

**CAREER ADVANCEMENT OF WOMEN IN IT – THE INFLUENCE OF SELF-EFFICACY AND THE INTERVENING ROLE OF CAREER ASPIRATION**

**Maumita Bhattacharjee**

Department of Management Studies, National Institute of Technology Hamirpur, Himachal Pradesh, India-177005. Email: maumita@nith.ac.in, ORCID iD: 0000-0002-7436-9789

**Vivek Tiwari**

Department of Management Studies, National Institute of Technology Hamirpur, Himachal Pradesh, India-177005. Email: vivek.dms@nith.ac.in, ORCID iD: 0000-0001-7882-3662

**\*Corresponding Author:** Maumita Bhattacharjee

\*Department of Management Studies, National Institute of Technology Hamirpur, Himachal Pradesh, India-177005. Email: maumita@nith.ac.in, ORCID iD: 0000-0002-7436-9789

**Abstract**

Women in their career advancement have not been seen even inching close to men despite being equally qualified and competent. The research aimed to investigate how women's self-efficacy (SE) affects their career advancement (CAD) and the intervention of career aspiration (CAS) in this relationship. The study tested direct as well as some indirect effects with the help of the latest mediation analysis techniques. The findings demonstrated that women who scored higher on the SE scale desired CAD more and their CAS partially mediates the said relationship. The article examined the sociopsychological variables of concern in managing the career advancement of women employees in the workplace context, adding to the sparse literature of its kind. The results bear implications for theory and practice for behavioural studies and career management practices addressing gender inequality.

**Keywords** Self-efficacy, Career Aspiration, Career Advancement, Gender differences, Women at work

**1. Introduction**

Women's lack of career advancement has long been a pressing issue. Although India has made significant progress in female education over the last two decades, but there has been no corresponding increase in female labour force participation rates (Chauhan et al. 2022; Sarkar et al., 2019). Women still encounter challenges in their professional growth, with many experiencing stagnant or declining progress (Alok et al., 2021; Afridi et al., 2018; Bhattacharjee & Richardson, 2018). Indian Information Technology (IT) industry, which is one of the major contributors to its economy and employability, is also vulnerable to the gender dimension. Despite various gender diversity management practices with a safe working environment, and flexible working hours (Chakraborty & Chatterjee, 2021), the IT sector covers a meagre women representation of 20% of leadership positions (NASSCOM Report, 2017). Moreover, the COVID-19 pandemic has

massively accelerated workplace expectations in this uncertainty-driven industry adding to the complexity of women's career pursuits.

Empirical works dealing with women's careers in the Indian context urge the need to build confidence in their abilities and risk-taking propensity (Agrawal & Singh, 2021; Sarkar, 2022; Vimalkumar et al., 2021). Also, the classical research in the Western world exploring the role of socio-cognitive factors in career routes attributes the key reason to be rooted in beliefs in abilities (Bandura, 1986; Mone, 1994; Bandura & Jourden, 1991; Multon et al., 1991). Hence, a sense of self-belief is crucial for the career advancement (CAD) of women. This belief of being capable of performing and achieving even in the face of constraint is called Self-Efficacy (SE). Individuals with high SE set high goals and pursue career aspirations, while those with low SE avoid activities that could benefit their careers (Bandura, 2009). Studies substantiate that there is a notable discrepancy between the level of SE that women experience in comparison to men about professional growth (Firoz, 2015).

Further, the literature exploring the role of self-efficacy largely indicates that efficacy beliefs essentially influence whether and how individuals aspire to advance in their careers (Guaita et al., 2020; Gbadamosi et al., 2019; Tzu-Ling, 2019). The persistence of belief in abilities is largely dependent on an individual's desire to continue investing efforts. Women's career aspirations (CAS) are impeded due to negative convictions about their abilities and aid in setting aspirations enables them to centre their effort on their careers and self-control their conduct. (Casile et al., 2021; Chen et al., 2020; Hartman & Barber, 2019; Sanchez and Lehnert, 2019). Additionally, aspiration has been recognized as a crucial factor for career-related achievement (Schoon and Polek, 2011). However, it does not in a split-second change into accomplishment but makes accomplishment more probable. Evidence can be derived from the Social Cognitive Career Theory (SCCT; Lent et al., 1994; Lent and Brown, 2008) theoretical model, which states that self-efficacy promotes the development of career interests, which in turn influences career decisions. Premised on the justification, the intervening role of CAS can be studied in the SE-CAD link.

SE being a malleable construct has been extensively researched in the context of careers; nonetheless, to the researcher's knowledge, Abele and Spurk's (2009) study is the only one that has specifically examined the "career advancement" construct with self-efficacy. The concentration of literature is mostly on academia, medicine, and STEM (Science, Technology, Engineering, Mathematics) and little has been done in the workplace scenario, leaving a gap. Even the available records further iterate the need to replicate or extend the work in varied cultures and professions. The limited availability of literature in the Indian IT sector examining such an interplay of resources from positive psychology (Sarkar, 2022; Vimalkumar et al., 2021) also signifies undertaking the study.

In the purview of the above justification, the purpose of the study is to examine SE to CAD links through CAS in the female workforce of the Indian IT sector. The study contributes to the theory and practice career by rendering empirical evidence to the interplay of socio-cognitive elements in generating favourable career behaviour. The framework proposed in the study also renders

implications for fostering diversity and inclusivity in the workplace. In pursuit of this objective, the study aims to address the following two questions:

RQ1. Does self-efficacy have a positive influence on women’s career advancement?

