

# A Gendered Leadership: Aspirations and Perceptions of Leadership among Women in STEM Fields

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## Abstract

The allocation of leadership roles in an organisation is dependent on several factors apart from organisational culture and work related conditions. It is also governed by societal structure, culture, and overall environment as well as the extent to which individual personalities are willing to seize the initiative and influence organisational decisions in their favour. Gender is an important factor in the discourse about leadership. There are historical, contextual and socio-cultural barriers that often come in the way of women assuming top leadership positions in an organisation in spite of an organisational culture that supports the norm of inclusivity. This article explores the perceptions that women have with regard to their leadership aspirations in science, technology, engineering and mathematics (STEM) jobs in modern corporate organisations. Based on a comparison between women students of engineering and women executives in information technology organisations, it shows how ideas about leadership and perception of the organisational-self undergo change over the period when women in fact become part of the industry. A background of patriarchy and subordination instils realism in their outlook and impedes women's growth in organisations, sometimes even by women themselves.

**Keywords:** Gender, Information Technology Sector, Leadership, Patriarchy, STEM Sector, Women

## Introduction

The term leadership has been defined in various ways and connotes different meanings in different contexts. There is no uniform single sentence definition of leadership that

includes all circumstances, especially since the emergence of leaders is sometimes a situational serendipity, sometimes temporary and sometimes permanent (Spotts, 1976). According to Michener, De Lamater and Schwartz (1990) leadership is a process that takes place in groups in which one member influences and controls the behaviour of the other members toward some common goal. Key elements for successful group performance include the leader's ability to plan, organise, and control the activities of the group (Michener et al., 1990). A leader is one who exerts more influence within a group than does any other member of the group (Denmark, 1977).

It is a fact well acknowledged that gender is an important dimension in the context of organisational leadership. Early work on organisational leadership did not pay sufficient attention to the gender dimension. But in the past few decades with more women occupying positions of authority, research has investigated the role of gender in leadership. Gender is an important variable in studies on leadership. Studies have found that women in positions of leadership are evaluated somewhat more negatively than their male counterparts (Eagly, 1992). Although the differences in overall evaluation are small, bias against female leaders has been greater under specific circumstances. It is also found that women in leadership positions tend to adopt more democratic and participative styles (Eagly & Johnson, 1990). Intruding into what is traditionally a masculine domain, women find themselves compelled to work harder to gain acceptance and to gain advantages such as pay raises and promotions. Ultimately, the success of leadership depends upon getting the acceptance of and compliance from followers and an upbringing in a patriarchal milieu prevents both men and women from easily accepting women leaders. Hollander

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(1992) acknowledged that women face an initial hurdle in attaining this legitimacy. Gutek and Morasch (1982) and Gutek (2001) have argued that gender roles spill over to organisations, and Ridgeway (2001) maintains that gender provides an ‘implicit, background identity’ (2001: 644) in the workplace.

## Methodology

It is against this backdrop that the present study is based. An attempt has been made to interrogate the leadership aspirations and perceptions of women in STEM by taking two sets of samples – one, of women engineering students and another of women in industry, employed in information technology organisations. The study is located in Karnataka state. Karnataka has one of the largest concentrations of higher educational professional institutions in the country in STEM areas, like engineering colleges and technical polytechnics. These institutes are spread across the state in Bengaluru, the capital, and other cities such as Belgaum, Davangere, Hassan, Hubli-Dharwad, Mangalore, Mysuru, Shimoga and Tumkur. For various historical reasons, the beginnings of the information technology industry in India took place in the state of Karnataka (Dossani, 2008). Karnataka is leading in the Information Technology sector in India and its capital Bengaluru is popularly known as the ‘Silicon Valley’ of India (Suryanarayan, 2016). Students and employees from all over the country are drawn to Karnataka for the aforementioned reasons. Therefore, although the respondents are located in Karnataka, they are in fact a cosmopolitan sample and findings that have been generated are viable for larger scale generalisations.

Interview survey was conducted among students of computer science engineering in a well-known engineering college in Mysuru. One hundred girl students were interviewed and administered a questionnaire covering crucial aspects of their perceptions. The optimistic views of women students with regard to assuming leadership roles in their future careers generated a certain curiosity in the researcher because the underrepresentation of women in STEM occupations is a well-documented fact (catalyst.org). Furthermore, not many women actually find themselves elevated to top leadership positions. Sometimes women themselves quit their jobs in the information technology sector owing to

the demanding nature of workplaces and various familial concerns, well before they can attain top positions (Suryanarayan, 2020).

