



From Campus to Boardroom: Gendered Pathways of Sri Lankan Women in Engineering Leadership

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ABSTRACT

This study investigates how undergraduate experiences influence the long-term career success of Sri Lankan women engineers who have attained top management roles. Through an inductive thematic analysis of nine in-depth narrative interviews with women across diverse engineering sectors, the research identifies eight interrelated themes: academic excellence, gendered experiences, cultural and social constraints, peer networks, limited extracurricular involvement, mentorship, real-world exposure, and resilience. Academic achievement and hands-on learning opportunities emerged as foundational elements that conferred credibility and facilitated early career advancement. Simultaneously, participants had to navigate restrictive gender norms, institutional barriers, and social expectations that often limited their full participation in university life. Peer support networks and faculty mentorship were critical in sustaining motivation and enabling greater career clarity. Despite facing persistent gendered biases in academic and workplace settings, participants demonstrated exceptional resilience, transforming challenges into leadership competencies. These findings highlight the importance of inclusive and equitable academic environments, and suggest that proactive policies, such as structured mentorship, accessible fieldwork opportunities, and gender-sensitive support services, are essential for nurturing women's leadership in engineering. This study contributes to the broader discourse on gender equity in STEM by offering context-specific insights from a South Asian developing country. While limited in scope due to a small sample size, it forms part of a larger ongoing research initiative and provides a foundation for future comparative and longitudinal studies. Overall, the research underscores how formative academic experiences can catalyze leadership development, offering practical implications for educational policy and institutional reform aimed at supporting women in engineering careers.

KEYWORDS: *Women engineers, Sri Lanka, undergraduate experience, thematic analysis, gender in engineering, leadership*

1 INTRODUCTION

Despite ongoing global efforts, women remain significantly underrepresented in engineering leadership. This study examines the undergraduate experiences that shape the leadership trajectories of Sri Lankan female engineers, highlighting the interplay of academic, social, cultural, and structural factors. Situated within Sri Lanka's complex socio - cultural context, the research adopts an inductive theoretical approach to reveal how resilience, institutional navigation, and support networks drive long - term success. Moving beyond deficit-based narratives, the study offers context - specific insights into how university education can simultaneously challenge and empower women, playing a pivotal role in advancing gender equality in engineering education and careers.

In this study, qualitative narrative inquiry and inductive thematic analysis were appropriate because the aim was to understand how women engineers construct meaning around their experiences and leadership pathways. Such phenomena are identity-oriented, context-dependent, and developmental, and therefore not easily captured through hypothesis-testing or quantitative models. Narrative interviews enabled the participants to recount formative events and interpret their own trajectories, while thematic analysis allowed for systematic identification of patterns across cases. The use of a small, purposive sample of women in senior leadership roles was intentional and theoretically justified, since these individuals

possess rare experiential knowledge that directly aligns with the research aim. This approach aligns with established practices in qualitative career research and feminist STEM studies.

1.1 Academic Success and Systemic Barriers in Women's STEM Careers

Numerous studies have identified persistent systemic barriers for women in engineering, including implicit bias, stereotypes, and exclusion in academia and industry (Fouad *et al.* 2016). The “leaky pipeline” metaphor illustrates the gradual attrition of women from STEM fields (Blickenstaff 2005). More recent scholarship emphasizes the roles of resilience, agency, and institutional support in overcoming these challenges (Devi *et al.* 2020). Academic excellence remains a critical enabler for women in male - dominated STEM environments (Burke & Mattis 2007). Udén (2002) demonstrates that strong academic performance boosts self - efficacy and early career opportunities. Our findings confirm that women engineers often leverage academic credentials for credibility and access.

1.2 Growth in Engineering Careers

Gendered experiences significantly shape engineering identity. Hatmaker (2013) notes how dominant (often male) norms marginalize others, affecting retention. Faulkner (2009) stresses that women must perform additional work to integrate into engineering spaces. In Sri Lanka, participants relied on peer support and informal networks to navigate cultural and gender expectations. Mentorship and role models strongly influence persistence and

ambition among female engineering students (Buse, Bilimoria & Perelli 2013). Our research supports this, showing that informal guidance often determines entry into professional roles.