RQ2. Does career aspiration mediate the self-efficacy and career advancement link?

Starting with the background in Section 1 above, the paper presents a review of the literature, theoretical base, and hypothesis in Section 2, then explains the methodology used to conduct the research in Section 3, followed by the results of the data analysis in Section 4, then discusses implications and limitations and the scope of future research in Section 5, and finally winds up to a brief conclusion in Section 6.

## **2. Review of Literature, Hypothesis Development & Theoretical Background**

### ***2.1. The Influence of Self-Efficacy on Women's Career Advancement***

Self-efficacy (SE) is a core concept in social cognitive studies. It was introduced by Albert Bandura (1977). SE refers to an individual's belief in their ability to perform tasks and achieve goals. It enables an individual to organize and execute the courses of action required to manage situations prospectively. In the context of women's career advancement, SE plays a crucial role in their career route starting from shaping their career choices, intent, persistence, advancement, and attainment (Brown & Cinamon, 2016; Brown and Rector, 2008; Penn and Lent, 2019). Its benefits are well established across a range of work-related factors, including performance, stress management, etc. The crucial role of SE in generating goal-focused behaviour and career-driven choices has been demonstrated through numerous studies conducted by experts (Bandura, 1991, 2012; Hechavarria et al., 2012). Having a high level of SE boosts confidence in actions that aid in reaching positive decisions that align with goals. Hence, individuals with high SE are more likely to succeed in their careers and personal lives. So, it's worth investing time and effort in building SE and reaping the benefits that come with it. Research shows that women who are highly motivated to advance their careers tend to feel more satisfied with their lives and exhibit a strong sense of confidence about their prospects (Parsons et al., 1978). These findings highlight the potential benefits of setting ambitious career goals and pursuing them with determination and dedication. By striving for professional growth and success, women can not only enhance their fulfilment but also inspire and empower others to do the same. By building on the above arguments, we propose a hypothesis that:

*H<sub>1</sub> - Self-efficacy positively relates to career advancement.*

### ***2.2. The Intervening Role of Career Aspiration***

Career aspiration (CAS) has been proven to be a significant measure of the success of a career that emerges through the influence of social context, including values, norms, and beliefs (McKenzie et al., 2017). As defined by Bourdieu (1994) in ‘Bourdieu’s Theory of Social Fields’, “CAS” is a ‘cluster of needs, motives, and behavioural intentions that individuals articulate concerning different career fields.

Positive CAS are correlated with career advancement. However, few empirical studies have examined the interrelation between the two. Some relevant studies have explored an employee's beliefs in conjunction with career growth in the workplace, including promotion decisions, and their connections with job satisfaction and employee behaviours (Webster and Beehr, 2013). Drawing on theories of self-regulation, a person's ability and contextual factors influence how young people direct their cognition, affect, motivation, and behaviour in the advancement of their career (Bandura & Jourden, 1991; Lent and Brown, 2013).

Liu et al. (2019) stated that employee aspirations and values largely influence their career goals, and those with a significant level of aspiration were bound to have noteworthy career accomplishments. Their research results on the study of women in the Hospitality sector of China provided vital information for businesses (e.g., hotels) and the workforce on career development (Liu et al., 2020). They further implied that improving a woman's career management could be achieved through exercises that facilitate setting aspirations and providing enough time and work support to meet such expectations, enabling them to focus their efforts on their careers. This, in turn, could positively uplift their career advancement to aid in achieving set goals.

According to McKenzie et al. (2017), there is an inconsistency in transient aspirations and a lack of understanding regarding the working activities required to achieve career goals, highlighting issues with setting practical expectations for subsequent career development.

Hence, we propose two more hypotheses,

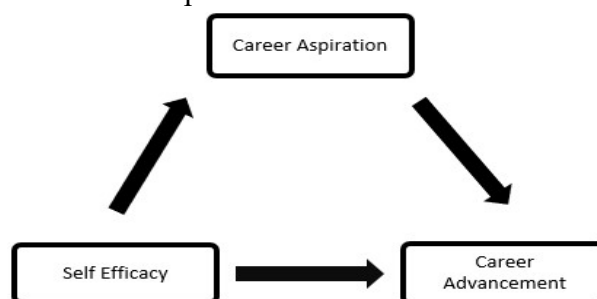
*H<sub>2</sub> - Self-efficacy positively relates to career aspiration. and*

*H<sub>3</sub> – Career Aspirations positively relate to career advancement. and*

*H<sub>4</sub> - Career aspiration mediates the relationship between self-efficacy and career advancement.*

### **2.3. The Conceptual Model**

To put it simply, individuals develop desires for career progression by cultivating enduring positive beliefs in activities connected to their interests (i.e., SE) and by understanding the correlation between effort invested and outcomes attained. As CAS are developed, individuals set related professional objectives and exercise self-control to work towards these goals. Drawing on the existing literature gaps, we have proposed a novel framework (Figure 1) to assess employees' career paths. The model examines the direct influence of SE and CAS on CAD, as well as the role of CAS as a mediator in the relationship between SE and CAD.



