



## Thru her lens: female experiences and narrative on male-dominated industry

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### ABSTRACT

The study explored the lived experiences of females in male-dominated industry. The objectives include identifying challenges and barriers faced by women, examining coping mechanisms used to navigate these environments, and understanding how educational background influences their ability to overcome challenges. The researchers employed a phenomenological approach, conducting semi-structured interviews with five participants from Antipolo and Marikina City, Philippines selected through purposive sampling. Data were analyzed thematically to uncover patterns and insights. The findings reveal significant barriers such as gender bias, limited career advancement opportunities, and workplace complexity. Participants highlighted coping mechanisms like resilience, professional development, and leveraging social support. The study emphasizes the role of education in fostering confidence and adaptability, which help women navigate male-dominated workplaces. The research concludes that systemic changes are needed to create inclusive environments. It recommends fostering diversity and equity in the workplace, highlighting the importance of mentorship and organizational support. These insights aim to empower women and encourage industries to address gender disparities, contributing to a more inclusive and equitable workforce.

### RESUMO

O estudo explorou as experiências vividas por mulheres em indústrias dominadas por homens. Os objetivos incluem identificar desafios e barreiras enfrentadas pelas mulheres, examinar os mecanismos de sobrevivência utilizados para navegar nestes ambientes e compreender como o histórico educacional influencia a sua capacidade de superar desafios. Os pesquisadores empregaram uma abordagem fenomenológica, conduzindo entrevistas semiestruturadas com cinco participantes de Antipolo e Marikina City, Filipinas, selecionados por meio de amostragem proposital. Os dados foram analisados tematicamente para descobrir padrões e insights. As conclusões revelam barreiras significativas, como preconceitos de gênero, oportunidades limitadas de progressão na carreira e complexidade do local de trabalho. Os participantes destacaram mecanismos de enfrentamento como resiliência, desenvolvimento profissional e alavancagem de apoio social. O estudo enfatiza o papel da educação na promoção da confiança e da adaptabilidade, o que ajuda as mulheres a navegar em locais de trabalho dominados pelos homens. A investigação conclui que são necessárias mudanças sistêmicas para criar ambientes inclusivos. Recomenda a promoção da diversidade e da equidade no local de trabalho, destacando a importância da orientação e do apoio organizacional. Estas ideias visam capacitar as mulheres e incentivar as indústrias a abordar as disparidades de gênero, contribuindo para uma força de trabalho mais inclusiva e equitativa.

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## Introduction

Women have long faced barriers in male-dominated industries, but their increasing representation highlights significant progress toward gender equality. Despite ongoing biases and stereotypes, women are making strides in fields like technology, engineering, and wine production. In a study by Isik et al. (2024), creating inclusive workplaces that prioritize psychological safety and merit-based promotion is essential for sustaining this progress. Incorporating diversity, equity, and inclusion (DE&I) principles not only empowers individuals but also boosts organizational success. Additionally, inspiring young women to enter STEM disciplines is crucial to dismantling historical barriers and ensuring continued advancement.

As more women break barriers and enter male-dominated fields in Saudi Arabia and the Middle East, societal shifts are reshaping patriarchal workplace norms. However, gender segregation, underrepresentation, and exclusion persist, raising critical questions about feminist approaches to these challenges. A study by Aldossari & Calvard (2022) involves 58 Saudi Arabian women uncovering their nuanced perspectives on gender-segregated and mixed workplaces, revealing a dynamic blend of resistance and adaptation influenced by cultural, religious, and social values. These findings shed light on strategies to advance women's participation and equity in workplaces, aligning with global efforts to expand women's access to male-dominated jobs and industries.

Despite progress in gender equality, women remain significantly underrepresented in male-dominated industries like construction and manufacturing, where they account for only 10.8% and 29% of the workforce, respectively; in construction, fewer than 4% of women hold skilled trade positions, highlighting systemic barriers such as gender discrimination, lack of mentorship, and inadequate access to affordable childcare, women of color, in particular, face compounded challenges due to the intersection of racial and gender biases, further reducing their representation and widening wage gaps compared to white men. However, actions such as apprenticeships and community activism have resulted in a 3.2% rise in female employment in buildings from 2020 to 2021, indicating continued growth (Zhvoronkova & Brady, 2024). Zhvoronkova & Brady (2024) investigated the resilience techniques and coping processes used by women in various industries, highlighting the relevance of inclusive regulations and supporting networks in promoting their success and leadership chances.

