Indian Journal of Information Sources and Services
ISSN: 2231-6094 (P) Vol.16, No.2, 2026, pp.659-672

DOI: https://doi.org/10.51983/ijiss-2026.16.2.66

Extending Social Cognitive Career Theory: A Quantitative Analysis of Self-Efficacy, Career Aspirations, and Decision-Making Among Young Adults

Dr.M. Sulaipher[1*], E.G. Rajesh[2] and Dr. Cris Abraham Kochukalam[3]

[1*]Associate Professor, Marian Institute of Management, Marian College Kuttikanam (Autonomous), Idukki, India
[2]Research Scholar, Department of Management Studies, Noorul Islam Centre for Higher Education, Kumaracoil, Thukalay, Kanyakumari, Tamil Nadu, India
[3]Associate Professor, Berchman's Institute of Management Studies, St. Berchmans College, Changanassery, Kottayam District, Kerala, India
E-mail: [1]sulaipherjerry@gmail.com, [2]rajeshgedamana@gmail.com, [3]crisabrahamk@gmail.com
ORCID: [1]https://orcid.org/0009-0000-1433-5846, [2]https://orcid.org/0009-0007-5853-2869, [3]https://orcid.org/0000-0002-5099-1098
(Received 03 April 2026; Revised 08 May 2026, Accepted 18 May 2026; Available online 05 June 2026)

Abstract - **Factors like labor market shifting, advancements in technology, and drastic evolvement in socio-economic landscapes drive young peers in making career-making decisions. The crucial key, according to Social Cognitive Career Theory (SCCT), is self-efficacy. Current studies showcase the gap in understanding the significance of GSE and how it has been played in motivational and contextual standpoints. Thereby, this study shows an extended version of SCCT through a comprehensive model which examines constructs like General Self-efficacy (GSE), Outcome Expectations (OE), Career Exploration Behaviors (CEB), and Perceived Social Support (PSS) on young adults' Career Aspirations (CA) and Career Decision Self-Efficacy (CDSE). As part of the justification, a survey of 18–30-year-old individuals has been conducted from various educational and socio-economic backgrounds, which helps in analyzing the psychology and contextual factors. For this categorized into direct, mediated, and moderated constructs, which are being evaluated using Confirmatory Factor Analysis (CFA) with a value over 0.6 and having the threshold range of 0.6-0.88 & Structural Equation Modeling (SEM) with an evaluative measurement of mean value range above 0.5, skewness value range above -0.3, Standard deviations over 0.6, and finally kurtosis with the range above 0.2. Evaluation results show that CA and OE act as a medium for GSE and CDSE, along with increasing CEB and PSS, which boosts confidence in decision-making. By combining behavioral, contextual, and motivational elements, this study expands SCCT and provides information for career counseling and policies aimed at enhancing young adults' professional preparedness.**

Keywords: **Social Cognitive Career Theory (SCCT), General Self-Efficacy, Career Aspirations, Career exploration, Young Adults, Career Decision Self-Efficacy, Career-Related Distress**

I. INTRODUCTION

Career development during young adulthood is marked by complex decisions in a rapidly evolving labor market, where individuals must navigate rapidly shifting employment opportunities, global uncertainty, and heightened educational expectations. Developing a career is considered one of the critical decisions when it comes to adulthood in such a highly evolving market, where individuals are trying to navigate and seize opportunities in the face of high educational expectations. According to psychology of education and career guidance research, the biggest concern is how the decision-making process amongst young peers and how well they commit to the process shows the significance of the issue. One of the frameworks that showcases such dynamics will be SCCT via factors like personal beliefs, cognitive processes, and contextual influences on career choices and behaviors. The current literature studies continue to expand the SCCT framework, more so to show the dynamics and the significance of self-efficacy that are submerged in motivational and behavioral perspectives into models for career development among young individuals (Gunawan et al., 2025; Santos & Liguori, 2020).

Self-efficacy showcases a mainstream driver of motivation within the SCCT framework, which shapes individuals in pursuing their goals and thereby makes career-based decisions. It also shows another side of believing in their ability to produce successful tasks that are associated with career development (Duong et al., 2024). OE plays a crucial role in sustaining motivation and efforts, and is also explained as a consequence of career choices; however, this construct becomes less visible than GSE when running through the models (Aydın, 2022). Additionally, CEB, which is defined as questioning information and amplifying self-reflection, thereby improving the potential career path, can lead to strong career goals. Career decision self-efficacy and subsequent career outcomes are positively impacted by career exploration, with decision-making confidence serving as a key mediating mechanism, according to research using SCCT in Chinese university populations (Međugorac et al., 2020). Other recent research reveals complex pathways from beliefs to motivational and emotional career outcomes like

aspirations and distress by establishing a link between perceived future employability, self-efficacy, and outcome expectations (Munir et al., 2022).

An extended SCCT model (Fig. 1), which combines cognitive, behavioral, contextual, and emotional factors, including general self-efficacy, outcome expectations, career exploration behaviors, perceived social support, and career-related distress into a unified framework, is introduced in this study to fill in these gaps. This integrative approach aims to advance theory-driven empirical insight into the multifaceted processes underlying career aspirations and career decision self-efficacy in early adulthood.

1.1 Key Contributions

A unified framework was generated in order to explain the career aspirations and career decision self-efficacy among young adults based on the factors that are from the extension of SCCT, such as integrating cognitive, motivational, behavioral, contextual, and emotional factors. This study also provides greater empirical evidence for various constructs on indirect and direct relationships via the SEM method. By understanding additionally mediation and moderated effects in order to dictate the improvement of confidence and aspirations in career-making decisions. The findings and analysis done on various hypotheses with respect to direct and indirect relationships and in correlation with various constructs, PSS, CA, CDSE, and OE, show a significant impact on career-making decisions in a positive way, and parallel additional constructs like CRD negatively impact the relationship between GSE and CDSE in the same way. Finally, this study shows the practical aspect amongst areas like educators, trainers, institutions, and organizations by identifying key points and thereby enhancing the supportive constructs vs the constructs that weaken in order to understand the career-making decisions amongst young adults.

1.2 Organization

As already looked through, the significance of self-efficacy plays among young adults in making career-making decisions and other constructs that could potentially impact the same are discussed in the introduction section. The remainder of the paper is as follows: Section 2 depicts the conceptual framework and Hypothesis that justifies various key constructs used for the evaluation of career-making decisions. Section 3 shows research methodology, which shows the data collection, various methods of evaluation, and some analytical procedures. Section 4 shows quantitative results and analysis with respect to indirect and direct relationships with various constructs, and also uses various measurement methods to evaluate and justify the results, and finally ends with a conclusion in Section 5.