Increasingly, literature acknowledges the intersectionality of gender, class, and geography in shaping STEM trajectories (Subri 2018). Sri Lanka presents a distinctive national case where female representation in engineering university intakes is comparatively high for the Global South, yet women remain underrepresented in senior management roles and technical leadership (Saumyadi & Jayawardane 2022). Sri Lanka offers a useful context for studying gendered career dynamics in a postcolonial, export-oriented economy, with relevance to other South Asian and middle-income settings. Participants, often first-generation graduates from rural backgrounds, illustrated how university and early career pathways can simultaneously constrain and enable women's progression into engineering leadership. Addressing a noted gap, the study extends beyond participation and attrition to examine leadership identity formation and professional advancement in a Global South engineering sector rarely explored in existing literature.

2 RESEARCH METHODOLOGY

This study forms part of a broader qualitative project on the career success of Sri Lankan engineers. Specifically, it explores how university experiences shaped the long-term success of Sri Lankan female engineers in senior management roles. A qualitative

approach was adopted to capture the depth and complexity of participants' experiences, aligning with the study's exploratory and contextual aims (Cresswell 2014). Data were collected through in-depth, face-to-face interviews with nine purposively selected participants from engineering sectors including academia, public infrastructure, manufacturing, and energy. Participants ranged in age from the mid-30s to early-60s and represented Sinhalese, Tamil, and Muslim ethnic backgrounds and a mix of Buddhist, Hindu and Islamic religious affiliations. This sampling ensured sectoral diversity and relevance (Braun & Clarke 2013).

Nine senior Sri Lankan engineers with over ten years of experience participated in 60 - 90minute semi-structured virtual interviews. With participant consent, sessions were recorded, verbatim transcribed, and analyzed using Inductive Thematic Analysis following Braun and Clarke's framework (Braun & Clarke 2013). NVivo software supported the iterative development of codes and themes. Ethical considerations included informed consent, confidentiality, and voluntary participation. Trustworthiness was strengthened through triangulation, member validation, and rich description (Braun & Clarke 2013). While the study's small sample and retrospective design present limitations, the methodology offers credible insights into the early career experiences of women engineers.

3 RESULTS & DISCUSSION

As shown in Table 1, participants reflected variation in years of professional experience (ranging from 10 to 37 years) and represented multiple engineering domains, including electrical, civil, textile, chemical, and materials engineering. Most participants were employed full-time in senior technical or managerial roles, while others had transitioned into entrepreneurial or consultancy work. This variation demonstrates the diversity of leadership pathways within Sri Lanka's

engineering sector and offers insight into how industry-specific contexts shape opportunities and constraints for women's advancement.

Inductive thematic analysis revealed eight dominant patterns: academic excellence, gendered experiences, cultural and social constraints, peer networks, limited extracurricular involvement, mentorship, real-world exposure, and resilience against systemic bias. The below sections describe the above findings in detail.

Table 1. Demographic Information

Participants	Years of professional Experience	Current Employment Status	Educational Qualifications	Field of Work
A	33	Retired	BSc.Eng Hons	Electrical Engineering
B	18	Entrepreneur	BSc.Eng Hons, PGDM & PQMP (Japan – AOTS)	Materials Engineering
C	29	Employed Full - Time	PhD, MPhil, BSc.Eng Hons,	Textile Engineering
D	37	Retired	PhD, CEng, BSc.Eng Hons,	Civil Engineering
E	10	Employed Full - Time	BSc.Eng Hons / MBA	Electronic & Telecommunication Engineering
F	30	Employed Full - Time	CEng, BSc.Eng Hons	Chemical Engineering
G	30	Employed Full - Time	BSc.Eng Hons	Civil Engineering
H	11	Employed Full - Time	BSc.Eng Hons, MBA	Electrical Engineering
I	19	Entrepreneur	BSc.Eng Hons, CIMA	Electrical Engineering

3.1 Academic Excellence as a Foundation for Credibility

Academic excellence was consistently emphasized across all interviews. Participants viewed academic achievement not only as a goal but as a key strategy for gaining legitimacy in male-dominated environments.

This aligns with (Eccles 1994) expectation - value theory, which explains how women in STEM use academic success to validate their place in settings that challenge their perceived competencies.

Interviewee A shared, “*I did not have any*

interaction with engineers before I joined the faculty... I came from a village. But I'm good at Maths and engineering [which] is the only way I can do that." Her choice to pursue engineering stemmed from her academic strength, showing how competence influences career decisions, especially when external exposure is lacking. Interviewee G, a first - class graduate, remarked: *"I graduated with first class honors. But I did not want to continue being a lecturer or an academic. I wanted to be a professional."* Her academic credentials granted access to elite professional spaces, underscoring how qualifications help challenge gender assumptions. Participants often associated their early credibility and job offers with academic success. E recalled, *"I have actually won university colours for four years... At the end of four years, I have been honoured as the best student in academic and sports awards."* Her case illustrates how academic and extracurricular achievements enhance employability and visibility.