Tokbaeva's (2021) study on career resilience and Murphy's (2023) investigation of women's transformational influence in male-dominated sectors both emphasize important features of female involvement in such situations. However, they address the topic from different perspectives.

Tokbaeva (2021) points out the need for resilience in conquering gender-based problems, especially in Sweden's IT industry, where people face systemic discrimination and workplace hurdles. On the other hand, Murphy (2023) concentrates on the more considerable organizational advantages of gender diversity, suggesting that women's involvement encourages creativity, improves making decisions, and supports equality. Although Tokbaeva (2021) views resilience as an essential skill for personal growth and achievement, Murphy (2023) sees women's efforts as catalysts for organizational change and cultural advancement. Both viewpoints are critical when considering female experiences in male-dominated companies. The current study integrates these perspectives by investigating the way individual resilience and workplace inclusiveness combine. Resilience enables women to face difficulties since their presence pushes industrial development, encouraging innovation and inclusiveness. Its combination focuses on the importance of strengthening women in their professions and success in organizations.

Traditionally, women have taken up careers in fields that men, such as aviation, dominantly occupy, but women experience many challenges when it comes to promotions. As awareness grows and campaigns become commonplace, issues like limited promotional opportunities for sanctioned promotion and rigid gender discrimination continue. Ferreras et al. (2023) mention that only when such structural factors are known can possible approaches for the promotion of gender equity be elaborated. The study enriches the current discussion by focusing on the qualitative aspects of women's experience in the male-dominated field and presenting a detailed view of the challenges they face and recommendations for preventing them.

Hyrynsalmi (2019) also engaged in an open internet survey of 40 women in Finland, focusing on attitudes and stereotypes revealed while career-changing and selecting software engineering as the new professional domain. Quantitative as well as qualitative studies pointed to the fact that while women do apply to and are interested in the software industry, they continue to struggle with low selfconfidence and feelings of being an imposter in terms of software engineering, as well as an unfavorable mental environment. While newly more women are employed in training and recruitment positions in the software industry, discrimination and prejudice are still commonplace (Hyrynsalmi, 2019). These cases illustrate why such barriers should be addressed and why there should be a favorable atmosphere for women in the industry as they are actively being sourced and recruited to solve the workforce crisis and retain the diversity of the workforce.

The concept of the work-family interface is significant to understanding the development of careers and the quality of life of women employees. Marecki (2024) points out that these females suffer from the pressure of balancing work demands while fulfilling their responsibilities, making it difficult for such a woman to achieve an excellent balance between work and family. Cultural and organizational factors that propagate high turnover rates add to

this tension, perhaps by neglecting one's welfare in the process. Moreover, females who fail to exercise this work balance are more likely to experience the following consequences: stress, low job satisfaction, and burnout.

Women in leadership roles within male-dominated industries bring many benefits, such as driving innovation, improving decision-making, and promoting teamwork. Their diverse perspectives often lead to more creative solutions and better adaptability to change. Female leaders also bring emotional intelligence, which helps build strong team connections and foster a more inclusive work environment. This diversity leads to a more resilient workforce and encourages other women to seek leadership positions, promoting gender equality (Coken, 2023). These insights support the current study, which aims to explore the challenges women face in male-dominated industries and highlight their valuable contributions while addressing the barriers they encounter in reaching leadership roles.

The maritime industry is another field in which men dominate the field while few women have found their places and are holding senior positions. These women take on the audacity of women belittled by their male counterparts into believing that some professions were unbecoming of women and work hard and fight for the respect of their male counterparts. Paraggua et al. (2022) explored the voyage of successful women in maritime and reveal their reflection on the value system and ethical standards for managing the challenges to ensure success. Each one's story is used to provide the audience an insight into the characteristic determination needed to succeed in male-dominated career paths and emphasizes the significance of diversity.