**Figure 1.** A framework integrating SE, CAS, and CAD.

### 3. Research Methodology

#### 3.1. Participants and Procedure

India's major contribution to GVA (Gross Value Added) comes from the service sector and is approximately 55%. Therefore, the study addresses the career advancement of women employees in the IT sector. The survey was primarily based on the Northern part of the country and therefore organizations located in the Delhi-NCR and Chandigarh region were selected for the study because they form the main hub of the ITeS in the region and provide a population which is a mix of employees from across the country. A simple random sampling technique was used to select ten IT companies, listed on different websites having more than 100 employees, and a cross-sectional type of research (data collection done at one specific point in time) was chosen for this study. To avoid the issue of respondent bias (where respondents give answers to the questionnaire untruthfully), attempts were made to reduce the measurement error recommended by Podsakoff et al. (2003), by mentioning in the cover letter that the information you provide will remain strictly confidential and anonymous, ordering items randomly to reduce priming effects, ensuring that responses recorded from respondents will be used for academic purposes only and will never be given or used for any type of commercial purpose, there were no correct and incorrect options to the questions, mentioned the objective of the study.

The organizations were requested by email to participate in the study, of which six organizations reverted and then their employees were contacted via email to participate in the study. We contacted 320 respondents from these six organizations and 272 responses were received back. However, for our data analysis purpose, we found only 227 responses eligible. Table 1 displays the socio-demographic profile of these respondents.

**Table 1.** Socioeconomic measures of the respondents (N=227)

	Frequency	Percentage
<b>Work Experience</b>		
Less than 2 years	93	41
2 years- less than 5 years	62	27.3
5 years - less than 10 years	44	19.4
More than 10 years	28	12.3
<b>Qualification</b>		
Diploma	18	8
Graduation	158	69.6
Post-Graduation	43	18.9
Doctorate	8	3.5
<b>Income (per month)</b>		
Less than ₹ 30,000	52	22.9
₹ 30,000- 60,000	76	33.5

₹ 60,000- 90,000	43	18.9
₹ 90,000- 1,20,000	12	5.3
Above ₹ 1,20,000	44	19.4

### 3.2. Measures

*Self-Efficacy.* Generalized self-efficacy was measured using a Schwarzer et al. (1995) ten-item occupational self-efficacy scale to measure the items on a four-point Likert-type scale ranging from “1” (Not at all true) to “4” (Exactly true). For each item respondents answered to sample questions like, “I can always manage to solve difficult problems if I try hard enough” and “It is easy for me to stick to my aims and accomplish my goals”. The results obtained a reliability coefficient of 0.89 an acceptable reliability.

*Career Aspiration.* Career aspiration was measured using Gregor and O’Brien (2016) ten-item career aspiration scale measuring items on a five-point Likert scale ranging from “0” (not at all true of me) to “4” (very true of me). Sample of questions that were checked by respondents include, “I hope to become a leader in my career field” and “I hope to move up through any organization or business I work in”. A reliability coefficient of 0.92 was obtained.

*Career Advancement.* Career advancement was measured using Jawahar and Hemmasi (2006) eleven-item scale measuring the items on a seven-point Likert scale ranging from ‘1’ (Strongly Disagree) to ‘7’ (Strongly Agree). Participants responded to questions like, ‘The employer has equality policies and programs’ and ‘The employer has no inherent gender bias in recruitment and promotion’. The results obtained a reliability coefficient of 0.85.

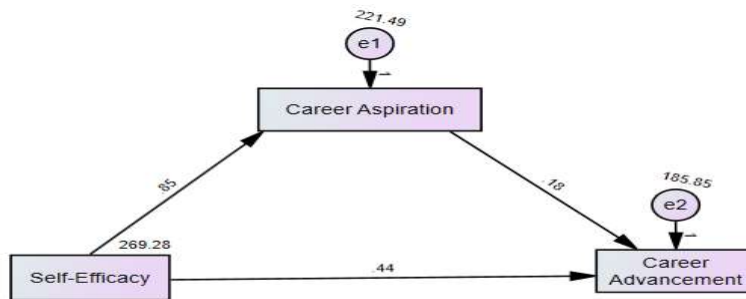
## 4. Data Analysis and Results

This section deals with the analysis that was carried out to find out the factuality of the hypotheses framed for the current study and therefore to verify the correctness of the model proposed in Figure 1. The analysis has been done on the data that were collected through a survey method with the help of questionnaires that have already been discussed.

The analysis of the data so gathered was done stepwise. Beginning with descriptive analysis was performed to fetch socio-demographic details. The next step was to perform a bivariate correlation analysis (Table 2), which was performed to study the relationships that exist between the constructs of the study, i.e., SE, CAS, and CAD. To prove the validity of the model, a path analysis was conducted with the help of SPSS-AMOS by providing SE as a predictor variable, CAD as a criterion variable, and CAS as a mediator.

The examination of all four hypotheses posed in this study has been stated and analysed with the help of path analysis (standardized path weights mentioned in Figure 2). All direct and indirect standardized effects were studied and summarized separately in Table 4. To test the “goodness of fit” of the proposed model, the following indices were used: chi-square statistic ( $\chi^2$ ), the

significance value (p-value), chi-square/df ( $\chi^2/df$ ), the comparative fit index (CFI), root mean square error of approximation (RMSEA) and the test of close fit (PCLOSE).



**Figure 2.** Path Analysis.

**Results**

The model was tested for its constructs i.e., the SE, CAS, and CAD to examine the nature of associations they have with each other. First, the correlation analysis was performed (Table 2) to look for evidence of associations and whether they exist or not. All correlations were found to be significant and indicated a moderate to strong degree of association among the constructs. After getting some significant values of correlation among the constructs, the MLE multiple regression was employed using AMOS to determine the regression coefficients, since the sample data used for analysis followed the assumption of normality distribution.

