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The Construction Superwoman: A Qualitative Case Study of Success and Challenges in MEP Field and Project Management Roles

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Despite increased enrollment of women in construction education programs, women remain underrepresented in the construction industry, particularly in field and project management roles. This exploratory qualitative study examines the experiences of women working in field and project management positions within the Mechanical, Electrical, and Plumbing (MEP) construction sector. Semi-structured interviews were conducted with women at different career stages to gain insight into workplace climate, professional expectations, and support structures in MEP construction. Interview data were analyzed using reflexive thematic analysis to identify recurring patterns across participants' accounts. Three primary themes were identified: (1) women described contributing to improved communication, empathy, and team synthesis within project teams; (2) participants reported relative isolation due to limited female representation, mentorship, and support networks; and (3) women described heightened performance expectations, collectively characterized in this study as the construction superwoman pattern. Participants reported feeling pressure to consistently exceed expectations in order to be perceived as competent, often without corresponding increases in compensation, advancement, or leadership representation. These findings suggest that while women bring valuable interpersonal and leadership strengths to MEP field and project management roles, structural and cultural conditions continue to impose disproportionate burdens on their success and retention.

Keywords: Women in construction, Construction superwoman, MEP construction, Gender and workforce development, Field and project management

Introduction

This paper uses the term "construction superwoman" as an author-defined, descriptive label to characterize a pattern reported by women working in MEP field and project management roles. While not a formally established construct, the term is conceptually informed by broader discussions of "superwoman" narratives in gender and workplace literature, which describe heightened performance expectations placed on women in male-dominated environments. The term is used here to synthesize participants' reported experiences rather than to introduce a new theoretical framework.

While women's share of the construction workforce is growing and more women are receiving formal construction education, the rates of women in the industry remain low, and even lower when looking

at field and project management roles (Jones, 2025; Wells et al., 2024). There is limited literature regarding the unique experiences and representation of women in the mechanical, electrical, and plumbing (MEP) construction sector. However, the findings from previous research regarding key challenges faced by women in the industry, such as expectations for women to serve in supporting roles, long and inflexible work hours, and macho work environments, (National Women's Law Center [NWLC], 2014; Wells et al., 2024) are likely the same or similar. This study seeks to illuminate the experiences of women within MEP to understand how they compare to the experiences available in current literature, and to explore whether unique challenges exist within these specialty sectors.

Construction has long been regarded as a male-dominated industry, reflected in both cultural perceptions and workforce composition. The percentage of women working in the construction industry was 14.3% in October of 2024, up from just 13.2% in January of 2010 (Bureau of Labor Statistics, U.S. Department of Labor, 2024). Though female presence is slowly increasing, the construction industry still lags greatly behind the national private sector percentage of women working, which is 48.9%. Furthermore, statistics from the Bureau of Labor do not differentiate between women in construction doing field and project management work typical of construction management college graduates and women in construction who are working in support roles. The majority of the reported women in construction are likely to be performing administrative work (Jones, 2025; Norberg & Johansson, 2021). Such roles typically pay less than field and project management roles, which is in contrast to the reason that many female students have for pursuing a degree in construction management to begin with; namely, an expectation for better pay and career advancement opportunities (Zhang et al., 2021).

This exploratory qualitative study examined experiences of women in the Mechanical, Electrical, and Plumbing (MEP) sector working in field and project management roles. Women in different career stages were interviewed to gain perspective on the state and climate of the industry.

Background

There are a variety of efforts to increase female presence in the construction industry in the US, at the governmental, educational, and private construction sector levels. Such efforts must overcome centuries of stigma and exclusionary attitudes towards women in construction, which can directly and indirectly impact women's entry into the industry. Recruitment of women and men into the industry is different. Men are more likely to be recruited by family members and to begin thinking about construction as a career opportunity much earlier in life than women (Perrenoud et al., 2020). Hiring practices, such as gender-biased selection criteria in gender-blind application screening (Norberg & Johansson, 2021) and using informal networks to which women typically have less access (Arcand 2016) to seek out applicants, can hinder the entry of women into the construction industry. These discriminatory practices can be easily explained away by employers as meritocracy and hiring the most qualified applicant for the job, rather than deferring to diversity hiring initiatives that are negatively perceived within the construction industry (Norberg & Johansson, 2021).