In Zambia, women's advancement into leadership positions remains a daunting challenge, just as it is in most parts of the globe. It aims to establish why women have not fully embraced leadership roles despite changes in issues related to gender, organizations, and societies. Research indicates that due to the nature of the system, organizational and cultural values, and established gender roles and expectations, gender disparities continue to prevail over long-standing gender imbalance in leadership in various fields (Chanda et al., 2024). These barriers are well seen in both private and government organizations where challenges such as these exist and hinder women's chances of climbing the ladder at their respective places of work. Realizing the cascading effect of workplace dynamics on the leadership progression of women in Lusaka, Zambia, reveals the sociopsychological factors that mediate or intensify women's leadership development, thus calling for targeted efforts for women's leadership mainstreaming (Chanda et al., 2024). Understanding these dynamics is the focus of this research because it seeks to analyze and respond to the various factors that hinder women from ascending to leadership positions.

Diversity management aims to promote gender equality and non-sexual discrimination in the workplace. Nevertheless, stereotypes and prejudice, both to some extent at the individual level, can still be seen as obstructing women's promotion to top management positions in

organizations. The challenges are numerous: the organizational culture in and of itself and the role and expectations that society has for women. According to Galsanjigmed & Sekiguchi (2023), external barriers start with biased practices and then go through self-doubts as internal barriers. The research thus outlines some of the challenges that can be employed to enhance women's leadership positions.

Women in male-dominated careers face distinct challenges, often stemming from the prevailing masculine culture and lack of support from senior female colleagues. Earlier studies have primarily focused on the hostility women encounter from male peers or supervisors. However, recent research introduces a new concept—the status-leveling burden—which highlights the expectation placed on women in high-status, male-dominated roles to align themselves with women in lower-status positions. Cardador et al. (2021) and Smith et al. (2024) both explored this phenomenon through interviews with 45 surgeons, presenting models that illustrate how this burden manifests in professional environments. Their findings expand the current understanding of gender-specific challenges by examining the functional relationships between gender and occupational status, offering valuable insights and future directions for developing a theoretical framework on how status dynamics influence women's workplace experiences.

The difficulties of females in professional aviation are one of the most critical issues because even now, more than in any other industry, commercial aviation employs primarily men, and women are often discriminated against and do not have equal chances to get a job. It not only limits women in promotion but also men and organizations have limited greatness and richness. The workforce in the aviation industry is aging, and coupled with the constantly growing air travel consumption, the industry faces a shortage of personnel. To do this, face-to-face, semi-structured interviews were facilitated with a set of female aviation professionals to identify the factors that cancel a profession in aviation. An analysis of the qualitative content nature of the Corporate Social Responsibility agendas of several different carriers will also contain tips for increasing the status of women in other sectors for inclusion and diversity (Ferla & Graham, 2019).

Postcolonial feminism in the Philippines reveals important sociopolitical and gender concerns formed under the influence of the colonial past and culture of the nation, such as gender bias in the society, sex tourism, and the peculiar attitude to lesbians, gays, bisexuals, intersex and queer community of the Philippines. Women working in masculine fields informed how these roles are constructed and communicated in terms of culture or prominence in history. Podolska & Fisun (2021) explains the importance of analyzing gender-related issues in regard to general cultural and historical background.

With the increasing numbers of women in various occupations during the recent decades, stereotypes and prejudice persist and affect women at work, including their effectiveness and health, particularly in masculine work environments. They, therefore, limit

women's opportunities for promotions but, more importantly, limit the impact that women could bring to an organization, decreasing its performance. The presence of these biases is a major problem when creating friendly, equal opportunities, and efficient workplaces (Mañebo et al., 2023). Over time, it is stimulating to ascertain this research because it seeks to look at the specific difficulties that women encounter in male-dominated occupations to discover new ways of eradicating gender disparities in the labor market.

The experiences and career progression of Filipino women working in male-dominated professions concern discrimination. They establish factors like equal opportunity, mentorship, and supportive family roles that make them successful in their field of work. Individuals and organizations help them overcome gender barriers in workplaces and other formal institutions (Osi & Calleja, 2021).

Although females have made their mark in traditionally male-dominated fields like the IT industry and engineering, the narratives are still rarely told. In the electronics industry, for example, there is little research that captures the lived experiences of females who work there. Even though women bring a unique perspective, determination, and personal ethics to their roles, these voices are often overshadowed by the prevailing male-centered narratives. This study attempted to examine the lived experiences of females in these industries. In addition, it hopes to shed light on the challenges and strengths they bring to the workplace. Through this deeper understanding, the current study will help recognize their contributions, promote a more inclusive view of their roles, and encourage a shift toward greater gender equality in these fields.

