dichotomy of expectations women are confronted with creates a sense of conflict between these roles and creates challenges for women when combining their careers, which require being a competitive and aggressive engineer, with societal expectations of being an empathetic and caring mother.

Timurtürkan (2020) argues that motherhood is socially constructed as an instinctive process with prominent features of love, tenderness, and devotion. A competent mother, according to the gender system of domesticity, includes the belief that mothers should have all the time and love in the world to give to their children, and entails that women minimize their engagement in paid employment outside of the home to take care of their children (Christopher, 2012). Working mothers face more burden than fathers when trying to balance their professional life and domestic responsibilities (Timurtürkan, 2020). Having a job while conforming to dominant motherhood ideologies requires a form of motherhood that "does not ignore a child's wishes and responsibilities while having a professional life" (Timurtürkan, 2020, p. 107). While family and friends see working mothers as less dedicated to their children, co-workers see them as less devoted to their careers, creating a double bind. Heilman and Okimoto (2008) propose that motherhood acts as a barrier for women when pursuing traditionally male-dominated positions in the workforce. This is done by motherhood exemplifying the challenges women already experience by influencing how they are perceived, and the decisions made regarding their career advancement. Ranson's (2005) research supports this view, as the following interview excerpt with a new mother working

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in engineering shows:

> My manager and I had [pause] had some issues, when I first told him that I was pregnant. We went back and forth quite a bit. The first thing he said to me was, when I told him, was not, "Congratulations," it was, "Well, who's going to do the annual plan?" Because he started, he goes, "Well, how long [a maternity leave] would you be taking? How much are you entitled to? Would you consider coming back early?" And we went back and forth for four or five months. And I was just miserable .... It put a real strain on our relationship .... It's probably taken us a good year to get back to where we were before. (p. 160)

As a group, mothers are paid less than women without children because their employers view them as not being dedicated to their work. Pepping and Maniam (2020) suggest that taking time off from work to give birth to a child causes mothers to lose wages because employers view them as less dedicated to their careers than their male employees who rarely take parental leave. Although the numbers vary, a few studies estimate the wage penalty for mothers is between 5% and 10% per child (Anderson et al., 2003; Budig & England, 2001; Pepping & Maniam, 2020). Research suggests that the masculine-coded culture of a typical engineering workplace frames women taking parental leave and working shorter hours as lacking commitment to their career, despite also being societally expected to take care of children and housework (Ayre et al., 2013). Consequently, mothers working in engineering experience further mistreatment from their male counterparts, even though many of them are also parents (Ayre et al., 2013). Coworkers and superiors generally view fathers as more committed workers than mothers, as well as childless men. Fathers also receive higher salaries than men without children because of the man-as-breadwinner cultural belief, where men with families are expected to devote more effort to paid work to support their families primarily financially (Ayre et al., 2013).

Pay and Promotion Inequalities

Evidence suggests that women face persistent wage penalties in engineering when compared with men (Cech, 2013). Engineers Canada (n.d.) shows that the annual median salary for a non-managerial position in engineering is $88,792 for men, and $83,350 for women, even when they occupy the same position and have the same qualifications as their male coworkers. Looking at data between provinces, Engineers Canada (n.d.) reports that in British Columbia the median salary of a male professional engineer is 13% higher than that of his women counterpart. Saskatchewan data provides similar results: women engineers get paid less than their male counterparts in eight out of ten sub-disciplines within engineering. Specifically, women earned 16% less with a bachelor's degree, 11% less with a master's degree, and 20% less with a PhD compared to men. In Ontario, the gap in pay between men and women engineers was as high as 10% in senior level positions (Engineers Canada, n.d.). Pay discrepancy may be influenced by cultural ideologies related to engineering. Cech (2013) argues that wage gaps may be most extreme for professionals engaged in work activities in which their gender, ethnicity, sexuality, or other identity traits are seen as inconsistent with the required skill in those activities. For women entering engineering, gender identity plays a significant part in limiting their pay and promotion opportunities. This is due to women being viewed by potential employers as incompetent for a career that values men and stereotypical male characteristics (Blair-Loy et al., 2017; Miller, 2004; Purcell et al., 2010). For instance, women may be encouraged within their careers to enter lesser paying subfields, such as administration or quality insurance, which are marked as less valued than other subfields within engineering (Cech, 2013). The pressure to join these lower-paying subfields stems from employers perceiving them as most suitable for women due to cultural stereotypes regarding professional skills (Cech, 2013).

Researchers attribute discrimination in promotion opportunities to the prevalence of the glass ceiling in engineering (Xu, 2008). Many developed countries, firms, and other organizations have opened their doors

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to increasing numbers of women employees. Despite this, most have kept women employees in lower or middle level managerial ranks by not promoting them to higher positions (Petraki Kottis, 1996). Salas-Morera et al. (2021) suggest that up to 60% of women leaving engineering jobs do so because of a lack of promotions. According to Yates and Skinner (2021), promotions were likely to be given to people who conform to the ideal worker ideology in engineering, in which the worker possesses skills of leadership and assertiveness which are associated with masculinity. Women who exhibit these ideal traits associated with engineering are perceived by their male coworkers as being bossy or unfeminine due to their lack of adherence to traditional female gender roles, which cast women as submissive.

Conclusion

This paper discussed gender inequality in engineering. When women enter the workforce, hegemonic masculine attitudes and power dynamics ensure that those who do not resemble masculine norms have a degrading and hostile experience in the workplace. It is not enough to look at individual motivations to address gender inequalities between men and women within engineering. Gender inequality is a structural-level issue marked by power dynamics not just in the workplace, but within society. To address these inequalities, it is important to recognize the societal power differential between men and women, which is deeply ingrained in the social and organizational dynamics of the engineering profession. Rather than offering suggestions for structural changes, this study aimed to identify the limitations of individual-level solutions.

Since this study solely focuses on gender inequality in engineering, future research could expand upon this study and assess the intersectionality between other relevant dimensions of inequality, such as race or social class. Future research could also expand upon this literature review by conducting empirical research to generate findings from either directly speaking with or observing women in the engineering field.

In conclusion, this study presents evidence that gender inequality is an overarching factor within the engineering profession. The underrepresentation of women in engineering reflects and perpetuates an exclusionary and inflexible male-dominated culture that persists in this field. By conducting a gender analysis, the aim of this paper was to assess the literature on some of the issues women experience when working in engineering, and how the oppression and inequality women experience perpetuates a culture that favors male-dominance and exclusionary practices within the engineering profession.

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