II. CONCEPTUAL FRAMEWORK AND HYPOTHESIS

2.1 Literature Review

Previous studies suffer from major weaknesses (Table I), in spite of substantial theoretical developments. Without considering the role played by cognitive beliefs, motivational expectations, and support resources in determining the level of career decision-making confidence and aspirations simultaneously in an all-inclusive SCCT framework, previous studies often examine single constructs, such as career exploration or job search self-efficacy. As demonstrated in a recent scoping study, empirical evidence relating specifically to job search self-efficacy tends to consider only personal characteristics and immediate consequences (for example, job search behaviors) rather than career consequences or more complex mechanisms that involve support and motivational variables (Zheng et al., 2025). Moreover, environmental factors, including social support, and psychological variables, like career distress, tend to be considered inconsistently rather than systematically as moderators or mediators within extended SCCT models. The lack of knowledge about the process through which young people employ self-beliefs and environmental resources to attain career objectives over time and make decisions confidently in changing work contexts results from this weakness.

TABLE I LITERATURE REVIEW

Author(s)	Sample/Context	Key Constructs	Primary Insights
(Ergin-Kocaturk et al., 2025)	Young Adults	Individuals' perceived employability, self-efficacy beliefs, and anticipated outcomes	The role of outcome expectations in shaping career distress and aspirational outcomes
(Su et al., 2024)	Chinese university students	Career exploration behaviors and career decision self-efficacy beliefs	Career exploration serves as a significant predictor of career decision self-efficacy.
(Linge & Kosnin, 2024)	Vietnamese students	Beliefs in personal capability, career exploration behaviors, and supportive social contexts	SCCT's extended version always incorporates PSS
(Wang et al., 2024)	Adolescents and social support	Supportive social resources and career decision self-efficacy beliefs	The effects of PSS are maintained via CDSE
(Gerçek & Özveren, 2025)	Self-efficacy via SCCT for job seekers and students	Career adaptability, Job search Self Efficacy (JSSE), emotional intelligence, Mental support	Analyzed the individual traits and additional ones, like extraversion. They also use homogeneous samples.
(Zhang et al., 2025)	Effects of CDMSE and other constructs evaluated for university students from China/Malaysia	Career planning education, CDMSE	Improving the confidence and adaptability of making their career decisions for educational and training programs.
(Fang et al., 2025)	Young adults with an N value of 449	PFE, GSE, OE	The factor PFE and anxiety become the major connection among SCCT students.

2.2 Research Gap

In spite of the progress achieved in terms of the development of Social Cognitive Career Theory (SCCT), it is still possible to identify numerous lacunas in the current body of knowledge in the field. First, it should be noted that there is still insufficient integration of cognitive, motivational, and contextual processes into unified frameworks, frequently emphasizing such aspects as career exploration or employability. Second, expectations regarding results are also underexplored, being inadequately considered in terms of their relationship with self-efficacy expectations. Moreover, emotional and psychological moderating variables, such as career-related distress or anxiety, are not adequately reflected in existing models of prediction.

2.3 Theoretical Positioning: Extended SCCT Framework

In order to explain the existing and the additional constructs associated with career development, this study brings an extended SCCT that integrates factors such as cognitive, motivational, behavioral, contextual, and emotional (Lent & Brown, 2019). Recent literature review research suggests that adding CE, PSS, and CRD drastically improves the impact in current labor landscapes. This is in contrast to classical SCCT, which places an emphasis on the reciprocal roles of self-efficacy, outcome expectations, and goals.

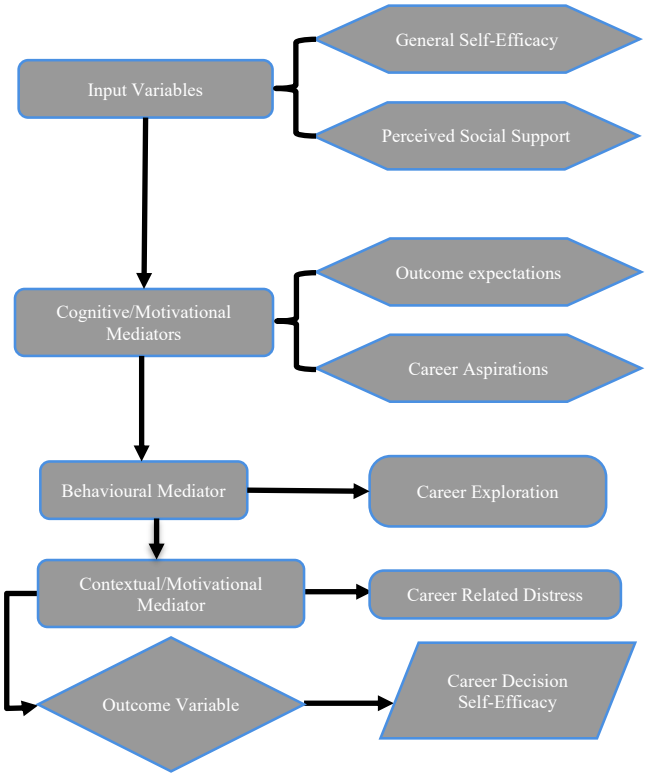

Fig. 1 Conceptual Framework for the Extended SCCT Model

General Self-Efficacy (GSE) is a personal belief that underpins how people respond to challenges and opportunities in this extended model. Efficacy expectations are converted to motivational intent through Outcome Expectations (OE), which are cognitive representations of the outcomes expected from career-relevant behaviors. Career Exploration Behaviors (CEBs) convert motivation into action by measuring proactive behaviors associated with searching for information and self-assessment. Career Distress (CRD) reflects mental distress that can interfere with adaptive processes, while Perceived Social Support (PSS) provides situational support (Chui et al., 2022). Two outcome constructs are examined in this study: CDSE, indicating confidence in career decision-making, and CA, capturing a goal-oriented cognitive state.

Fig. 2 shows a path diagram that shows GSE, OE, CA, and CDSE, with direct routes from GSE to CA and CDSE, CEB acting as a mediator between OE and CDSE, PSS acting as a moderator to strengthen key routes, and CRD acting as a moderator to reduce the effects of GSE and OE on CA and CDSE.