**Table 2:** Correlation matrix of all constructs

Variable	Mean	S.D.	1	2	3
1. Self-efficacy	43.22	09.44	-	0.78	0.67
2. Career Aspiration	45.43	10.38	0.78	-	0.63
3. Career Advancement	59.37	11.93	0.67	0.63	-

To verify the ‘goodness of fit’ of an overall proposed model in general, CFA (Confirmatory Factor Analysis) was used before testing the individual hypothesis of a model. CFA paves the way for further examination of data, such as multiple regression and mediation. The initial results of the CFA mentioned in Table 3 suggested a good fit model indicating the chi-square value = 1188.11, df = 545, p = 0.000,  $\chi^2/df$  = 2.180, CFI = 0.903, RMSEA = 0.072, all of which are in the desired acceptable range (Doll et al., 2004; Maruyama, 1998). All the standardized effects (direct, indirect, and total) are depicted in Table 4.

**Table 3:** Model fit indices of the model

Model	$\chi^2$	df	p	$\chi^2/df$	CFI	RMSEA	P CLOSE
-------	----------	----	---	-------------	-----	-------	------------

Model	1188.113	545	.000	2.180	0.903	0.072	0
-------	----------	-----	------	-------	-------	-------	---

**Table 4:** *Statistically significant standardized direct, indirect, and total effects.*

Variable	Effect	Self Efficacy	Career Aspiration
Career Aspiration	Direct	0.682	-
	Indirect	-	-
	Total	0.682	-
Career Advancement	Direct	0.425	0.214
	Indirect	0.146	-
	Total	0.571	0.214

Note. \*\*. Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

From the results obtained, we found that all the hypotheses were statistically significant ( $p=95\%$ ,  $p=99\%$ ) and the same was derived from the unstandardized regression weights mentioned in Figure 2, which were all found to be significant. Hypothesis 1 was accepted confirming that SE has a positive influence on CAD ( $\beta=.84$ ,  $p=.001$ ). Hypothesis 2 was statistically confirmed stating that SE influences CAS ( $\beta=.43$ ,  $p=.001$ ). Hypothesis 3 was accepted which confirmed that CAS positively relates to CAD ( $\beta=.17$ ,  $p=.005$ ). Finally, Hypothesis 4 was also confirmed and showed the partial mediation effect of CAS between SE and CAD. Partial mediation of CAS indicates that, in its presence, the relationship of efficacy to advancement does get to behave differently, suggesting a path to career advancement goes through the existence of aspiration. Since the presence is only partial, it means that there exist other variables which need to be explored. Hence, the results summarized the presence of a critical relationship between SE and CAD, and the partial mediating effect of CAS between SE and CAD was also confirmed.

## 5. Discussion

In developing nations like India, low female labour force participation is quite evident owing to the predominance of patriarchal culture and gendered distribution of work and familial responsibility (Ali, 2010; Bhalla and Kaur, 2011). Despite such challenges, there are still those who have managed to overcome and make it to the top. Through rigorous socio-cognitive investigation, it has been demonstrated that a higher SE is the key factor that empowers them to sail across the traditional male-dominant segment (Betz and Hackett, 1997). Socio-cognitive research also provides evidence for the role of CAS in the persistence of SE. Resting on that & theory of SCCT, the study was undertaken to examine the impact of SE on CAD & and the intervening role of CAS in said relation.

The outcomes of the analysis render support to the hypothesis posited to address the research objectives. Starting with the first three hypotheses testing the direct relation of the study variables



i.e., SE-CAD (H<sub>1</sub>), SE-CAS (H<sub>2</sub>), and CAS-CAD (H<sub>3</sub>), all the relations were found to be statistically significant. These results corroborate the work of Abele & Spurk (2009), which is the only study that tested specifically SE-CAD link and reinforces the cruciality of women's belief in career perspective. The results also substantiate work on SE-CAS (Hartman & Barber, 2020; Hunt et al., 2019) and CAS-CAD (Chan et al., 2017; Liu et al, 2020), reinforcing the interplay of socio-cognitive resources in the career route. Then, testing the mediation of CAS on SE-CAD relations, attests to aspirations as a route through which beliefs manifest proactive actions. This also signifies the importance of CAS in career-building activities or programs like mentorship, coaching, and learning experiences to provide support to women employees for strengthening their belief in the continuity of their careers.

In total, the paper establishes quantitatively a novel framework that depicts the need to nurture beliefs and desires to propel and persist in the career actions of the female workforce. This might aid in not only the retention of women employees but will also provide the organization with competent staff as established by researchers that teams with 35% women outperform those without (Kanter, 1977). The findings have significant theoretical implications for understanding women's career development and practical implications for organizations seeking to promote diversity and inclusivity in their workforce.

### **5.1. Implications for Theory**

The theoretical contribution of the study is significant in enhancing understanding of the dynamics of careers regarding beliefs and women's advancement in the workplace. At first, the work enriches the application of SCCT with a conceptual framework & and quantitatively establishes the critical roles of SE and CAS in the CAD process in the IT sector of India. It broadens the knowledge of how these socio-cognitive factors interact within the context of women's career progression by driving their career decisions and generating favourable career behaviour. Second, though the issue of women's career advancement has been substantially studied in the Indian context but mostly focuses on the challenges & outcomes, the study attempted to dig deeper with the quantitative evaluation of the influence of SE & CAS on women's CAD provides evidence into the influence of positive psychological sources adding to few works of its kind (Khan & Sherwani, 2022; Sarkar, 2022). It provides a base for longitudinal studies for the examination of the development of SE & CAS over time and experimental studies for assessing practical applicability for reinforcing their influence on sustained success. Third, by centring on the positive psychological resources at play, the work provides insights into the persistence of the advancement challenges for women despite gender-sensitive approaches within career theories and behavioural studies. Fourth, since SE and CAS can be effective tools for promoting gender diversity in the workplace, hence implies the feasibility consideration of the theoretical model in career literature dealing with organizational practices like creating equitable and supportive work climate, and HR actionability. Finally, as the research provides quantitative evidence for the direct bearing of SE in CAD and the intervening role of CAS in the SE-CAD relation, it not only advocates the central role of SE in career constructs but also illuminates the route through which SE influences career