Another compelling example came from Interviewee H, who described herself as *"very studious,"* saying, *"I was a kind of studious as well. So, you could find me in the library and study leave at the hostel."* This discipline shaped her professional identity and fostered the confidence evident in her later leadership roles.

This finding supports the view (Sax *et al.* 2016) that women in engineering often align academic achievements with broader career ambitions. In settings with limited resources or restrictive cultural norms, academic merit

becomes an essential form of capital. Participants viewed academic success not just as personal achievement, but as a means to counter institutional skepticism. Interviewee F noted, *"We had very limited facilities... but I enjoyed the content and everything. We had to send letters in order to get information about our design project."* Despite poor infrastructure, her academic commitment paved the way for leadership, aligning with (Buse, Bilimoria & Perelli 2013) findings.

In conclusion, academic excellence emerged as both a strategic and symbolic asset. It shielded participants from gender bias and opened pathways to leadership. These accounts highlight the need for institutions to support high-achieving women through scholarships, leadership visibility, and mentoring, helping transform academic distinction into long-term success.

3.2 Navigating Gendered Experiences in a Male-Dominated Space

Participants described gender not merely as a demographic trait but as a lived, negotiated experience shaping both academic and social environments. Male - dominated engineering faculties created settings where women had to assert identity, navigate norms, and resist marginalization.

Interviewee D, the only woman in her group, distinguished between isolation and inclusion: *"There were no girls to talk [to]. However, I had friends in the batch. Some boys were very friendly and I didn't feel uncomfortable."* Despite social acceptance, her isolation

reflects how women are often outsiders in engineering, echoing (Faulkner's (2009) observation that women often engage "as visitors to the male world." Several participants recalled being among very few women. Interviewee E noted, *"In our department... only 9 were girls out of 100 students. When arranging the lectures sometimes, they didn't care about the minority of us."* This reveals institutional neglect of gendered needs and reflects tokenism, where women are present numerically but remain structurally excluded (Hersh 2000).

These experiences were not entirely negative. Interviewee B highlighted the paradox of visibility: *"We had a very big demand in the university... boys were very caring. Actually, wherever we went, they were with us."* While supportive, this dynamic implies a paternalistic framing, casting women as needing protection rather than equal footing. Similarly, Interviewee C noted: *"There were only 28 females from 280... our batch was very close... they looked after us very well."* Although camaraderie was evident, protection often came with gendered expectations. Participants also pointed out symbolic and practical challenges. Interviewee F recalled, *"Handling certain machinery was difficult... they helped us,"* illustrating how physical tasks were managed through informal support. This aligns with Powell, Bagilhole & Dainty (2009), who note that women often navigate engineering through relational strategies. Gender perceptions also influenced academic opportunities. Interviewee I said, *"At the interviews, they said, 'Our expectation is for*

male engineers.'" This bias reflects enduring stereotypes that question women's technical and leadership abilities.

Despite such barriers, participants demonstrated agency. Interviewee H shared impactful advice: *"They will try to put you in a flowerpot and keep you in a room. Don't let that happen to you."* This metaphor captures the broader resistance many women engineers adopt to reject confinement and assert their professional space. Collectively, these narratives show that gender in engineering is shaped by cultural, institutional, and interpersonal forces. They support the view of Stallings, Iyer & Hernandez (2020) that engineering identity is co-constructed and continuously negotiated, requiring assertions of competence, belonging, and visibility. For educational institutions, these findings highlight that genuine inclusion demands more than gender balance - it requires cultural transformation, structural awareness, and active efforts to challenge embedded gender norms.

3.3 Cultural and Social Constraints

A recurring theme across several narratives was the influence of family and cultural expectations on participants' university experiences. These constraints often limited individual freedom, social interaction, and sometimes academic involvement. However, they also shaped resilience, discipline, and adaptability - traits that later supported leadership development. Participants reflected ethnic and religious diversity relevant to the Sri Lankan cultural context, including

Sinhalese Buddhist, Tamil Hindu, and Muslim backgrounds. These identities shaped family expectations, social mobility, and the level of cultural constraint experienced during university and early career stages, particularly regarding gender roles, mobility, and leadership aspirations.