The objective of this current study is to contribute insights that will create more inclusive work environments. 1. What are the challenges and barriers that females experience in male-dominated industries? 2. What coping mechanisms do females use in male-dominated industries to overcome these challenges? 3. How does educational background influence the behavior of females in navigating and overcoming challenges in male-dominated industries?

## **Methodology**

### ***Research Approach***

The researchers applied a phenomenological perspective as one of the methods to study the experiences of females who work in male-dominated industries. As noted by Alhazmi & Kaufmann (2022), phenomenology also explains the avenues for comprehensive understanding of the participants' point of views on the internal dynamics and challenges of women at work.

### ***Description of Respondent***

Participants were chosen based on the subset criteria in order to filter who are essential to the research, namely (1) A female worker who currently hired or has experience working in the electronics industry, and (2) Resident of Marikina or Antipolo City, Philippines.

### ***Research Instrument Used***

The major data collection tool for this qualitative study is a semi-structured interview guide that was created according to the study's objectives and research questions. This guide provides open-ended inquiries to allow individuals to discuss their own life experiences, problems, and ways to cope in male-dominated industries. To guarantee relevance and clarity, we sought competent validators through firstly searching the Marikina Polytechnic College's directory for specialists in the qualitative research. We then sent out message, both physical letter and via email, to request for their help in evaluating and certifying the interview guide (Teixeira, 2020). This validation approach evaluated the instrument's fit with the study objectives, content coverage, and language comprehensibility.

### ***Data Collection***

Semi-structured interviews were utilized as the main method for data collection allowing participants to share the challenges and strategies they face in a predominantly male-dominated workplace (Ruslin, 2022). This interview style is focused on the objectives of phenomenology, aiming to achieve deep authentic understanding of participant's viewpoint and perspective, therefore providing invaluable insights into how females navigate expectations, maintain professional identities and develop resilience in challenging situations in challenging workplace environments.

### ***Ethical Consideration***

To uphold ethical standards in the current study, research ethics certification was secured from the Research Ethics Committee of Marikina Polytechnic College. Prior to data collection, participants received a briefing focusing on confidentiality, data protection, and the study's purpose as outlined in consent form to participate. Given the sensitive exploration of sex-related challenges in a male-dominated industry, safeguarding participant identities was prioritized by using pseudonyms and removing any personal identifiers from transcripts and reports. Audio and written data were secured through password-protected files and storage, adhering to the Data Privacy Act of 2012 to ensure ethical handling of information. All data were deleted upon completion of the study to further protect participant privacy.

### ***Data Analysis***

This study used thematic analysis in our study because it helps find and understand common themes in the experiences of females working in male-dominated industries. This method enabled to gain information on the problems and views of the participants. Thematic analysis is a qualitative research method used to identify and analyze patterns or themes in data. It involves getting familiar with the data, breaking it down into smaller parts (coding),

grouping related codes into broader themes, and refining these themes to accurately reflect the data. This approach helps the study understand the diverse experiences of females in male-dominated industries (Lochmiller, C. R. 2021).

Prior to data analysis of the current study, audio recordings were transcribed. Afterwards, three-tiered analysis was done: (1) Initial Coding and Member Audit – Data was sorted using assigned codes and definitions based on key terms from transcripts. A member audit was conducted to validate and refine the coding. (2) Coding of Sub-Themes and Exclusion of Themes – Basic codes were refined into relevant sub-themes, grouping similar experiences for better interpretation. Sub-themes were then categorized into main themes to capture broader patterns in women's experiences in male-dominated fields. (3) Categorization of Main Themes – Sub-themes were further grouped into broader themes to identify universal patterns in women's experiences in masculine professions, enhancing the study's understanding of the data.

## **Result and Discussion**

The participation of women in male-dominated industries has long been accompanied by unique challenges and barriers that hinder their career advancement and professional development. This study explores the experiences of females navigating these industries, shedding light on the obstacles they encounter and the implications on their work and growth opportunities. Specifically, the research focuses on the electronic industry, a sector where male dominance is particularly pronounced. By examining these experiences, this study aims to uncover the systemic and interpersonal factors that shape the professional journeys of women, contributing to the broader understanding of gender dynamics in the workplace.