courses As CAS is effective for the sustenance of career behaviour, it could be a lever for promoting equality in the workplace and hence implying its significance for consideration in career theories. Overall, the work adds value to the broader career landscape by stressing on the pivotal role of intrinsic driving factors like belief systems and aspirations in professional trajectories, paving the way for further theoretical refinements and advancements in the field. The work's theoretical implications suggest merging career theories to create a comprehensive framework that accounts for individual and contextual factors in shaping career behaviour for positive outcomes.

## 5.2. Implications for Practice

The outcomes of the study provide significant implications for organizations, policymakers and HR practitioners seeking to support women's participation and addressing gender imbalances. Firstly, the very objective of the research centres around the role of SE in women's careers which has been proven as an indicator of leadership and lack of SE as a lack of leadership potential (Carlin et al., 2018) and establishes its worth through statistical evidence. It provides guidance to organizational decision-makers to consider the belief aspect in creating a gender-inclusive workplace. This could be achieved through ingraining in the work culture through policies and practices to value the contribution of women workforce. Secondly, the framework proposed in the study states that an enhanced belief in career capabilities enhances effort and the aspiration for advancement aids in the continuation of the career efforts of an individual. This lays implications for Human Resources (HR) departments to design educational and training programs, and skill development activities emphasizing on enhancing SE and CAS tailored for female employees, which would not only help them acquire new competencies but boost their self-confidence as well. Such initiatives involve mentorship by associating with experienced mentors for guidance, and communication support that aid in surpassing the complexities of CAD. Thirdly, the outcomes imply for networking opportunities for the female workforce within and outside the organization to develop connections and embrace new opportunities. This would accelerate their enthusiasm to participate in career-related activities fostering their belief to pursue career growth. Fourth, females bear the care and familial responsibility of maternity, particularly in a patriarchal society like India. To ensure the continuation of a career organizational practices should offer flexible arrangements like remote work, and options for work hours. Finally, as the current study revolves around positive psychological factors, it directs for integration of the framework & the outcomes in gender-sensitivity training for combating biases like "glass-ceiling" (Masood *et al.*, 2021), "sticky floor" (Maqsood *et al.*, 2021), and "queen-bee syndrome" (Ünal et al., 2022). Overall, through work in the IT sector, the study substantiates the role of intrinsic factors (SE and CAS) in addressing the surface-level issues (CAD of women) and stresses for inclusion of such factors to develop a concrete measure that could be widely applied for achieving equality at workplaces. Achieving equality at work will not only motivate female work participation but hall also render organization with the cream of employees.

### 5.3. Limitations and Future Studies

Future research is suggested to confirm the findings and alleviate the study's limitations. Starting with the research methodology, the dataset for analysis comprised solely of women respondents, hence, opening an avenue for a comparative study involving both male and female perspectives. However, a separate scale of CAD is suggested for the same as Jawahar and Hemmasi (2006) scale measures specifically women's CAD. Also, the study being cross-sectional, the dataset's responses were gathered at a single time point, so a longitudinal study examining the same framework for subjective dimensions is suggested. Moving to the results of the analysis, the partial mediation of CAS on the SE-CAD link calls for an extension of the current work for further exploration of variables that might influence the said link. Additionally, future studies may replicate the current research in different cultural settings, industries and like by including more randomized samples to check for any variability in results. Further, the intersectionality of demographic and other social variables to nurture means of facilitating the belief system of employees can also be studied in the proposed framework. For instance, empirical examination of the feasibility of the proposed framework across position levels, income bands, and education levels. Finally, since the paper deals with positive psychological elements for propulsion and persistence of career-oriented behaviour in women, the current work could be applied to getting deep insights into the intangible gendered barriers at workplace like “glass ceiling” (Masood *et al.*, 2021) and “sticky floor” (Maqsood *et al.*, 2021) that limits female's career progression and impact of “queen-bee syndrome” on SE of senior and junior women leaders (Ünal *et al.*, 2022). Future studies could uncover further implications, meaningful ideas, and insights for the continuation of the current work until a firm intervention is developed for dealing with the lack of CAD for women.

### 6. Conclusions

In conclusion, the paper presents a framework resting on SCCT as a possible solution to address the persisting hindrances in women's CAD within the Indian IT sector. The statistical examination of 227 responses of female IT professionals based on standardized scales attests to the pivotal role of SE beliefs and CAS in influencing women's career trajectories. The outcomes highlight the urgency for organizations to cultivate environments that nurture self-confidence and trust in women's competencies which would enable them to actively engage in opportunities and ultimately provide organizations with a pool of highly skilled employees for succession. The study contributes to a broader understanding of the socio-cognitive factors influencing career development and advocates for continued efforts to draw & empower women in the workforce. Future research can build upon these findings and explore additional factors that influence women's career trajectories, leading to more targeted strategies for promoting gender equality in professional settings.