This study is relevant to information systems research despite its foundation in SCCT because career exploration and decision-making increasingly take place in digital information environments. Young adults use online resources, institutional websites, and digital career services to find career information. Knowledge of the impact of self-efficacy and outcome expectancy in the context of information seeking and decision confidence can be helpful in understanding information behavior and decision support systems.

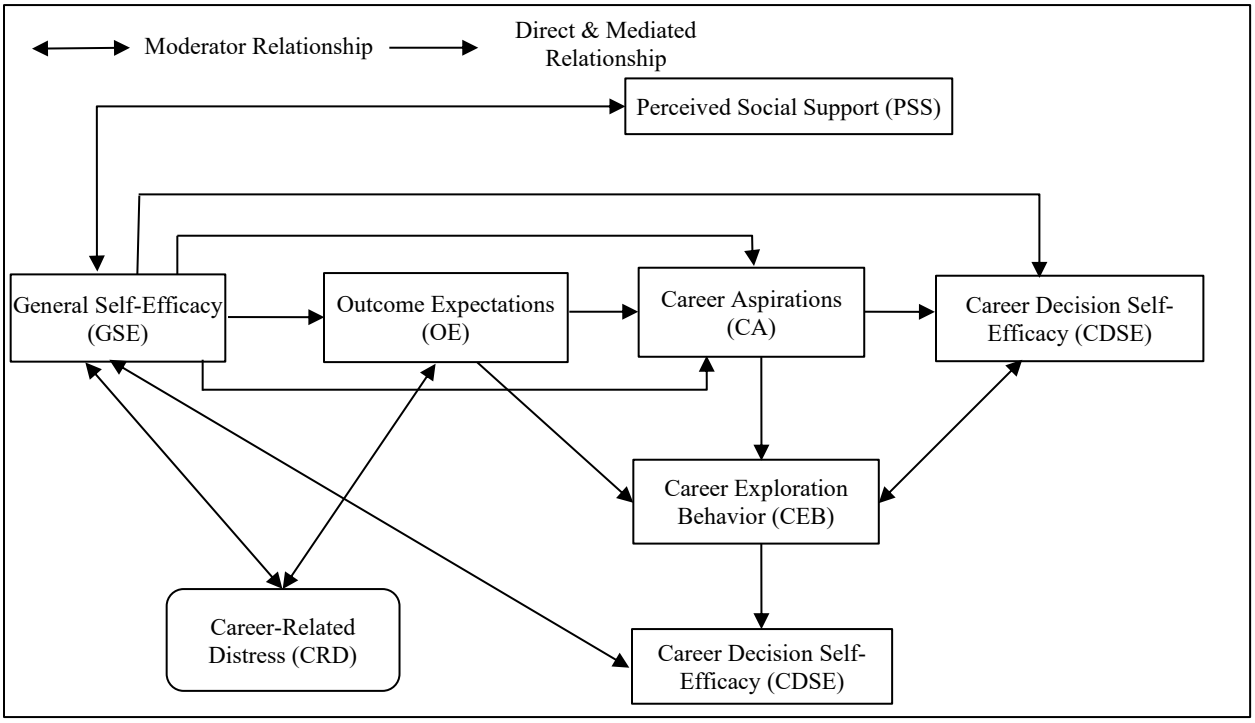

Fig. 2 Conceptual schema of Direct, Mediated, and Moderator Relationships with Constructs

2.4 Constructs and Relationship: Functional

General Self-Efficacy (GSE): A generalized self-belief in the ability to manage difficult situations, general self-efficacy is found to be associated with confidence and adaptive career behaviors in diverse educational and cultural contexts, especially in an uncertain labor market.

Outcome Expectations (OE): Beliefs about the potential benefits or costs of career actions are captured by outcome expectations. In the current SCCTs, OE is given significant importance as a key mediator of efficacy beliefs to persistent motivation and aspiration formation.

Career Exploration Behaviors (CEB): Career exploration behaviors are behaviors that reflect the behavioral aspects of career exploration motivation and involve actively seeking career-related information. Based on the findings, the more CEB, the more the boosts in career-making decisions.

Perceived Social Support (PSS): PSS is always related to encouragement and direction from family, peers, mentors, and institutions.

Career Related Distress (CRD): Anxiety and emotional distress from career uncertainty affect it and, with regard to SCCT, allows for the exploration of mechanisms of inhibition that enhance the positive motivational pathways.

2.5 Development of Hypothesis

Career development outcomes are influenced by the broader picture of the SCCT framework, which takes into account the importance of cognitive beliefs, motivational expectations, behavioral acts, and contextual influences. The hypotheses are categorized to explore direct, mediated, and moderated relationships instead of a single factor. This allows us to explore the contexts in which self-beliefs can impact career aspirations and self-assurance in career decision making (Wang & Dong, 2024; Odacı et al., 2023; Assahrawiza et al., 2024).

2.5.1 Direct Relationship

H1: Career aspirations benefit from general self-efficacy

This hypothesis proposes that individuals are more likely to pursue challenging and highly valued career goals if they have firmer generalized beliefs in their ability. The more GSE, the more CA, because it can increase confidence in managing future uncertainty. This direct relationship establishes general self-efficacy as a fundamental motivational driver during early career development.

H2: General self-efficacy exerts a positive influence on career decision self-efficacy.

In terms of people having higher levels of confidence, they are more likely to participate effectively in career-related decision-making due to the direct impact on CDSE. This hypothesis reflects the cognitive transfer of global competence beliefs into domain-specific decision confidence, a mechanism that is frequently supported in modern SCCT extensions.

H3: Career aspirations are influenced positively by outcome expectations.

Advantages of pursuing a career are defined as OE, actually. If the individuals try to aim for things like success, stability,

and fulfillment, it's more likely to improve their CA. This hypothesis strategizes the use of OE as a motivational bridge linking beliefs about ability to goal formation.

H4: Career aspirations contribute positively to individuals' confidence in making career-related decisions.

CA always acts or defines how committed you are to future goals and the clarity to achieve the same for decision-making in your career. It solidifies CDSE by improving the ability to make improved decisions.

2.5.2 Mediated Relationship

H5: The connection between career aspirations and general self-efficacy is mediated by outcome expectations.

Peers can make their ability to translate GSE to CA unless they believe in their efforts, which leads to the true outcome, as this hypothesis posits. Consequently, OE can be used psychologically to transform competence beliefs into aspirational goal-setting.

H6: The relationship between outcome expectations and career decision self-efficacy is mediated by engagement in career exploration behaviors.