Females encounter particular challenges in specific industries, and as a result, their career progression is hampered. Sex stereotypes that link females to caregiving roles are the major barriers to women in such fields. The problem is made even worse by the conflict that exists between the female's personality and her ambition of gaining an active occupation. It is worse in situations where there is no culture of creating equal opportunities for female-leading organizations or companies. They have to put up with the kinds of attitudes and dealings that may leave them feeling low within themselves—barriers to expressing their identities.

Furthermore, they will have limited access to mentoring and networking opportunities, both of which are essential for professional development. Role management and task distribution issues affect their professional experiences even further since females commonly face uneven obligations among their organizations. These combined elements create a challenging atmosphere, causing sentiments of inadequate representation and inequity. Perceptions of femininity may restrict the roles that females are expected to assume. At the



same time, differences in ethics and identity can cause tension, making it harder for them to fit into predominantly male work cultures.

**Table 1**

The challenges and barriers experienced by females in a male-dominated Industry.

Theme	Sub Theme	Codes	Representative Responses
Work-Related Challenges & Barriers	Career entry stage	Job onset, Preliminary Phase, Entry Level, Post Pandemic Entry	"Then I started as a rank-and-file employee. That means I was just a daily wage earner at the time"
	Personal and Societal Expectation	Preference, Role	"My father said—he saw me doing the laundry, 'I put my daughter through school. It would have been fine if she became a housewife, but at least now I have someone who helps around the house.'"
	Workplace Complexity	Familiarization Process, Customer Dispute, Career Transition, Career Shift, Lack of Knowledge, Training Realities Workplace Politics, Customer Dynamics, Impolite behavior, Unexpected Circumstances	"You know, when we speak of discrimination, we have what we call politics."  "I had zero knowledge at that time"
	Sex-Based Challenges	Sex Bias, Opportunistic, Sexual Inequities, Sexual-Based Barrier, Sex-Based Limitation, Sexual Disparity, Undermined Capabilities	"And then, they don't fully trust my skills because I'm a woman."
	Barriers to Career Advancement	Employment barriers, Missed Opportunity, Limited Opportunity, Industrial Relocation	"So sometimes, you'll hear things like, 'Oh, isn't so-and-so here?' — meaning they were looking for a man. 'Oh, aside from me.' 'Why are you the one who came?'"
	Role Management and Task Distribution	Job Responsibilities, Dual Responsibility, Job Role, Schedule discrepancy, Position, Task Allocation,	"...being a telecommunications project manager is that whenever the small, medium business client made their mind to place an order for a specific service."
	Personal Challenges and Vulnerabilities in the Workplace	Limitation, Vulnerable, Incompatibility	"There are people you're close with, and there are those you're not—and all that."
Other Challenges and barriers	Female disparity	Underrepresentation, Sex Imbalance, Female Representation,	"Everyone on our team is male."
	Perception of femininity	Femininity	"I can do it—like using a screwdriver, sometimes—but the pinky finger sticks up."
	Ethical and Identity Dynamics	Ethical Disparities, Perception, Identity Perception, Viewpoint	"...because we have ethical differences when it comes to male and female."
	Workplace Structure and Environment	Workplace Setting, Product line, Separation	"Because the maintenance office is also separate from there. It's from the company itself."

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challenging atmosphere, causing sentiments of inadequate representation and inequity. Perceptions of femininity may restrict the roles that females are expected to assume. At the same time, differences in ethics and identity can cause tension, making it harder for them to fit into predominantly male work cultures.

The challenges and barriers that female workers encounter in male-dominated industries have significant and complex implications (Hanek & Garcia, 2022). Firstly, these obstacles can result in a lack of diversity in the workforce, as females may opt to leave or steer clear of such environments, ultimately hindering innovation and limiting the variety of perspectives that contribute to a company's success (O'Brien et al., 2023). Additionally, high turnover rates among female employees due to unsupportive work conditions lead to a loss of valuable talent, which increases recruitment and training costs for companies (Dagunduro et al., 2024).