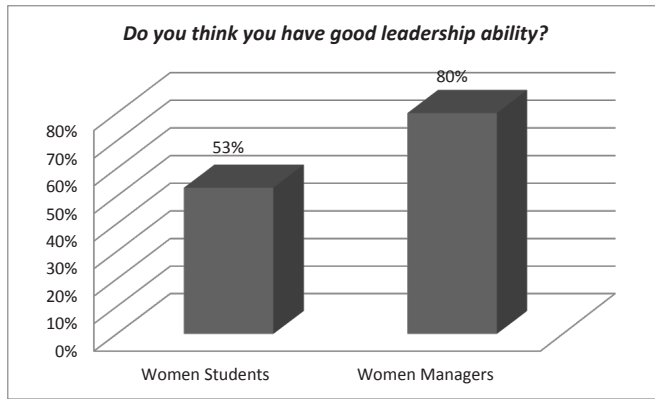
Subsequently, therefore, to investigate these aspects further, questionnaire survey was administered to women managers and executives in STEM jobs mostly in the IT sector where their perceptions about leadership were explored. An equivalent number of women were interviewed with regard to the same aspects. Data collected in this manner especially through personal conversations has provided useful insights. This comparison has generated significant insights that are intriguing and eye opening. An analysis of the findings is elaborated in the section that follows.

## The Findings

### Leadership Ability

The first aspect that was approached was the women’s self-perceptions of leadership ability. On being asked to rate themselves on their leadership quality, 53% of the students felt they had good leadership skills. In a significant increase in this, 80% of the women in industry rate themselves as having good leadership ability. This reveals that when women actually enter the workforce they are able to realistically assess their competence. It further indicates that contrary to popular assumptions, women are in fact not lacking in self-esteem. So when they are not able to rise in their careers as much as men, clearly it is not due to any lack of faith in their own ability but rather due to a combination of factors.

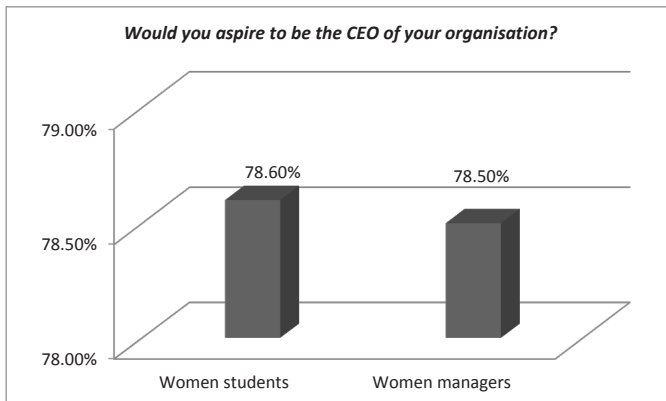
Self-esteem is difficult to evaluate through objective criteria. It varies due to differences in individual personalities, cultural capital, family background and encouragement received from family and significant others, one’s own history of successes and failures, social conditioning, environment and also varies through time, place and situation. Core self-evaluations are the fundamental premises that individuals hold about themselves (Judge et al., 1997). A positive core self evaluation is said to be associated with increased levels of self-worth and belief in ‘self-efficacy’ for actualising cherished goals in individuals. Fig. 1 details this comparison of self-perception of leadership.



**Fig. 1: Self-Appraisal of Leadership Ability**

### Ambition

When the students were asked about their ambitions, 79% of them expressed the desire to be the heads of their organisations in the course of their future careers. An almost equal per cent of women managers also express this desire to be head of their organisations. However, we know empirically that in the STEM sector this is nowhere near the truth. Though women managers have aspirations to be CEO and are undoubtedly competent, somewhere along the way in their careers, an insurmountable often inexplicable gender gap results which eventually leads to the glass ceiling inequality at the workplace (Suryanarayan, 2014). Fig. 2 highlights the comparison between women students and managers with regard to their career ambitions. Evidently, women are not lacking in ambition and career aspirations either and neither does ambition decrease significantly when women enter their jobs.