Positive outcomes come with peers having active energy in seeking information and exploring various career opportunities. By going through this path, it increases confidence in career-making decisions, in which their knowledge increases, and reduces uncertainty. The behavioral pathway by which motivation influences decision outcomes is brought to light in this mediation.

H7: The association between outcome expectations and career decision self-efficacy is mediated by career aspirations.

To develop career goals, more positive OE outcomes are necessary. This will thereby bring more focus on the direction and purpose of career decisions.

2.5.3 Moderated Relationship

H8: Higher levels of perceived social support amplify the positive link between general self-efficacy and career aspirations.

PSS can be boosted by giving external validation and encouragement, indirectly, thus making self-efficacy better. People feel confident in achieving ambitious career goals when they feel supported by family, peers, or institutions.

H9: Higher perceived social support amplifies the positive link between career decision self-efficacy and career exploration behaviors.

During the exploration period, accessing resources and getting proper feedback from an environment that is supportive is more productive for positive outcomes. In the end, the greater the PSS, the greater its influence on confidence in career decisions.

H10: Career-related distress negatively moderates the relationship between general self-efficacy and career decision self-efficacy.

Career based stress can make peers having high level GSE, makes difficult enough to focus on being confident. According to this hypothesis, psychological stress may weaken adaptive cognitive pathways, making it harder to translate competence beliefs into confident decision-making.

2.6 Structural Equation Specifications

Statistically operationalizing the relationships described in the theoretical part of the hypotheses in this study is the structural equations model. Structural equation modeling (SEM) allows for directly testing cognitive, motivational, behavioral, and contextual pathways since each equation reflects a particular step in the extended SCCT process. Adopted the divide and conquer method by bringing more equations in order to evaluate direct and indirect effects, which will account for measurement error (Assahrawiza et al., 2024; Putra, 2022) (Equation 1).

$$Outcome\ Expectations\ Model\ OE = \alpha_0 + \alpha_1(GSE) + \varepsilon_1 \quad (1)$$

The assumption that general self-efficacy is a primary antecedent of outcome expectations is reflected in this equation. Positive outcomes from career-related actions are more likely to be anticipated by people who have stronger beliefs in their overall competence. By establishing outcome expectations as a mediating construct, this specification directly supports Hypothesis H5 (Equation 2).

$$Career\ Aspirations\ Model\ CA = \beta_0 + \beta_1(GSE) + \beta_2(OE) + \beta_3(GSE \times PSS) + \varepsilon_2 \quad (2)$$

This equation displays a moderation term for career aspirations, which is a function of cognitive beliefs and motivational expectations. The interaction of general self-efficacy and perceived social support (Equation 3) could be explored empirically to investigate Hypothesis H8, the multiplicative effect of contextual resources to amplify motivational processes (Equation 3).

$$Career\ Exploration\ Model\ CEB = \gamma_0 + \gamma_1(OE) + \varepsilon_3 \quad (3)$$

Career Exploration-related behaviors are described as behavioral outcomes that are determined by motivational expectations. This equation supports Hypothesis H6, which is then used as a mediator in the equation examining the influence on decision confidence (Equation 4), while adding outcome expectations to the equation to create a connection with active exploration engagement.

$$Career\ Decision\ Self-Efficacy\ Model\ CDSE = \delta_0 + \delta_1(GSE) + \delta_2(CA) + \delta_3(CEB) + \delta_4(GSE \times CRD) + \delta_5(CEB \times PSS) + \varepsilon_4 \quad (4)$$

Direct cognitive effects, mediated pathways, and moderating influences are integrated in this final equation to form a single outcome model. Hypotheses H9 and H10 can be tested with the insertion of interaction terms to examine whether supportive and distressing contexts are significant in the conversion of beliefs and behaviors to career decision self-efficacy. These equations, as a whole, represent the extended SCCT framework statistically, connecting the theoretical assumptions, hypotheses, and empirical testing strategy.

2.7 Analytical Approach

Fig. (3-5) show the order to evaluate the hypothesis determined in previous sections. The Structural Equation Modeling (SEM) will be used, and in order to evaluate the constructs, the Confirmatory Factor Analysis (CFA) will be used, and path analysis will be used to estimate direct, mediated, and moderated effects.

TABLE II OVERALL HYPOTHESIS AND ITS METHOD OF ANALYSIS

Hypothesis	Relationship Type	Method
H1-H4	Direct	SEM path analysis
H5-H7	Mediated	Bootstrap indirect effects
H8-H10	Moderated	Interaction terms in SEM

Table II shows the evaluation of all 10 hypotheses using SEM, which is categorized based on direct, mediated, and moderated effects. This overview ensures that the analytical strategy is transparent and provides a clear road map connecting theoretical assumptions to statistical evaluation.