Interviewee H recalled her mother's emotional resistance to her studying far from home: *"She cried all night... she even went to the UGC to try to apply for my transfer to Peradeniya."* Despite these barriers, H transitioned from a sheltered daughter to an independent professional. Her story reflects gendered control over women's mobility in South Asia (Liu, Shen & Gao 2020), and the process of negotiating such constraints is part of the leadership journey. For Interviewee C, family duties influenced her early decision to withdraw: *"I decided not to continue and left home... my younger sister was just four years old. I had to look after the family."* This reflects traditional gender roles and the balancing act women often face in their careers (Menezes 2018).

Interviewee I said, *"There are some girls... they are refusing male students. But I didn't have any problem with that."* His comfort in bridging gender differences partly stemmed from his coeducational background, showing how pre-university environments shape adjustment to mixed-gender settings. In contrast, Interviewee H described how her all-girls school and strict family upbringing affected peer interaction: *"I'm really shy... because I'm from a girls' school."*

Notably, these cultural constraints also prompted growth. Interviewee G said, *"That was the first time I went out of my home... it was somewhat difficult. But I adapted."* Such experiences support the argument put forward by Devi, Golden & Regi (2020) that South Asian women develop a flexible, context-aware agency within and against social norms.

For educators and policymakers, these insights highlight the importance of addressing intersections of gender, geography, and family in academic planning. Flexible schedules, accessible counseling, and mentoring for students from conservative or rural backgrounds can help translate access into meaningful inclusion.

3.4 Peer Networks and Support Systems

Peer networks and resilience reinforce each other in multiple ways. Supportive peer relationships can buffer stress, provide emotional encouragement, share coping strategies, and validate experiences. These interactions help individuals persist through challenges, which strengthens resilience. At the same time, individuals who are resilient tend to seek out, maintain, and contribute to productive peer networks, which further improves their social and professional resources. In short, peer networks help build resilience, and resilience helps individuals to better use and sustain peer networks, creating a mutually reinforcing process. Peer networks and informal support systems played a crucial role in participants' survival and well-being. Friendships formed early in university helped students cope with academic pressures and

provided vital emotional and practical support, often compensating for weak institutional systems.

Interviewee B recalled, *“Actually, canteen foods were allergic to me... friends brought food for me. They helped.”* This care extended beyond academics, reflecting deep mutual support. Given the limited formal student services in Sri Lankan universities, peer bonds often filled critical gaps. Interviewee A similarly shared, *“We all studied together... we shared books, notes, and even cooked together in the hostel.”* These collective experiences fostered solidarity among female students. The accounts align with the theory of Kamphorst, Hofman & Jansen (2015) that academic and social integration links student persistence to a sense of community. Notably, these networks often bridged cultural and religious divides. As Interviewee C noted, *“Friends are from different cultures, different attitudes... so not only the subject matters but we also shared a lot.”* This pluralistic environment helped develop cross-cultural competencies that proved useful in later leadership roles.

In male - dominated settings, peer networks acted as safe spaces. Interviewee E said, *“The nine girls in our batch were really united... we looked after each other.”* Such gendered solidarity echoes the findings of Stallings, Iyer & Hernandez (2020) on buffering against marginalization. These bonds often extended beyond graduation into enduring professional networks. Interviewee G reflected, *“The friends I have met at university are still my*

closest friends. We are now helping each other even in our careers.” These long - term ties offered not only emotional support but also informal mentoring, facilitating career growth.

Overall, these narratives underscore the strong link between academic success and peer - driven support. While institutional mentorship and counseling are essential, participants’ experiences suggest that informal networks form the bedrock of resilience. For universities supporting women in STEM, fostering inclusive peer communities and collaborative environments should be a key strategy.

3.5 Limited but Meaningful Extracurricular Engagement

While many participants had limited involvement in extracurricular activities, those who engaged found them transformational. Barriers to participation included cultural expectations, logistical challenges, and personal priorities.