**Fig. 2: Aspiration for Top Management Positions**

### Gender Bias

The question then arises is, that if women think they have the ability to lead and do have the highest career aspirations, why does calibre and ambition not translate itself into commensurate success at the workplace? This is where the role of hidden valuations, subtle biases and gender prejudices that obstruct a woman’s career growth gets foregrounded. How are women perceived in the organisational context by virtue of being women?

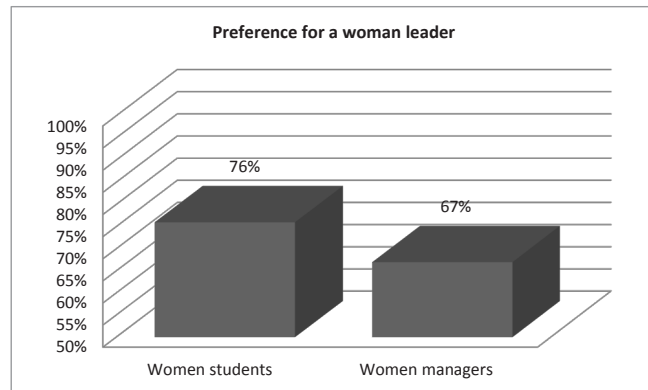
Unfortunately, women executives themselves have a shared opinion that men are better leaders than women. In the study sample, to a question, ‘Do you believe that men make better leaders than women?’, it is heartening to note that 91% of the girl students do not think so. Less than 10% among them think that men make better leaders. However, a whopping 77% of the women managers actually think that men make better leaders of their teams, organisations and as bosses, and of these 27% strongly believe this. Fig. 3 depicts these perceptions.



**Fig. 3: Men are Better as Leaders**

Similarly, with regard to preference for a leader by gender, while as students, 76% had expressed they would like to have women as potential bosses, in actual practice at workplace this figure has decreased to 67% of the women managers expressing a similar preference. A significant 33% of the women in fact do not prefer female bosses. A female executive explained this quite candidly, ‘You would think that a woman boss will be more understanding and have empathy but that is not always the case. Sometimes the opposite is true.’ Another lady manager explained, ‘Sometimes an advantage of having a woman boss is that if I need to spend longer hours at work, it does not cause

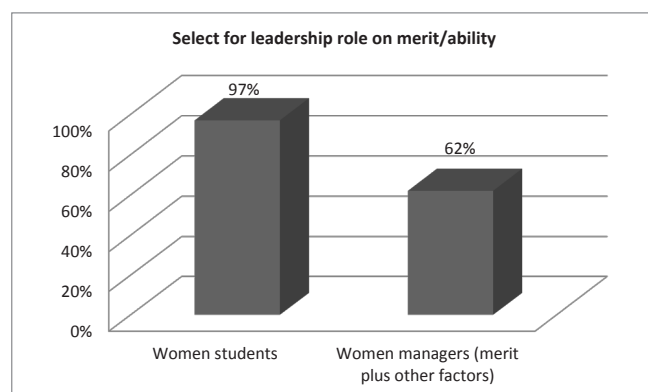
that much stress at home as the family does not feel so insecure about it. Otherwise, male leaders are easier to deal with.' Evidently, among women themselves, there is no real preference in favour of women bosses. Fig. 4 shows the mindset with regard to preference of leader by gender.



**Fig. 4: Preference for a Woman Leader**

When students were asked that if given an opportunity to select among men and women, on what factors would they base their selection for leadership roles, 97% of the girl students said that they would choose according to merit and abilities irrespective of the gender to which the person belongs. Interestingly, when women executives were asked the same question, they stated that when they have to choose any members and in particular leaders for a team, they actually prefer to choose by weighing various practical considerations. Only 62% of the women said that they make team selections purely on the basis of merit.

Fig. 5 shows the attitude with regard to selection of members for leadership positions.