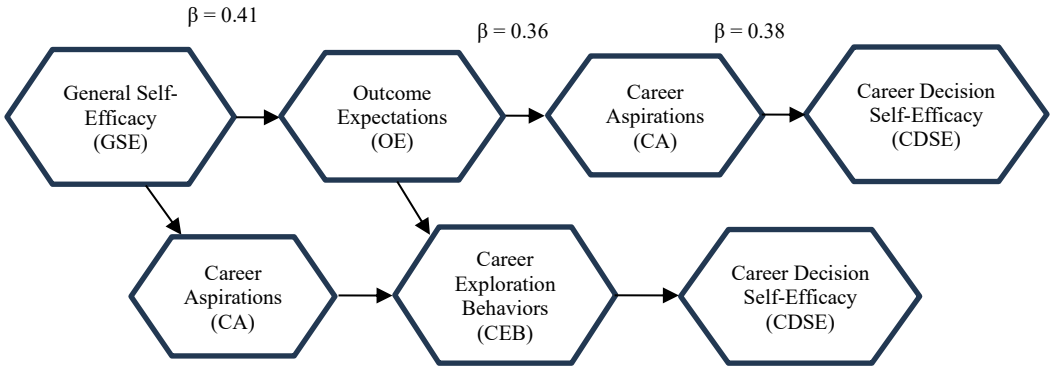

Fig. 3 Path Coefficient Correlation Via Direct Relationship

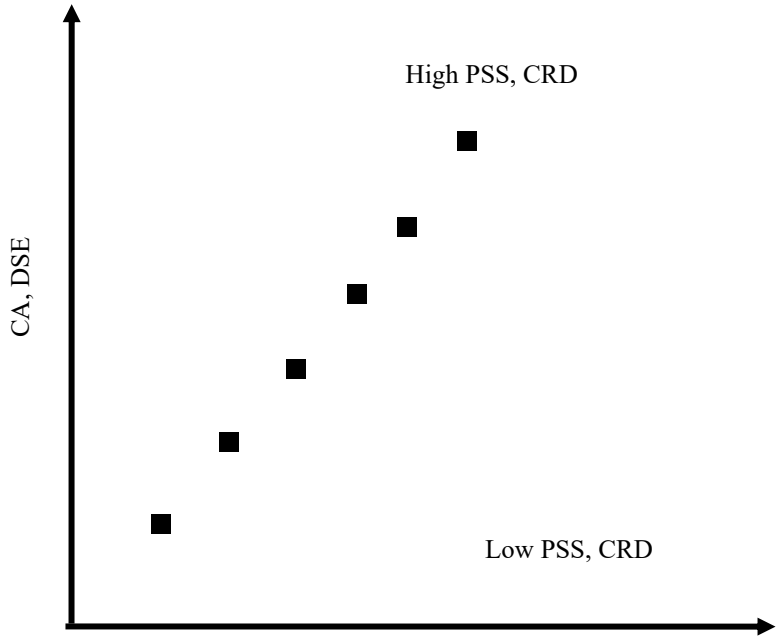

Fig. 4 Constructs an Illustration Based on the Standard Deviation (SD) (+-1)

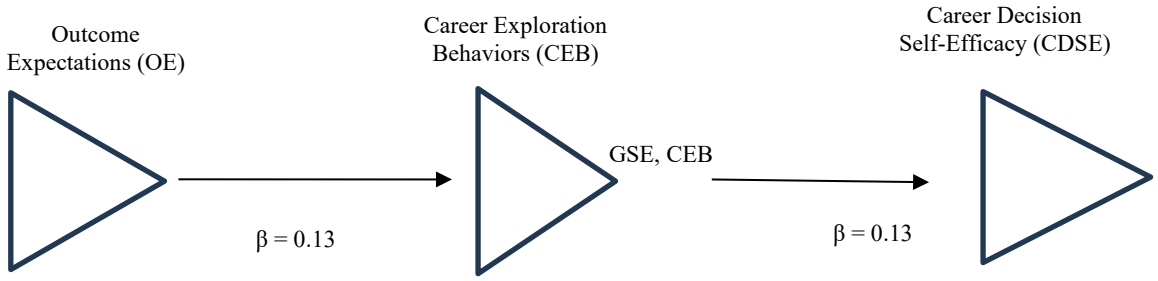

Fig. 5 Indirect Relationship of OE & CDSE via CEB

III. Research Methodology

This study is a quantitative cross-sectional study in order to empirically evaluate the expanded SCCT framework described in Section 3. Given the fact that the proposed model involves direct, mediated, and moderated relationships between the latent constructs, the application of structural equation modeling (SEM) is required, which allows the estimation of several paths simultaneously while controlling for measurement error.

This design provides for the connection between conceptual assumptions, statistical modeling, and interpretation of the results at the empirical level, allowing for the testing of theory-driven hypotheses instead of providing exploratory analysis (Fig. 6).

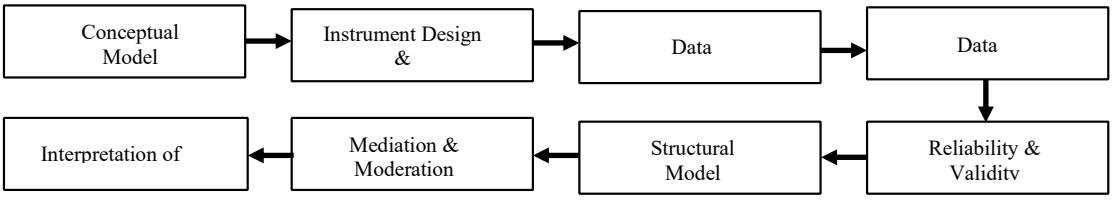

Fig. 6 Research Methodology Overview Schema

3.1 Data Collection

For analysis, data collection is necessary, and for this evaluation, a structured, self-administered questionnaire will be given to young adults enrolled in higher education or just starting their careers. This collection is significant enough and was done based on actively shaping their career goals and confidence in decision-making. A non-probability purposive sampling strategy will be utilized in order to guarantee that respondents meet predetermined criteria such as age range, educational status, and active participation in career decision-making. Online survey-based platforms are utilized in order to increase accessibility and response rates. An online survey was distributed through university mailing lists and student portals between March and May 2025. There were 412 responses, of which 350 were kept after incomplete entries were removed. Participants were undergraduate and postgraduate students aged between 18 and 29 years. The sample also considered demographic perspectives, such as male (48%) and female (49%), with a mean age of 22.5 (standard deviation: 2.1), and missing details were carried based on listing deletion (<3%).

For improving the model's stability, SEM needs a large enough sample. A ratio of at least 10 respondents to estimated parameters will be used to calculate the minimum sample size, with an expected target sample size exceeding this threshold to ensure accurate estimation (Table III).

TABLE III DATA COLLECTION OVERVIEW

Variables	Category	Frequency Category frequency (n)	Percentage (%)
Gender	Male	168	48
	Female	172	49
	Others	10	2.9
Age group	18-20 years	92	26.3
	21-25 years	164	46.9
	26-30 years	94	26.8
Education level	Undergraduate	214	61.1
	Postgraduate	136	38.9
Employment Status	Student	201	57.4
	Employed	98	28
	Actively seeking employment	51	14.6

3.2 Likert Scale Mechanism

The constructs being proposed in this study are being evaluated using multi-item reflective scales adapted from tested instruments published between 2021 and 2025. Responses were recorded on a five-point Likert scale, with anchors from 1 (strongly disagree) to 5 (strongly agree).

3.3 Indicator Specifications

The measurement model is utilized for showcasing the relationship between latent constructs and their observed indicators (Equation 5).

$$X = \lambda \xi + \delta \qquad (5)$$

Where X represents observed indicators, λ denotes factor loadings, ξ represents latent constructs, and δ indicates measurement error.

While isolating random error, this specification ensures that latent variables account for shared variance among their indicators.

3.4 Assessment Quality

Reliability and validity are assessed to ensure the quality of measurement prior to hypothesis testing.

Internal Consistency Reliability: This indicator is used for evaluating using Cronbach's alpha (α) and Composite Reliability (CR) (Equation 6):

$$\alpha \geq 0.70 CR = (\Sigma\lambda)^2 / [(\Sigma\lambda)^2 + \Sigma var(\varepsilon)] \quad (6)$$

For each construct that is defined, this measure is used to evaluate the consistency.