Furthermore, the difficulties females face can result in lower job satisfaction and morale, negatively affecting overall productivity. Limited career growth due to barriers to advancement and mentorship restricts females' chances for leadership roles, perpetuating gender inequality in higher positions within organizations (O'Brien et al., 2023). This situation calls for comprehensive structural changes, urging companies to reassess their policies, practices, and workplace design to create a more inclusive environment (Dagunduro et al., 2024). In order to overcome such issues, organizations need a cultural transformation that encourages equality and inclusivity within them, and this may entail training, mentorship, and leadership modification as well (Carter et al., 2020). Finally, such organizations may have to put in place gender-specific policies that are aimed at solving the problems of promotion and where such issues as mal-distribution of work and evaluation process biases exist (O'Brien et al., 2023). In essence, these implications underline the particularly felt need for the change aimed at improving conditions for females in male-dominated occupations because it can increase the general performance of the organization and the level of contentment among the workers while creating a diversified workforce (Minkin & Horowitz., 2023).

Navigating male-dominated industries often requires women to adopt unique coping mechanisms to address the challenges and barriers they face. This study not only investigates the obstacles encountered by females in these environments but also examines how such challenges impact their employment and career advancement. The primary focus lies in exploring the strategies, techniques, and adjustments employed by women to navigate these environments effectively. By analyzing the coping mechanisms utilized by participants, the study provides insights into the resilience and adaptability of females as they confront and respond to gender-based challenges in the workplace.

**Table 2**

The ways of coping used by females in male-dominated industries to solve.

Theme	Sub Theme	Codes	Representative Response
Professional Development	Experience Utilization	Practical Integration, Experience Acquisition, Practical experience, Expertise	"I found it interesting because there was a part where they would teach you how to repair a microphone and the basic parts of speakers."
	Professional Fulfillment	Enthusiasm, Passionate, Contentment, Initiative	"I will always be proud of my experience in the industry where I worked as an electronics technician—that was my first job."
	Goal-Oriented Execution	Strategy, Tactics	"We are asking them to go to our other shop."
Social & Company Support	Supportive Companionship	Allyship, Empowerment, Mutual trust, Companion	"When it comes to technology, your gender doesn't really matter."
	Equitable Approaches for Employee Diversity	Empowering Law, Support system, Inclusive Policy, Legal Support, Positive Environment	"There are laws in place, and women are protected within the company."
	Social Influence on Career Development	Network Influence, Family Influence	"Because my father was the manager there. Then he told me there was a job opening."
Diversity and Inclusion	Equitable Empowerment	Sex Neutrality, Female Inclusivity	"They didn't make me feel that kind of setup. When you're a woman, you don't have a voice. But here, everyone does."
	Values-Driven Workplace	Workplace Norms, Work ethics	"We already expected that in our work—that we would encounter situations like that."
Personal Quality	Optimism in Adversity	Motivation, Acknowledgment, Self-validation, Positive Outlook	"It's really about the character, you being confident, optimistic."
	Constructive Professionalism	Professionalism, Composed response, Hierarchy	"...but for them to know exactly who you are, and you are just there for work."
	Dynamic Strength	Adaptability, Versatile, Resilience Sexual Preference, Educational Diversity	"I'm just showing that the work my male colleagues do—I can do it too."
	Empowered Leadership	Assertive, Authority, Leadership	"So you have to make or assert yourself, like saying, 'I am this kind of person—you can't just do certain things to me because I'm not weak.'"

Organizations today need to encourage a positive attitude toward workplace diversity, especially to women who may be viewed as odd due to their gender in male-dominated organizations. The Social and Company Support theme also stresses the idea of trust within the team and diversity, which should be valued in order to support every worker.

Personal Development is a very challenging contest for female workers due to the necessity to use all their skills and experience to function in an environment that is often hostile and positively oriented to specific career objectives.

Unfortunately, females, regardless of how committed they are to their duties, experience workplace gender discrimination. The Diversity and inclusion theme discusses the need to promote an environment that accepts everyone and provides every female/male the platform to work hard, fend for themselves, and be resilient. Also, the Personal Quality theme highlights strengths like optimism, constructive professionalism, dynamic strength, and equitable empowering commitment in the personality of females who have developed to face their careers.

Collectively, these themes illustrate that successful career advancement and personal growth are more achievable in collaborative, supportive, and inclusive environments that prioritize diversity and uphold ethical principles.

Females also have to work more than men, and even in such a favorable environment, they will still face discrimination and have no one to support them. A focus on cooperation and synergy, as well as social support, leads to the formation of sex-favorable organizational environments that enable females to realize themselves and advance. What is more, companies should embrace policy and practice inclusion.