Interviewee F explained, *“I travelled from home... so we were reluctant to stay at the university after hours. Soon the lectures finished, I went home.”* Similarly, Interviewee G stated, *“I didn’t do anything... swimming was there but time was not good to do that.”* These reflections reveal how travel and household duties restricted female students' ability to engage in campus life beyond academics. This aligns with the findings of Buse, Bilimoria & Perelli (2013) that family and logistical constraints hinder women’s full participation in engineering education. Despite such challenges, a few participants engaged in

targeted activities that left a lasting impact. Interviewee E shared, *"I [played] chess... was in the national team... presented in the Chess Olympiad... I was awarded as best student at academic and sports awards."* For her, extra curriculars were platforms for leadership, resilience, and personal achievement. Interviewee B recalled: *"We went on trips... we learned a lot from each other... I participated in singing competitions like Geethanjali."* These less formal activities enhanced social confidence and trust, especially in mixed-gender contexts where expression was often constrained.

Interestingly, several participants who were inactive during university later became more engaged. Interviewee H said, *"I didn't participate in any activities at university, but after graduating, I came out of my shell."* This shift suggests that leadership and engagement can emerge post-graduation, particularly in professional settings. Overall, even limited extracurricular participation offered substantial developmental value. This supports the theory of Long *et al.* (2015) which links student engagement to improved learning outcomes. While institutions must reduce participation barriers, recognizing varied and informal forms of involvement is essential for promoting women's growth in engineering.

3.6 Role Models and Mentorship

Both formal and informal mentoring significantly influenced participants' academic and professional trajectories. Encouragement from teachers, senior students, and professionals often served as a bridge between

university and early career stages.

Interviewee A recalled, *"One of my professors asked me, whether I wanted to work in the electricity distribution industry. This is how I got my first job."* This illustrates how academic staff can directly shape career paths. It supports the findings of Fouad *et al.* (2017) that female role models boost women's belonging and ambition in STEM. However, many participants noted a lack of female mentors. Interviewee D shared, *"I didn't have any female engineers when I joined, but some teachers supported me greatly."* The scarcity of women mentors amplified the impact of supportive figures, reinforcing the view of Montgomery (2017) that even limited mentoring can be highly effective. Informal peer mentoring also played a key role. Interviewee E said, *"The nine girls in our team were really united... we cared for each other."* This horizontal support helped them manage technical learning, build communication skills, and cope with emotional stress - reflecting (Weerabahu *et al.* 2022) assertion that mentoring includes non-hierarchical relationships.

In some cases, mentoring continued into professional life. Interviewee I recounted how her general manager's advice shaped her mindset: *"He said, 'They will try to put you in a flowerpot... don't let that happen.' That is the best advice someone ever gave me."* This metaphor reflects the strategic insight and confidence mentoring can provide in navigating gendered workspaces. Conversely, some highlighted the absence of effective

mentoring. Interviewee F noted, *"During our studies, we had very limited access to industry professionals. We had to write letters abroad to get information."* The lack of role models hindered real - world exposure and delayed practical understanding.

These insights demonstrate that mentorship - whether formal, peer-based, or spontaneous - is vital to supporting women in engineering. Universities should prioritize structured programs and intentionally include female role models to create a more equitable and aspirational academic environment.

3.7 Real-World Exposure and Applied Learning

Real world exposure can mediate the impact of academic excellence by translating theoretical knowledge into practical competence, confidence, and employability. While academic excellence signals cognitive ability and discipline, its effects on career advancement are often strengthened when students engage with practical environments such as internships, industry projects, or fieldwork. These experiences help students apply classroom knowledge, develop soft skills, and understand workplace norms and expectations. In this way, real world exposure can act as a bridge that converts academic achievement into practical performance and career outcomes. Without such exposure, the impact of academic excellence may remain limited to educational settings rather than contributing to long term professional success.

A key enabler of career advancement identified in the interviews was exposure to real-world engineering during university. Experiences such as industrial training, internships, and project work served as early professional encounters, fostering both confidence and competence.

Interviewee E shared how her internship clarified her career goals: *"I did my internship in Etisalat... then I did the CCNA. That's when I decided to stay in telecommunications."* Her account supports the view of Stallings, Iyer & Hernandez (2020) that experiential learning reinforces academic knowledge and guides career choices. For Interviewee F, limited resources required creative problem-solving: *"We had to post a letter to Australia to get data for our final year coal power plant project... we hadn't even seen one before."* Despite challenges, the project built resilience and broadened her global perspective, preparing her for leadership. Interviewee H described a pivotal training experience: *"During the training at that power plant, I realized my abilities... I saw the scale of the power plant and wanted to work there."* Exposure to such environments motivated her to pursue a demanding operational role, defying gender norms and emphasizing the impact of fieldwork on career direction.