**Fig. 5: Basis for Selection for Leadership Positions**

A woman senior manager divulged, 'I will usually select a male as leader. If I select a male team leader, chances of team work going smoothly are enhanced. He will have less family problems and most importantly everyone in the team will listen to him. A woman has to be very strong and assertive if she wants everybody's cooperation.' Another lady executive expressed, 'Even I have been a victim of this. But I can understand. We cannot be idealistic at work. One has to be practical.' Though these opinions sound archaic and dispirited, studies have justified the truth of these assertions. Ratliff (2013) has averred that men subconsciously feel worse about themselves when their female partners succeed when they fail. Women's self-esteem however was not affected adversely by their male partner's success (Ratliff, 2013). The same analogy can be drawn in the organisational context. Hence many managers prefer to choose men as leaders so that the work progresses without any extraneous stresses. In a pure meritocracy, there would be a direct relationship between academic credentials, work performance and occupational mobility in modern society. But workplaces function under a logic of their own supported by pragmatism and requirements of specific situations.

## Gendered Perceptions of Leadership

If we analyse the subjective perceptions in the transition from studenthood to the workplace, we find that women managers in fact have higher self-confidence about their leadership abilities than they did at the time that they were students. Exposure to real work situations has reinforced their faith in their abilities. They also have a similar level of ambition and occupational aspirations as they did when they would have been students. And yet ironically, an overwhelming majority of the women (77%) in fact feel that men make better leaders than women. Although 80% of the women feel that they have good leadership ability, yet almost an equal number think that men are superior at leadership roles. This is a startling disclosure indeed. Furthermore, 33% of the women in fact do not prefer women bosses and 62% of them have said that they would select leaders on pragmatic considerations and not necessarily favour merit or gender.

The above findings reveal the presence of hidden valuations - those popularly held and rather unfortunate subjective perceptions which are shared by a significant

number of women in the industry, that men make better leaders than women. A meta-analysis of 45 studies of transformational, transactional, and laissez-faire leadership styles had found that female leaders were more transformational than male leaders and also engaged in more of the contingent reward behaviours that are a component of transactional leadership (Eagly, Johannesen-Schmidt & van Engen, 2003). A study conducted by Denmark (1993), had reported similar findings: ‘However, when reporting globally on empowerment, most women did not report that they felt their female supervisors were empowering. In fact, over 33% of the female respondents did not find female leaders helpful to other women’ (Denmark, 1993: 353). Furthermore, Denmark had reported that ‘60% of female respondents, however, felt that men make better leaders’ (Ibid.: 354). Denmark, Nielson, and Scholl, suggest that stereotypes were more typically held by women against female leaders. Decades later, this view is upheld by Indian women in IT jobs as well.

Studies have also confirmed that women tend to understate their own achievements while men tend to judge their performance as better than it would in fact be (Sandberg, 2013). Years of socialisation into a culture of patriarchal servitude have conditioned women into ideals of modesty and compliance. Women are disposed to sharing the credit for their success with those around them especially the men, yet another offshoot of their patriarchal upbringing. Having internalised the value system of society, they often engage in workplace behaviours that could be detrimental to their own careers. According to behaviour scientist Tomas Chamorro-Premuzic, ‘the main reason for the uneven management sex ratio is our inability to discern between confidence and competence. That is, because we (people in general) commonly misinterpret displays of confidence as a sign of competence, we are fooled into believing that men are better leaders than women’ (2013, 2019). According to the author, when it comes to leadership, the only advantage that men have over women from one end of the globe to the other, is the fact that manifestations of overconfidence generated by hubris tend to get mistaken for leadership potential, and that these occur much more frequently in men than in women. Similar findings are reported by Ernesto Reuben, Paola Sapienza and Luigi Zingales (2014), that men tend to exaggerate their achievements and

managers, including women managers, tend to believe these exaggerated accounts. In the workplace, displays of confidence are often mistaken for real competence. Those who are socially more articulate are considered better at their jobs too. This is definitely another area where the men score over the women. Women managers talk about their success at balancing multiple roles and not so much the actual landmarks achieved at work. Men and women display different responses to work stimuli but these responses should not form the basis for evaluating their relative competence in actual work performance. Unfortunately, even the women themselves fall prey to these assumptions.

## Gender in Top Management

When it comes to actually heading an organisation, most people are sceptical that merit alone would constitute the criterion for such recruitment especially if the candidate is a woman. This view is not entirely unjustified in the Indian context. According to data from the Centre for Monitoring Indian Economy, many companies among the top 500 ‘corporate giants’ are family oriented companies. The trend of family firms pulls down Indian companies including IT in terms of competitiveness indicators. That being the overall situation, the position of CEO may not be an opening to be filled on merit alone through upward or lateral mobility. When it comes to accommodating family, gender, as the Indian political firmament has amply demonstrated, is usually not the question. That being the overall situation, top leadership positions may not be openings that are filled on merit alone. There are very few female top leaders in organisations in India who have made it to the top without any links to prominent male relatives, usually fathers. Richter (1990-91) has made a similar observation about women political leaders in Asia.