Convergent Validity: This measure is assessed using Average Variance Extracted (AVE) (Equation 7):

$$AVE = \Sigma\lambda^2 / (\Sigma\lambda^2 + \Sigma var(\varepsilon)) \quad (7)$$

If the value of AVE ≥ 0.50, that indicates the explanation of the construct is more than half of the variance with respect to the indicators.

Discriminant Validity: This measure is evaluated using the Heterotrait–Monotrait (HTMT) ratio, ensuring that constructs are empirically distinct.

The measures Cronbach's alpha and composite reliability values above 0.6 and AVE values above 0.50 in Table IV support convergent validity and demonstrate improved and advanced measurement properties for all constructs. HTMT ratios below the 0.85 threshold demonstrate discriminant validity.

TABLE IV VALIDITY ASSESSMENT METRIX

Construct	Cronbach's α	Composite Reliability (CR)	AVE	HTMT
GSE	0.89	0.91	0.62	0.74
OE	0.86	0.88	0.59	0.71
CEB	0.90	0.92	0.65	0.76
CA	0.84	0.87	0.58	0.69
CDSE	0.91	0.93	0.67	0.73
PSS	0.88	0.90	0.60	0.75
CRD	0.82	0.85	0.55	0.70

Table V showcases the scaling aspect of the data collected from the survey point based on each construct. Using tested multi-item scales improves measurement reliability and makes it easier to compare results to previous empirical research.

TABLE V LIKERT SCALE ANALYSIS

Constructs	No. of Items	Likert Scale Rate	Sample Data	Reference
GSE	6	5	"I can effectively deal with unforeseen circumstances."	(Hennein et al., 2022)
OE	5	5	"The efforts I put into my career will pay off."	(Lent et al., 2016)
CEB	6	5	"I actively seek career-related information."	(van Hooft et al., 2021)
CA	4	5	"I want to be very successful in my career,"	(Hirschi et al., 2018)
CDSE	5	5	"I am confident in making decisions regarding my career."	(Kvasková & Almenara, 2021)
PSS	5	5	"I receive support for my career decisions."	(Wasif & Nawab, 2020)
CRD	4	5	"I'm worried about my job prospects."	(Tang et al., 2024)

IV. Data Analysis & Screening Results

The dataset suitability is what mainly needs to be evaluated before testing the hypothesis. Deletion of certain lists happened for empty values. Skewness and kurtosis measures are used to evaluate the normality aspect. Because all values were within the acceptable range of ±2, assumptions for covariance-based SEM were satisfied. AMOS26.0 with likelihood estimation was used to conduct SEM in which over 5000 resamples were utilized to test mediation and moderator relationship bootstrapping and and 95% bias-corrected confidence intervals. Multiple goodness-of-fit indices were used to assess model fit. Acceptable thresholds were $\chi^2/df < 3.0$, CFI and TLI > 0.90, RMSEA and SRMR < 0.08. Reliability was assessed using Cronbach's alpha and composite reliability (>0.70), and convergent validity was established when AVE exceeded 0.50. The HTMT criterion (0.85) was utilized in the evaluation of discriminant validity.

TABLE VI SCREENING RESULTS OF VARIABLES

Code	Mean	Standard Deviation	Skewness	Kurtosis
GSE	3.82	0.64	-0.41	0.36
OE	3.76	0.68	-0.38	0.29
CEB	3.69	0.71	-0.22	0.18
CA	3.88	0.62	-0.45	0.40
CDSE	3.91	0.58	-0.48	0.44
PSS	3.73	0.66	-0.34	0.26
CRD	2.93	0.72	0.30	0.20

The variation in structural analysis for the constructs developed. Table VI shows that GSE, CA, and PSS show a better range in values, while CRD has a low range. Values for GSE (M = 3.82), CA (M = 3.88), and CDSE (M = 3.91) indicate that respondents generally have moderate confidence in their abilities, aspirations, and capacity to make career decisions. OE (M = 3.76) and PSS (M = 3.74) also show that individuals have favorable perceptions of the support they can receive and the career outcomes they anticipate. The value of CEB has a moderate mean value (M = 3.69), which indicates that respondents are actively, if not extensively, seeking career-related information. On the other hand, CRD has a lower mean (M = 2.94), indicating that, despite the fact that participants experience career-related stress, it is not particularly high. The constructs' skewness and kurtosis statistics remain below the 2 thresholds, indicating that the data are adequate for SEM estimation and approximate normality.

4.1 Confirmatory Factor Analysis

Table VII showcases that the results shown below are adequate, in which all standardized loading values exceed 0.6 as a threshold, which ranges from 0.61 to 0.88. These findings provide evidence of strong indicator–construct relationships and support the reliability and validity of the measurement model. Career Decision Self-Efficacy has particularly high loadings (0.72–0.88), indicating that its measurement items have high internal coherence. Similarly, Career Exploration Behaviors and General Self-Efficacy show consistently high factor loadings, reinforcing the robustness of these constructs within the measurement model. With $p < 0.001$, all t-values are statistically significant and above the critical value of 1.96, demonstrating indicator reliability. These results support the measurement model's sufficiency and justify moving on to structural model estimation as a whole (Fig. 7).

TABLE VII CFA RESULTS

Construct	Item code	Load (Standard)	t-value
GSE	GSE1–GSE6	0.68–0.82	>10.0
OE	OE1–OE5	0.65–0.82	>9.5
CEB	CEB1–CEB6	0.71–0.86	>11.2
CA	CA1–CA4	0.65–0.81	>9.0
CDSE	CDSE1–CDSE5	0.72–0.87	>12.1
PSS	PSS1–PSS5	0.66–0.83	>10.3
CRD	CRD1–CRD4	0.61–0.80	>8.7