Upon entry into the construction industry, women must face a culture that hinders their ability to remain in and progress in their construction careers. Women in construction often face sexual harassment and hostile workplace environments that stem from their perception as outsiders in a male industry (NWLC, 2014; Arcand, 2016; Wells et al., 2024). According to a 2020 study about women working in the electrical construction industry, positive relationships with co-workers and nonmonetary rewards emerged as more important for retention than salary (Perrenoud et al., 2020). Without the presence of such relationships or rewards, women early into their construction careers report staying in the industry in the face of hostile cultures because they intrinsically want to be in

construction (Zhang et al., 2021), while others have noted these challenges as driving forces pushing them to work harder to "prove people wrong" (Wells et al., 2024). Women in supervisory roles have been shown to have approximately triple the likelihood of leaving the construction and engineering workforce as compared to their male counterparts (Maurer et al., 2021). Women in these roles report stress at higher levels and frustration with their career progression. In turn, this lack of female managers further contributes to the lack of female representation and role models in construction, which is often cited as one of the reasons women do not want to enter the construction industry (Norberg & Johansson, 2021). Career progression can be especially hindered by the fact that women are less likely to receive craft training leading to construction companies having more men in site-based technical positions, where responsibility and status are greater than the office-based supporting roles where women are more represented (Perrenoud et al., 2020; Zhang et al., 2021). The greater responsibility and status associated with site-based roles leads to faster career progression for men, at the expense of women in the construction industry. This makes recruiting and retaining women in field and project management roles even more important.

Methodology

This study used an exploratory qualitative methodology to better understand the lived experiences of women working in field and project management roles in MEP. Data was collected through interviews with women in these roles.

Field and project management (FPM) roles were defined as those who either manage the day-to-day operations of projects on-site (e.g. superintendent, assistant superintendents, general/area supers), manage the office-side operations of projects (e.g. project managers, project engineers, project executives), or some combination of both. FPM does not include any project support roles that are exclusively administrative support (e.g. project coordinators or project administrators).

The interview participants were identified using the professional networks of the authors, met the working definition of field and project managers, and all were women currently working in MEP. Participants' years of experience working in MEP ranged from 1 to 20 years, with a mean of 6.75 years and a median of 5.75 years. Interviews were conducted by a single interviewer using a semi-structured interview protocol designed to elicit participants' experiences and perceptions related to working in MEP field and project management roles. A total of six interviews were conducted.

Interview transcripts were analyzed using reflexive thematic analysis (Braun & Clarke, 2022). Coding and theme development were conducted by a single analyst through repeated review of the transcripts to identify recurring patterns across participants' accounts, with analytic focus placed primarily on responses related to perceived advantages and challenges for women in the industry, mentorship, and professional support.

This study has limitations. The small sample size and intentional recruitment of participants based on specific role and experience criteria limit the statistical generalizability of the findings. However, the exploratory qualitative design was intended to provide in-depth insight into the experiences of women working in field and project management roles within the MEP sector. Although the study did not aim to achieve formal data saturation, interviews yielded recurring themes across participants' accounts, suggesting sufficient depth to characterize common experiences and perceptions of workplace climate among women in MEP field and project management roles. Participants represented multiple career stages, which supported the identification of recurring themes while acknowledging that experiences may vary across organizations and project contexts. Future research could build on these findings

through larger samples and/or mixed-methods approaches to further examine the patterns identified in this study.

Results

Improved Communication Skills

The most commonly cited benefits (to both teams and individuals) of being a woman in construction were improved communication, team synthesis, and increased empathy in the working environment. Some participants stated that they believe this was due to the lack of machismo – defined as an exaggerated sense of masculinity, often characterized by a belief in male dominance, which in the construction industry can manifest as a culture of prioritizing male workers and devaluing or excluding women, leading to a hostile environment (Sotelo, 2023) – from women as compared to their male counterparts; because men are less intimidated and threated by women as compared to other men, they can be more willing to work with women. It was also frequently noted that because men are more likely to expect and perceive women to be nicer, they tend to also be nicer in turn to the women they work with. This increased courtesy translates to more empathetic environments and less ego being involved in team decisions. Many women felt that they often acted as peacemakers in their workplaces, helping to avoid and resolve conflicts in their teams, which they felt was due to their perceived niceness as compared to their male counterparts.

As one participant stated, "...when there's a lack of ego, you're usually more focused on solutions" when explaining how she felt that getting to the root of problems more quickly was a more "feminine trait".