Robustness is a personal attribute that helps females overcome difficulties when climbing the career ladder. Some of them include the following – Organizations can help build this by offering mentor/ networking groups. Gender and race equality is important, especially in an organization, because it should cover all its members respectively.

Equal opportunity for a female to prosper and acknowledge and value the female means of their work establishes ethical, equal worlds. Enthusiasm, passion, and proactivity are other personal factors that compel females to leadership roles. It can be achieved through management/leadership training programs for females who are considered high performers in the organization. The core ideas center on positive company cultures, from teamwork and ethics to empowering females in the workplace instead of hurdles. It is seen that collective responsibility in terms of inclusive policies or support networks is effective.

This research emphasizes the necessity of creating supportive workplaces that recognize and reward the strategies for coping that females use in male-dominated industries. These people demand efficient methods of coping as they face specific problems such as biases and lack of opportunities for progress.

Organizations need to promote practices that not merely encourage hiring from various backgrounds but also build a culture that celebrates the resilience, flexibility, and efficiency of female workers (Raetza et al., 2022). Organizations should provide support that includes coping resources such as network building, assertive communication, and mentorship Grimaldi et al (2021).

These systems can help females handle challenges in the male-dominated workplace as well as promote personal development and qualities such as resilience, which are essential for long-term success. Furthermore, reducing work interference and finding ways of reducing unconscious bias through training can reduce these pressures and allow females to sustain work-life boundaries and organizational self-esteem (Chung, 2020).

Additionally, integrating feedback and suggestions provides invaluable insights toward supporting female needs, creating an inclusive environment where females feel heard and valued, including Mcilongo & Strydom (2021).

This primarily focuses on prioritizing such coping mechanisms not only to benefit females but also to enhance and provide a supportive workplace culture, enhancing creativity and employee satisfaction and creating an environment that provides equal access for females. Education shapes the way females act and their capacity to deal with or solve specified hurdles in male-dominated sectors.

The present study will examine how education affects girls' behavior and capacity to cope with and conquer these hurdles. By investigating their experiences, the study aims to understand the challenges they face and how these issues affect their job and career development. The emphasis is on how education changes girls' reactions to the stated impediments in these settings

Educational background plays a significant role in shaping how females navigate challenges and develop coping mechanisms in male-dominated industries. This section delves into the relationship between education and the strategies employed by women to address the obstacles and barriers they face. By analyzing participants' experiences and incorporating representative quotations—translated into English for clarity—this part provides a nuanced understanding of how education influences resilience and adaptability. Definitions of the codes used in the analysis are also provided to ensure a comprehensive and systematic discussion of the findings.

**Table 3**

Influence of the educational background of females in navigating challenges and developing coping mechanisms in male-dominated industry.

Theme	Sub Theme	Codes	Representative Response
The Role of Education in Personal and Professional Growth	Educational Background & Achievement	Educational Attainment, Alumni, Founder, Course Structure	<i>"Particularly, in our course Electronics and Communication Engineering, there are four parts for BSECE."</i>
	Educational Impact on Career Progression	Academic advancement, Academic Impact, Fundamentals, Diverse track, Diverse Opportunities	<i>"As a telecommunications project manager, the best practices I was able to contribute were related to computer literacy, English communication, and writing formal letters."</i>
	Diverse Learning	Cohesion, Class Size, Sex Balance	<i>"Most of my coworkers as well, they're not graduates—they didn't finish college. Most of them just have vocational training, or in some cases, it's really just based on work experience."</i>

Education enables a female to face and overcome several challenges in areas considered male-dominated industries, and therefore, there should be fair learning conditions for females. The study information tells that having companions as working partners from the third to the fifth year strengthens the relationship between the females, in turn rallying them to overcome barriers. This is helped by the fact that classes are small, yet real interaction can inflate

learners' confidence and capability. Having an equal balance and equal access can increase the number of female participants as they make decisions.

In total, all these elements demonstrate an example of how appropriate conditions for learning as male and female can influence a female's behavior and improve her coping in the environment of education to become a successful woman, which makes it possible for instructors to monitor their learners' development and growth. Education is an essential tool for females in doing vocational training and careers for working female persons in sectors that have male-dominated industries because females learn technical and social skills to build relationships and teams.