#### Acknowledgements: NIL

**Declaration of conflicting interests:** The Author(s) declare(s) that there is no conflict of interest.

## References

1. Abele, A. E., & Spurk, D. (2009). The longitudinal impact of self-efficacy and career goals on objective and subjective career success. *Journal of Vocational Behavior*, 74(1), 53-62. <https://doi.org/10.1016/j.jvb.2008.10.005>
2. Afridi, F., Li, S. X., & Ren, Y. (2015). Social identity and inequality: The impact of China's hukou system. *Journal of Public Economics*, 123, 17–29. <https://doi.org/10.1016/j.jpubeco.2014.12.01>
3. Ali, F. (2010), “A comparative study of EEO in Pakistan, India and Bangladesh”, in Ozbilgin, M.F. and Syed, J. (Eds), *Managing Gender Diversity in Asia: A Research Companion*, Edward Elgar Publishing, pp. 32-53.
4. Alok, S., Banerjee, S., & Singh, S. (2021). Work family conflict and professional self-efficacy among career persistent women: the mediating role of managerial support. *Gender in Management: An International Journal*, 36(8), 952-967. DOI 10.1108/GM-07-2020-0209
5. Bandura, A. (2006). Guide for constructing self-efficacy scales. *Self-efficacy beliefs of adolescents*, 5(1), 307-337.
6. Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of management*, 38(1), 9-44.
7. Bandura, A., & Jourden, F. J. (1991). Self-regulatory mechanisms governing the impact of social comparison on complex decision making. *Journal of personality and social psychology*, 60(6), 941.
8. Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child development*, 72(1), 187-206.
9. Barthelemy, R. S., & Knaub, A. V. (2020). Gendered motivations and aspirations of university physics students in Finland. *Physical Review Physics Education Research*, 16(1), 10133. <https://doi.org/10.1103/PhysRevPhysEducRes.16.010133>
10. Betz, N. E., & Hackett, G. (1997). Applications of self-efficacy theory to the career assessment of women. *Journal of Career Assessment*, 5(4), 383–402. <https://doi.org/10.1177/106907279700500402>.
11. Bhalla, S. S., & Kaur, R. (2011). Labour force participation in India: some facts, some queries. Working Paper No. 40, Asia Research Centre, London School of Economics & Political Science.
12. Bordalo, P., Coffman, K., Gennaioli, N., & Shleifer, A. (2019). Beliefs about gender. *American Economic Review*, 109(3), 739-73.
13. Bourdieu, P. (1994). Structures, habitus, power: Basis for a theory of symbolic power. *Culture/power/history: A reader in contemporary social theory*, 155, 199. <https://doi.org/10.1515/9780691228006-007>
14. Brown, D., & Cinamon, R. G. (2016). Personality traits' effects on self-efficacy and outcome expectations for high school major choice. *International Journal for Educational and Vocational Guidance*, 16(3), 343–361.

15. Brown, S. D., & Rector, C. C. (2008). Conceptualizing and diagnosing problems in vocational decision making. In S. D. Brown, & R. W. Lent (Eds.). *Handbook of counseling psychology*, 392–407. Hoboken, NJ: Wiley.
16. Carlin, B. A., Gelb, B. D., Belinne, J. K., & Ramchand, L. (2018). Bridging the gender gap in confidence. *Business Horizons*, 61(5), 765-774. <https://doi.org/10.1016/j.bushor.2018.05.006>
17. Casile, M., Gerard, J. G., & Soto-Ferrari, M. (2021). Gender differences in self-efficacy, acceptance, and satisfaction in business simulations. *The International Journal of Management Education*, 19(2), 100473.
18. Chakraborty, S., & Chatterjee, L. (2020). Rationales of gender diversity management policies and practices in India: an exploratory empirical study in the Indian IT/ITeS industry. *Equality, Diversity and Inclusion: An International Journal*, 39(6), 667-688. DOI 10.1108/EDI-04-2019-0124
19. Chan, X. W., Kalliath, T., Brough, P., O’Driscoll, M., Siu, O.-L., & Timms, C. (2017). Self-efficacy and work engagement: test of a chain model. *International Journal of Manpower*, 38(6), 819–834. doi:10.1108/ijm-11-2015-0189
20. Charan, P., Singh, P., & N, S. (2018). Relationships among social capital, self-efficacy, and new venture creations. *Management Decision*, 56(1), 204-218. <https://doi.org/10.1108/MD-04-2017-0304>
21. Charleston, L., & Leon, R. (2016). Constructing self-efficacy in STEM graduate education. *Journal for Multicultural Education*.
22. Chauhan, J., Mishra, G., & Bhakri, S. (2022). Perceived career success and career advancement of women: Challenges in the Indian IT industry. *International Journal of Human Capital and Information Technology Professionals (IJHCITP)*, 13(1), 1-21. DOI: 10.4018/IJHCITP.293231
23. Chen, H., Peng, X., Xu, X., & Yin, Y. (2020). The effect of gender role attitudes on the self-efficacy of the older adults: based on data from the third wave Survey of Chinese Women’s social status. *Asia Pacific Journal of Social Work and Development*, 30(4), 273–287. <https://doi.org/10.1080/02185385.2020.1744478>
24. Chuang, N. K., Lee, P. C., & Kwok, L. (2020). Assisting students with career decision-making difficulties: Can career decision-making self-efficacy and career decision-making profile help? *Journal of Hospitality, Leisure, Sport and Tourism Education*, 26, 100235. <https://doi.org/10.1016/j.jhlste.2019.100235>
25. Darouei, M., & Pluut, H. (2018). The paradox of being on the glass cliff: why do women accept risky leadership positions? *Career Development International*, 23(4), 397–426. <https://doi.org/10.1108/CDI-01-2018-0024>
26. Dhar-Bhattacharjee, S., & Richardson, H. (2018). A tour of India in one workplace: investigating complex and gendered relations in IT. *Information Technology & People*, 31(2), 578-594. DOI 10.1108/ITP-08-2015-0198