Additionally, participants cited that they often feel more comfortable working in teams with increased female presence due to the stronger communication skills they felt their female colleagues had. Participants also felt that women had differing problem-solving styles that focused more on collaboration and efficiency of the team, rather than individual solution identification. This is an especially relevant finding, as communication and empathy are often cited mentioned as among the most important soft skills in modern construction work (van Heerden et al., 2023; Ewin et al., 2024), and thus learning from these female-led teams may highlight previously undervalued techniques to improve project performance.

Relative Isolation

Though many women noted that they felt there was an overall increase in the number of women in MEP as a whole and that male coworkers were generally supportive of them, many stated that they frequently or exclusively worked on projects where they were the only women on their team. All participants stated that they felt female mentors and role models were crucial to improving the experience of women in MEP, but many said they experienced a lack of female mentorship. Furthermore, some said that this lack of role models made it difficult to envision career growth, especially as it related to work-life balance in a relatively demanding field and having a family. One participant specifically noted that she had to actively seek out skill development and training, while her male counterparts were offered such opportunities, and felt that this was because her supervisors did not see her as a "worthy investment" due to her potential to have children and a family later in her career.

".. [Women] do not have a long-term investment attitude [held] towards them… their growth is stunted because older individuals might believe that they will not be invested long-term into this field

because of the generational belief of that.. women, once they get married… start having kids..or pursue more education that they will be lost from the field."

This sentiment was echoed by other participants who were early into their careers, who stated that one of the most valuable resources that role models could provide was an example of and advice on how to balance having a family and working in MEP.

Some participants, predominantly those who worked in the field, expressed concerns about "token" jobs and roles given to women early in their construction careers. They were skeptical if these roles would lead to substantive change and an increase in female field leadership or if women were being placed in roles without true support for advancement. A concern which was validated by earlier findings from the National Women's Law Center (2014). Additionally, interview participants expressed frustration at encountering internalized misogyny (Evteeva et al., 2024) from other women in the field, either as being viewed as competition or with an initiation-like mentality. One participant stated "…it's uniquely harmful, because you think you've found an ally, but instead you've found your biggest critic" and said such women often "pulled the ladder up behind them".

Formation of the Construction Superwoman

This balance of improved communication and interpersonal awareness in an environment that can often be unsupportive of women in the long term means that survival can be tough. All women interviewed stated that they felt they had to outperform the men they worked with to be seen as equally competent, and many stated they felt they had to dispel preconceived notions about them through sustained high performance.

In this study, these compounded expectations and behaviors are collectively described as the construction superwoman pattern. The construction superwoman, whose development is diagramed in Figure 1, goes above and beyond at work, acts as a mediator for her teams, as a mascot for her gender to her male peers, and as a role model and mentor to her female colleagues. Participants emphasized that while these efforts were often necessary to establish credibility and professional standing, they did not consistently result in increased compensation, promotion, or broader representation of women in leadership roles.

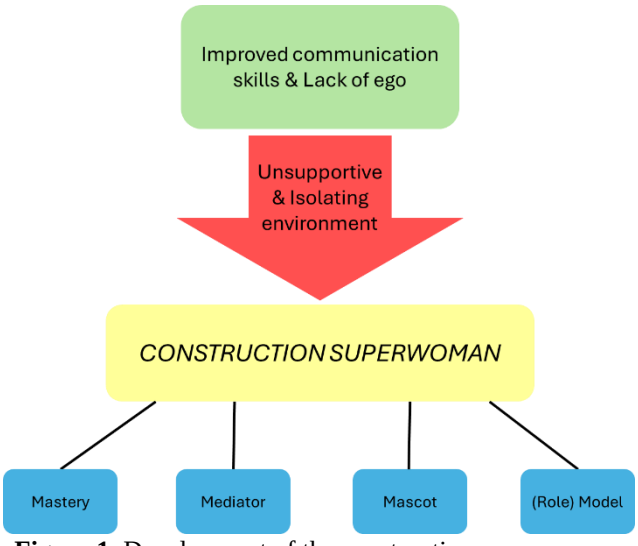

Figure 1. Development of the construction superwoman.