Female graduates value education gains because apart from starting the feeling of belonging, they join other elegant graduates and get beneficial connections to related networks. Getting into sizable cohorts exposes them to the historical evolution of their fields, and structured course frameworks increase their confidence and professional role identities. School performance enhances their educational profile and job profile, providing specific training to deal with organizational problems.

Further, building up diversified classroom management through group discussions, reducing class sizes, and sex integration helps in developing a sound support system for female students, and they are ready to come forward and come up with their own opinions. In general, school climate and equity greatly help females gain the needed support in their workplace. The observed implications of the study presented in this paper call for educational institutions to support female students and implement policies that facilitate diversity and provide female students with access to male-dominated industries (Dhiman, 2023).

In creating such a learning environment where the prospects of each learner are valued and where they are encouraged to work with or for one another and no female students left behind, even educational institutions can ensure that female learners do not feel this kind of loneliness and insignificance that most of the female's report feeling in their workplaces. Acai & Guitman (2019) states that implementing efficient programs and networking opportunities in educational settings can also serve as an added objective to career advancements and female empowerment as they prepare to join the field.

Additionally, ensuring that curricula are responsive to the unique challenges females face can enhance their learning experiences, allowing them to build the confidence and resilience needed for career advancement Straza (2023).

However, if curricula are sensitive to the unique challenges females encounter, they can improve their learning outcomes, thereby empowering them with the strength required in their quest for career progression Moubou e.t al (2024) These pedagogical changes can help make a

positive sense of a diverse workforce ‘getting beyond’ the patterns spelled out in sex and barriers and creating an affirmative, inclusionary, and supportive academic and career context.

The finding of this study calls the need for educational institutions to embrace diversity as well as help and support female students in the male-dominated areas, faculties, and courses they pursue, including technical and vocational education. In ensuring that male-dominated institutions provide all female students who will soon become female employees with a platform to contribute to group projects, the institution will eradicate feelings of exclusion that females experience as they work in their careers and pursue career advancement.

Organized leadership sponsorship and enrollment activities in school environments are crucial in the preparation of female students for careers and also provide important skills and power as they join competitive markets. This approach will also help to tailor the curriculum to fit the experiences that the females undergo in these areas, hence enhancing their learning experience, resilience, and confidence that will enable them to progress and obtain career satisfaction.

Moubou et al (2024) Furthermore, implementing leadership, practical experiences, and simulation activities can help bridge the gap between the needs of the educational industry.

Such educational reforms have the social impact of increasing workforce inclusion while at the same time eradicating barriers to diversity and gender from various sectors, as underlined by Kuteesa et al. (2024). Finally, these steps enable an understanding of early childhood experiences and promote and create supportive academic and professional climates for student

## **Conclusion**

Females in male-dominated workplaces often face numerous challenges and barriers. These obstacles are sometimes influenced by broader societal norms, which may not be supportive of female participation in such environments. As a result, their self-confidence can be undermined, and access to essential opportunities, such as mentorship or networking, can be limited. In addition, females often bear a disproportionate burden in the workplace, contributing to a sense of inequity.

Fostering a supportive and inclusive workplace is essential for empowering females to succeed. Where team members collaborate and cooperate, an inclusive culture benefits everyone, allowing females to engage and thrive. Promoting professional development will lead to a positive environment and inclusive workplace, and supporting equal empowerment was a key component of coping mechanisms for female participants. Females have such personal

qualities or attributes like optimism and professionalism, which are necessary to face and overcome challenges in a male-dominated industry

Education is essential for shaping women's development, equipping females with the necessary skills, a reliable support system, and important networking opportunities. Nurturing educational settings will enable females to gain practical knowledge, skills, and, most importantly, confidence that guarantees to prepare females to pursue careers, especially in maledominated professions.

### **Recommendation**

Females in male-dominated industries face unique challenges that require targeted support through inclusive workplace policies, mentorship, and career development initiatives. Organizations should provide trained personnel to address gender-based barriers and create safe spaces for women to share experiences and build resilience through workshops, training, and leadership programs. Educational institutions also play a key role by prioritizing gender empowerment through inclusive policies, scholarships, and mentorship. Future research should consider broader methods such as surveys or focus groups to explore women's experiences and compare insights across varying educational backgrounds.

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