These real - world experiences also developed essential soft skills. Interviewee I recalled, *"When the vendors came to the night market... I had to manage everything, although I was the only woman."* Her experience shows how technical and managerial challenges intersect

early in careers, aligning with Baytiyeh (2013) who emphasize developing professional competencies through integrated learning. However, not all participants benefited equally. Interviewee C stated, *"There were no passed – out batches in our field... we didn't know anything about textiles."* The absence of precedents limited guidance and mentorship, underscoring the need for structured industry-academic partnerships.

In conclusion, real - world exposure during university was critical in shaping participants' leadership potential. These experiences fostered technical confidence, accelerated professional growth, and helped them envision future roles. Universities must enhance industry links and ensure equal access to applied learning, particularly for women entering male-dominated fields.

3.8 Resilience Against Systemic Challenges

During their university and early career, participants consistently showed remarkable resilience. In the face of systemic, cultural and institutional challenges, their ability to adapt, survive and assert themselves has been recognized as the defining quality of their leadership path.

The experience of interviewee I in her first job vividly illustrates this: *"They chose a male engineer to send for training in Europe... but later I was responsible for the entire project. Only then were they convinced."* Her ability to demonstrate her value despite initial exclusion reflects a broader pattern of gender discrimination in professional development

opportunities (Corbett and Hill, 2015). Its success shows how resilience can break up misconceptions and create new paths for leadership. Similarly, interviewee H described her transition from shy student to critical director of operations: *"I was a traditional girl belonging to a particular religion at the time... but during my training at that power plant, I realized I could travel alone and face challenges."* Her story emphasizes the transformative potential of overcoming personal and professional limitations. Several participants reported having overcome significant emotional and logistical barriers during the university. Interviewer C says: *"I was homesick... I wanted to leave. But my teacher convinced me to stay and finish the course."* Its perseverance despite personal losses and family obligations is a testimony to the inner strength required to survive in a male-dominated academic environment.

Interviewee G also described a challenging but powerful journey: *"It was the first time I left my house... it was difficult, but I adapted."* These experiences were consistent with the research of Fletcher & Bailyn (2005) which highlighted that STEM resilience is not only an individual characteristic, but is cultivated by navigating structural constraints. Importantly, many women have understood these challenges as a step forward, not a step back. Interviewee E said, *"We have both advantages and disadvantages, but I always try to see them as opportunities."* This mindset reflects the concept of psychological resilience, which is the ability to maintain and develop competence in the face of obstacles.

The stories of the participants make it clear that resilience is not simply about enduring difficulties, but about using challenges as a stepping stone for growth. For educators and institutional leaders, this highlights the importance of creating an environment that recognizes and validates these challenges and provides students with the tools they need to overcome them. Structured support systems, open mentoring channels and equitable policy implementation can help mitigate systemic barriers and empower more women to reach their leadership potential in engineering.

3.9 Implications for Policy and Practice

The results of the study emphasize the need for universities and policy makers to take deliberate action to support and empower women in engineering. First, universities should adopt a formal mentoring structure that pairs undergraduate women with professional engineers to promote early career guidance. Secondly, policies should ensure equitable access to internships and field training, especially in the industrial sector where women are disadvantaged. The flexible curriculum and targeted academic support services help students to balance family or cultural expectations. In addition, the recognition of non-traditional achievements – such as leadership in peer networks or resilience to overcome difficulties, can redefine success and broaden inclusion. Finally, the promotion of gender-sensitive planning for campus infrastructure and extra-curricular programs can address logistical barriers disproportionately affecting women. Although these policy interventions are

modest, they can play an important role in the creation of an inclusive academic ecosystem that nurtures leadership potential from the beginning of higher education.

4 CONCLUSION & RECOMMENDATIONS

This study contributes new knowledge by examining how leadership trajectories for women engineers begin during university, rather than only after entry into the workforce. It shows how academic performance, peer support, mentoring, and real-world exposure interact to shape resilience and leadership identity formation within a developing country context. These dynamics are underexplored in existing global literature, which has largely focused on participation, attrition, or workplace discrimination. By centering the South Asian and Sri Lankan experience, the study extends current discourses beyond Western settings and highlights how cultural, economic, and educational conditions produce different pathways to leadership. The findings therefore broaden global discussions on women in engineering by showing that leadership formation is context - dependent, begins earlier than assumed, and can emerge even in environments with cultural and systemic barriers.

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