27. García-González, J., Forcén, P., & Jimenez-Sanchez, M. (2019). Men and women differ in their perception of gender bias in research institutions. *PLoS ONE*, 14(12), 1–21
28. Gregor, M. A., & O'Brien, K. M. (2016). Understanding career aspirations among young women: Improving instrumentation. *Journal of Career Assessment*, 24(3), 559-572.
29. Grosswirth Kachtan, D. (2019). Challenging hegemonic masculinity by performance of ethnic habitus. *Gender, Work & Organization*, 26(10), 1489-1505. <https://doi.org/10.1111/gwao.12401>
30. Hans, S. (2018). Job characteristics affect shared leadership and perceived self-efficacy. <https://doi.org/10.1108/LODJ-03-2018-0101>
31. Hartman, R. L., & Barber, E. G. (2020). Women in the workforce: The effect of gender on occupational self-efficacy, work engagement and career aspirations. *Gender in Management*, 35(1), 92–118. <https://doi.org/10.1108/GM-04-2019-0062>
32. Hechavarría, D. M., Renko, M., & Matthews, C. H. (2012). The nascent entrepreneurship hub: goals, entrepreneurial self-efficacy and start-up outcomes. *Small Business Economics*, 39(3), 685-701.
33. Hunt, C. M., Fielden, S., & Woolnough, H. M. (2019). The potential of online coaching to develop female entrepreneurial self-efficacy. *Gender in Management: An International Journal*, 34(8), 685–701. <https://doi.org/10.1108/GM-02-2019-0021>
34. Jawahar, I. M., & Hemmasi, P. (2006). *Perceived organizational support for women's advancement and turnover intentions*. *Women in Management Review*, 21(8), 643–661. <https://doi.org/10.1108/09649420610712036>
35. Jyoti, J., & Sharma, P. (2017). Empirical investigation of a moderating and mediating variable in between mentoring and job performance: A structural model. *Journal of Work and Organizational Psychology*, 33(1), 55–67. <https://doi.org/10.1016/j.rpto.2017.01.002>
36. Kang, J., & Hubbard, G. T. (2019). Gender and credibility in branded storytelling. *Gender in Management: An International Journal*. 34(8), 702-714. <https://doi.org/10.1108/GM-02-2019-0015>
37. Kanter, R. M., 1977, *Men and Women of the Corporation*. New York: Basic Book
38. Khan, R., & Sherwani, N. U. K. (2022). Linking Career Aspiration and Perceived Organizational Support: The Mediating Role of Proactive Career Behavior. *International Management Review*, 18(2).
39. Kim, K. Y., Atwater, L., Jolly, P. M., Kim, M., & Baik, K. (2020). The Vicious Cycle of Work Life: Work Effort Versus Career Development Effort. *Group and Organization Management*, 45(3), 351–385. <https://doi.org/10.1177/1059601119880377>
40. Lent, R. W., & Brown, S. D. (2008). Social cognitive career theory and subjective well-being in the context of work. *Journal of Career Assessment*, 16(1), 6-21.
41. Lent, Robert W.; Brown, Steven D. (2013). Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span. *Journal of Counseling Psychology*, 60(4), 557–568. <https://doi.org/10.1037/a0033446>

42. Litzky, B., & Greenhaus, J. (2007). The relationship between gender and aspirations to senior management. *Career development international*, 12(7), 637-659. <https://doi.org/10.1108/13620430710834404>
43. Liu, T., Gao, J., Zhu, M., & Qiu, Y. (2020). How career expectations influence advancement: evidence from women in the hospitality industry. *Tourism Review*. <https://doi.org/10.1108/TR-12-2019-0513>
44. Liu, T., Shen, H., & Gao, J. (2020). Women's career advancement in hotels: the mediating role of organizational commitment. *International Journal of Contemporary Hospitality Management*, 32(8), 2543-2561. <https://doi.org/10.1108/IJCHM-12-2019-1030>
45. Mañas Rodríguez, M. Á., Estreder, Y., Martínez-Tur, V., Díaz-Fúnez, P. A., & Pecino-Medina, V. (2020). A positive spiral of self-efficacy among public employees. *Personnel Review*, <https://doi.org/10.1108/PR-09-2018-0364>
46. Maqsood, H., Younus, S., Naveed, S., Mohyud, A., Chaudhary, D., & Khan, M. T. (2021). Sticky Floor , Broken Ladder , and Glass Ceiling : Gender and Racial Trends Among Neurosurgery Residents. 13(9). <https://doi.org/10.7759/cureus.18229>
47. Masood, S., Nawab, S., & Shafi, K. (2021). A Study of Women's Glass Ceiling Beliefs and Turnover Intentions in Relation with OSE. *Journal of Management Practices, Humanities and Social Sciences*, 5(3), 43-54. DOI: <https://doi.org/10.33152/jmphss-5.3.5>
48. McKelway, M. (2019). Vicious and virtuous cycles: Self-efficacy and employment of women in India. Working Paper
49. McKenzie, S., Coldwell-Neilson, J., & Palmer, S. (2017). Informing the career development of IT students by understanding their career aspirations and skill development action plans. *Australian Journal of Career Development*, 26(1), 14–23. <https://doi.org/10.1177/1038416217697972>
50. Mone, M. A. (1994). Relationships between self-concepts, aspirations, emotional responses, and intent to leave a downsizing organization. *Human Resource Management*, 33(2), 281-298.
51. Moorthy, K., Salleh, N. M. Z. N., Ting, L. C., Ling, L. P., Min Yeng, D., Jia Ning, L., ... & Pui Mun, L. (2022). Gender Inequality Affecting Women's Career Progression in Malaysia. *Journal of International Women's Studies*, 23(1), 32.
52. Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of counseling psychology*, 38(1), 30.
53. Nielsen, V. L., & Madsen, M. B. (2019). Gender diversity and management aspirations in public sector workplaces in Denmark. *Gender in Management: An International Journal*, 34(6), 465–488. <https://doi.org/10.1108/gm-06-2018-0063>
54. Niler, A. A., Asencio, R., & DeChurch, L. A. (2020). Solidarity in STEM: How Gender Composition Affects Women's Experience in Work Teams. *Sex Roles*, 82(3–4), 142–154. <https://doi.org/10.1007/s11199-019-01046-8>