Conclusion

This study examined the experiences of women working in field and project management roles within the MEP construction sector, with particular attention to the pressures, expectations, and support structures shaping their professional trajectories. The findings highlight both the strengths women bring to these roles and the structural conditions that continue to challenge their long-term success. Naturally adept at connection but isolated from support networks, women in MEP construction are not set up for success in their fields. Those who follow the construction superwoman pattern represent cases of perseverance, but are still a small percentage of the overall MEP construction field. While it is positive that women who do succeed in this field typically do so based on an exceptional work ethic, exceptionality should not be the expectation for women in MEP. Holding women to a higher standard for the same job leaves women more prone to burnout and widens the gap between them and their male peers performing the same jobs. Increased work expectations also leave women less time for the informal bond-forming that is commonplace in construction and a key element of long-term network building and success in the industry.

The structure of MEP contracting also leads to less advanced female support networks as compared to general contractors. General contractors work with a variety of different subcontractors, owners, architects, and engineers, while MEP subcontractors typically only coordinate directly with a general contractor, such that those who work in MEP are less exposed to people outside their project team. Couple this with the fact that MEP subcontractor project teams are typically based on-site, rather than out of a main office, and the MEP experience is even more isolating and demanding for all, but especially so for the women who are likely to be one of few, if not the only, females on their team.

To support the success of women in these roles, and women aspiring to these roles, this study suggests the importance of entering the field with realistic expectations. If women can know in advance that their experience will be different from the experiences of their male peers, they avoid being blindsided and can begin developing outside support networks early in their careers to help mitigate isolation, as shown in Figure 2.

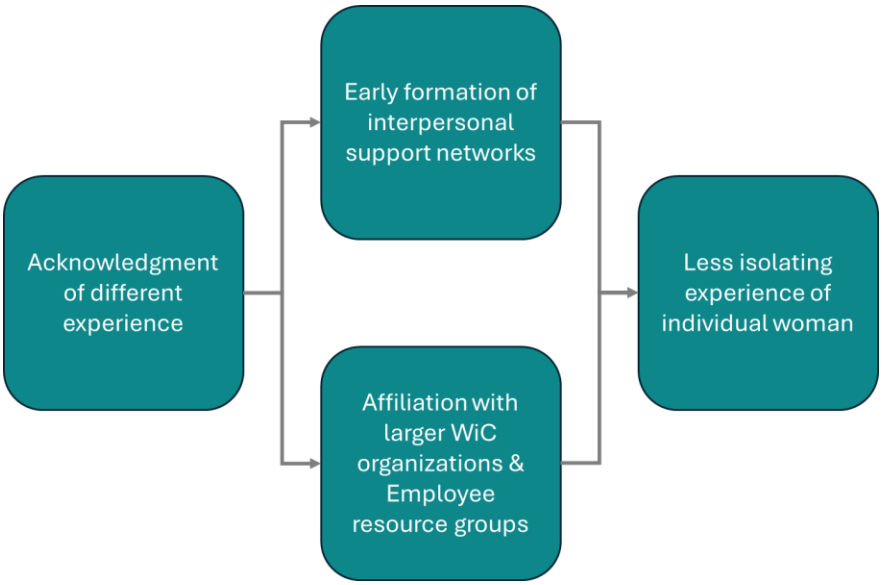

Figure 2. Generalized path to improved experiences for women in MEP.

University-level support networks can be especially helpful here, as they allow women who will be going into MEP fields to connect and have peers that are in similar stages of their careers, which can allow for more dynamic support that evolves with a career and is separate from place of employment. The more that women are able to understand their experiences in MEP as shared rather than individual, the more empowered they can be to advocate for themselves challenge unequal expectations and contribute to shifting industry norms. Over time, such changes may support greater retention of women in MEP construction and help level performance expectations across genders.

Future Research

Future research on the experiences of women in MEP construction can build on this study by further examining how the three primary themes identified (communication and empathy, relative isolation, and heightened performance expectations) interact to shape professional outcomes for women in field and project management roles. Future research could build on these findings through larger samples and/or mixed-methods approaches to further examine the patterns identified in this study. Potential avenues for future research include the following questions:

- One participant noted that "each woman must be a mascot and good representation for every woman in construction," raising questions about the additional burden placed on individual women. How does this expectation influence long-term job performance, stress levels, and career sustainability?
- What does an effective employer-based support system look like for women in MEP construction, particularly one that addresses the lack of visible role models and talent development opportunities while reducing competition among women and fostering professional connection and collaboration?
- What are the tangible impacts of the "team synthesis" and improved communication and empathy associated with female leadership on project teams? Additionally, do similar benefits arise from increased baseline female participation (e.g., female project managers versus project engineers), or are these outcomes primarily associated with leadership roles?

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