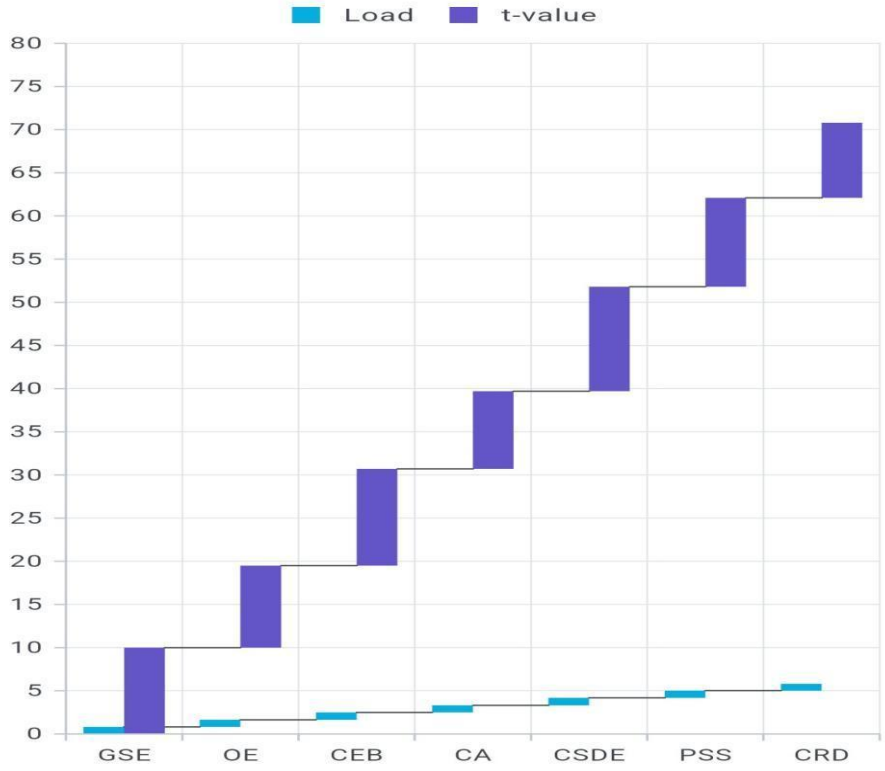

Fig. 7 Constructs vs Load and t- value Evaluation for CFA

4.2 Structural Fit Results

Table VIII reports the goodness-of-fit statistics for the structural model. All fit indices satisfy or exceed recommended cutoff values, indicating that the proposed extended SCCT model demonstrates an adequate fit to the empirical data. The chi-square to degrees of freedom ratio ($\chi^2/df = 2.40$) falls below the recommended threshold of 3.0, supporting acceptable model fit. This assessment is reinforced by incremental fit indices, with both the Tucker–Lewis Index (TLI = 0.93) and the Comparative Fit Index (CFI) exceeding the minimum criterion of 0.90. Also used

additional measures such as Standardized Root Mean Square Residual (SRMR), and if the Root Mean Square Error of Approximation (RMSEA) is still below the recommended limit of 0.08, that shows that the proposed model and the data that were observed are very similar. As a whole, these results demonstrate that the extended SCCT model accurately reflects the underlying relationships.

TABLE VIII FIT FOR VARIABLE EVALUATION

Variables	Threshold	Fit obtained
χ^2/df	<3.0	2.40
CFI	≥ 0.89	0.93
TLI	≥ 0.90	0.92
RMSEA	≤ 0.08	0.055
SRMR	≤ 0.08	0.048

4.3 Hypothesis Analysis: Direct Relationship

The standardized direct effects between latent constructs were estimated using path analysis.

TABLE IX DIRECT RELATIONSHIP ANALYSIS

Hypothesis	Flow	β	t-value	Final Results
H1	GSE → CA	0.41	7.85	Satisfied
H2	GSE → CDSE	0.30	6.11	Satisfied
H3	OE → CA	0.36	7.20	Satisfied
H4	CA → CDSE	0.38	7.53	Satisfied

Based on the SCCT framework, Table IX showcases the direct relationship with respect to the hypothesis developed in which GSE has a significant impact on CA of value (β= 0.41, t = 7.85), indicating that individuals with greater confidence in their general capabilities tend to set higher career goals. With the same pattern, GSE has a significant impact on CDSE (less than or equal to 0.30), indicating that it is a crucial cognitive resource in career decision-making. The value OE (β= 0.36) significantly predicts CA, by anticipating outcomes that are positive, which indicates that peers are motivated enough for their goals. Additionally, Career Decision Self-Efficacy is significantly influenced by Career Aspirations (β= 0.38), indicating that goal clarity boosts confidence in career-related decision-making. The empirical evidence for Hypotheses H1 through H4 is provided by the statistical significance of each and every direct effect (Fig. 8, Fig. 3).

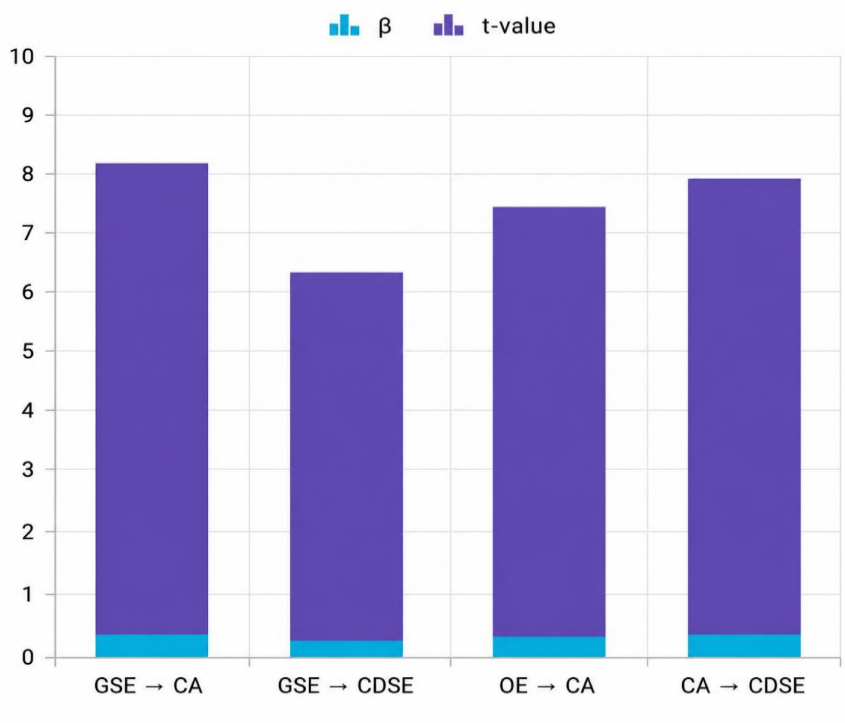

Fig. 8 Construct Flow vs Path Coefficients via Direct Relationship

4.4 Hypothesis Analysis: Mediation Relationship

In order to estimate indirect effects and confidence intervals, bootstrapping procedures with 5,000 resamples were used to examine the effects of mediation.