55. Noteboom, C., Chad, F., Crandall, K., & Crandall, K. (2022, January). The Past Decade View of the IS Workforce and Gender Literature: A Systematic Review. In Proceedings of the 55th Hawaii International Conference on System Sciences.
56. Nouri, P., -Imanipour, N., & Ahmadikafeshani, A. (2019). Exploring female entrepreneurs marketing decisions with a heuristics and biases approach. *Gender in Management: An International Journal*, 34(8), 624- 644. <https://doi.org/10.1108/GM-11-2018-0155>
57. Penn, L. T., & Lent, R. W. (2019). The joint roles of career decision self-efficacy and personality traits in the prediction of career decidedness and decisional difficulty. *Journal of Career Assessment*, 27(3), 457–470.
58. Pinto, M., Sales, D., & Fernández-Pascual, R. (2019). Gender perspective on information literacy: An interdisciplinary and multidimensional analysis within higher education settings. *Library and Information Science Research*, 41(4), 100979. <https://doi.org/10.1016/j.lisr.2019.100979>
59. Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903.
60. Robinson, K. A., Perez, T., White-Levatich, A., & Linnenbrink-Garcia, L. (2022). Gender differences and roles of two science self-efficacy beliefs in predicting post-college outcomes. *The Journal of Experimental Education*, 90(2), 344-363. <https://doi.org/10.1080/00220973.2020.1808944>
61. Roy, R., Akhtar, F., & Das, N. (2017). Entrepreneurial intention among science & technology students in India: extending the theory of planned behavior. *International Entrepreneurship and Management Journal*, 13(4), 1013-1041. <https://doi.org/10.1007/s11365-017-0434-y>
62. Sarkar, A. (2022). Factors associated with general self-efficacy of women leaders in India. *Leadership & Organization Development Journal*, 43(7), 1080-1097. DOI 10.1108/LODJ-12-2021-0540.
63. Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. *J. Weinman, S. Wright, & M. Johnston, Measures in health psychology: A user's portfolio. Causal and control beliefs*, 35, 37.
64. Sheaffer, Z., Levy, S., & Navot, E. (2018). Fears, discrimination and perceived workplace promotion. *Baltic Journal of Management*, 13(1), 2–19. <https://doi.org/10.1108/BJM-05-2017-0165>
65. Shin, Y. J., Lee, E. S., & Seo, Y. (2019). Does Traditional Stereotyping of Career as Male Affect College Women's, but Not College Men's, Career Decision Self-Efficacy and Ultimately Their Career Adaptability? *Sex Roles*, 81(1–2), 74–86. <https://doi.org/10.1007/s11199-018-0976-7>
66. To, C. K., Martínez, J. M. G., Orero-Blat, M., & Chau, K. P. (2020). Predicting motivational outcomes in social entrepreneurship: Roles of entrepreneurial self-efficacy and situational fit. *Journal of Business Research*, 121, 209-222. <https://doi.org/10.1016/j.jbusres.2020.08.022>



67. Tzu-Ling, H. (2019). Gender differences in high-school learning experiences, motivation, self-efficacy, and career aspirations among Taiwanese STEM college students. *International Journal of Science Education*, 41(13), 1870-1884.
68. Ünal, A., Anasori, E., & Çelen, O. N. U. R. (2022). Glass Ceiling or Queen Bee Syndrome? A  
on Five Star Accommodation  
Businesses. *International Social Mentality and Research Thinkers Journal*, 8(58).<http://dx.doi.org/10.31576/smryj.62117>
69. Vimalkumar, M., Singh, J. B., & Gouda, S. K. (2021). Contextualizing the relationship between gender and computer self-efficacy: An empirical study from India. *Information & Management*, 58(4), 103464. <https://doi.org/10.1016/j.im.2021.103464>
70. Webster, J. R., & Beehr, T. A. (2013). Antecedents and outcomes of employee perceptions of intra-organizational mobility channels. *Journal of Organizational Behavior*, 34(7), 919-941.
71. Wood, V. M., & Charbonneau, D. (2018). Gender, self-efficacy, and warrior identification in Canadian Army personnel. *Journal of Gender Studies*, 27(7), 747–758. <https://doi.org/10.1080/09589236.2017.1301812>
72. Zhao, K., Zhang, M., & Foley, S. (2019). Testing two mechanisms linking work-to-family conflict to individual consequences: do gender and gender role orientation make a difference? *The International Journal of Human Resource Management*, 30(6), 988-1009.
73. Zimmerman, S. D. (2019). Elite colleges and upward mobility to top jobs and top incomes. *American Economic Review*, 109(1), 1-47.