## Patriarchy

This brings us back to the question of patriarchy. This natural disposition towards accepting a man in a dominating role more easily than a woman is a reflection of the patriarchal principle in operation. The respondents exhibit a gendered mindset with regard to choice of leader. This is an imprint of social conditioning, which

has become crystallised in the world view of women and continues to govern their sub-conscious so that they take organisational decisions that conform to and strengthen stereotypes often without even being aware of it. Women are already conditioned to reconcile to a male-centric worldview and to fulfil patriarchal expectations.

Women themselves weigh their career goals in relation to future events that may not yet have taken place - such as the possibility of marriage or the birth of a child (Sandberg, 2013). Sometimes these behaviours could be unconscious acts – a woman may be oblivious of the fact that she is blocking out new opportunities. In the banking sector in India for instance, women forego promotion opportunities for fear of being transferred out of their convenient location. A man on the other hand, will seldom bypass an avenue for promotion. Such career stifling behaviours are the direct consequence of the women's adherence to the patriarchal principle. This also leads us to the job-career dualism. Within the family and socially, a woman's work is viewed as subsidiary to that of a man, and is predominantly meant for augmenting the family's income; her career growth is not necessarily important.

Leadership is largely about 'leaning in' and seizing the opportunity. Sometimes women impose internal barriers upon themselves and indulge in potentially harmful day-to-day behaviours from the standpoint of their careers, such as sitting in the back row at meetings, not volunteering to take up assignments, not offering suggestions, etc. Due to this reticence on their part, they are unable sufficiently and effectively project themselves at work to come to the limelight. According to Sandberg (2013), women want to be noticed rather than 'shaking people up' to notice them what she describes as the 'tiara syndrome', that somebody will notice their work and place the tiara of recognition and credit on their head. But things do not always happen this way in the workplace. For Sandberg, while it is important to do good work, it is also important to let it be known (Ibid.). Sometimes when someone asks for a promotion, bosses take it as a display of eagerness and ability. Women tend to shy away from asking and by their very passivity create just that element of doubt about their competence. These behavioural manifestations are largely due to a cultural upbringing in which modesty is ingrained into a woman as a virtue par excellence. Furthermore, it has been instilled into women since the

time of their childhood that home and family are their primary domains at which they must focus irrespective of any other preoccupations in their lives. At any point in their careers if home and family concerns appear neglected, women invariably prioritise those sometimes at the cost of their careers. The same set of patriarchal principles comes in the way of women mingling freely with people at work. Many times positions at the highest level are assigned to those with social capital and not job abilities alone. Women are ever conscious of what constitutes appropriate behaviour. Women tend to curtail themselves in their careers due to family and societal pulls and others' expectations of them. For a woman, a career usually implies having a job. For married women in particular in middle class India, in many cases a job is taken to be an extension of dowry, and 'even if there are no constant demands of ostensible dowry, what the woman brings home every month is another kind of dowry by instalment' (Gupta, 2000: 60). Therefore, women socially are not expected to give their one hundred percent to the career element of their jobs.

## Conclusion

The foregoing analysis confirms once again that gender is an important variable in the discourse of leadership. The key variables that operate when women assume top leadership roles in organisations are the ideology of patriarchy, familial ties, social class, and general societal expectations of what constitutes appropriate female behaviour and lifestyle. The ideology of patriarchy has a decisive impact on the fate of women in most cultures around the globe and especially in India, and has tended to reinforce authoritarian values. Women find more ready acceptance in expressive role stereotypes, such as those of mother, wife or nurse and instrumental functions in the economy are 'better off' handled by the men. In our society, male dominance is deeply rooted in tradition and custom. Stepping into public life is considered the natural sphere for men while for women the sphere is the private domain of the family. STEM professions are driven by technology but the core value system that governs them is also the prevailing value system in society. It is not enough for women to have education, occupation and even ambition – in the ultimate analysis, they need to be freed from the stronghold of patriarchy so that they can

achieve success in line with their aspirations and continue to aspire for greater success.

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