Table X displays the results of the mediation analyses: outcome expectations, career exploration behaviors, and career aspirations are all statistically significant mediators. That is, the general self-efficacy – career aspirations path (β = 0.15) and the career decision self-efficacy – career exploration behaviors path (β = 0.13) were both significant, with 95% confidence intervals that do not contain zero. OE & CDSE are also mediated by Career Aspirations (β= 0.15). All these findings together justify the proposed indirect pathways and support Hypotheses H5, H6, and H7 (Fig. 9, Fig. 4).

TABLE X MEDIATION RELATIONSHIP ANALYSIS

Hypothesis	Flow (Indirect)	Indirect Relationship	95% CI	Results
H5	GSE → OE → CA	0.15	[0.10, 0.23]	Satisfied
H6	OE → CEB → CDSE	0.13	[0.09, 0.21]	Satisfied
H7	OE → CA → CDS	0.15	[0.10, 0.21]	Satisfied

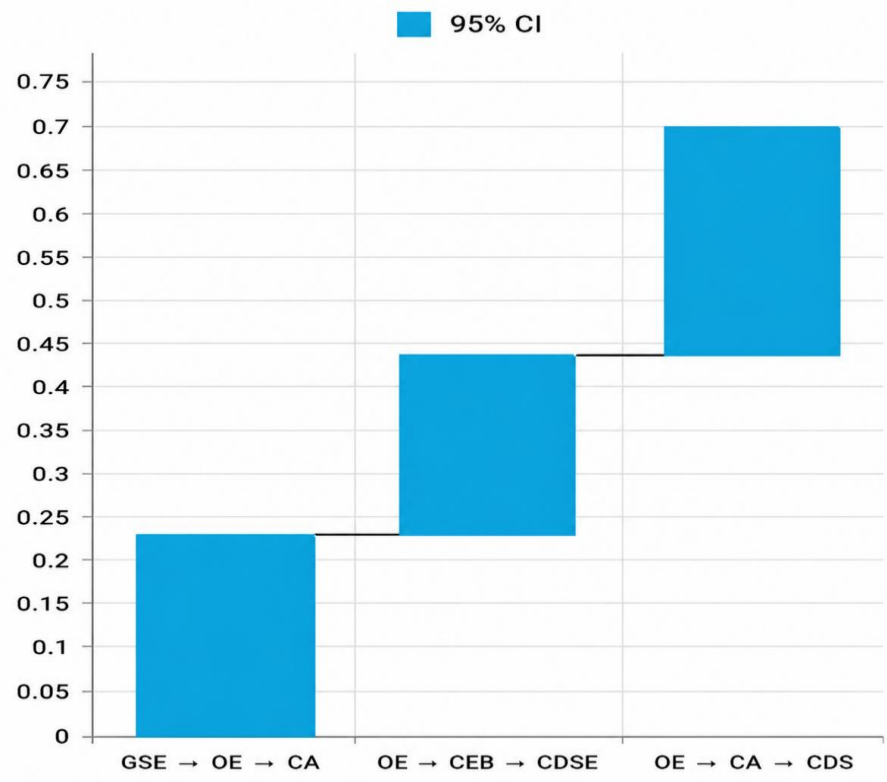

Fig. 9 Construct Flow vs 95% CI for Mediated Relationship

4.5 Hypothesis Analysis: Moderation Relationship

By incorporating interaction terms into the structural model, moderation effects were evaluated (Sheu et al., 2010).

The moderation results reported in Table XI demonstrate that perceived social support enhances positive career development processes, whereas career-related distress undermines them. Perceived social support strengthens the relationships between general self-efficacy and career aspirations and between career decision self-efficacy and career exploration behaviors ($\beta = 0.16$ for both), while career-related distress weakens the association between general self-efficacy and career decision self-efficacy ($\beta = -0.20$). These results provide empirical support for Hypotheses H8 through H10 (Fig. 10, Fig. 5).

TABLE XI MODERATION RELATIONSHIP ANALYSIS

Hypothesis	Interaction flow	β	t-value	Results
H8	GSE × PSS → CA	0.17	3.93	Satisfied
H9	CEB × PSS → CDSE	0.16	3.60	Satisfied
H10	GSE × CRD → CDSE	-0.20	-4.27	Satisfied

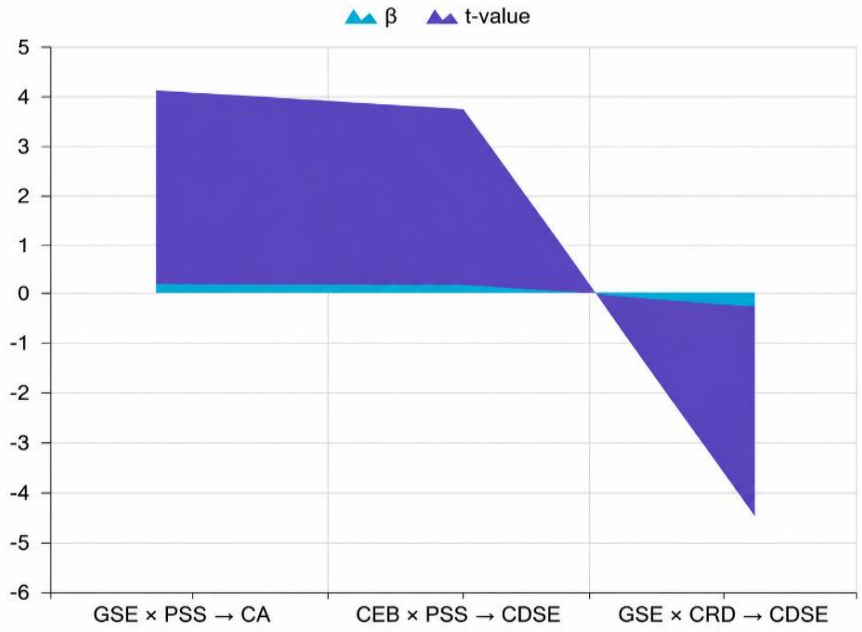

Fig. 10 Construct Flow vs β & t- value Variable for the Moderated Relationship

4.6 Overall Hypothesis Analysis

A consolidated summary of each hypothesis testing result can be found in Table XII. All direct, mediated, and moderated hypotheses that were proposed are supported by the findings. This table also solidifies the combined influence of cognitive beliefs, motivational expectations, behavioral engagement, and contextual factors on outcomes of career development and confirms the robustness of the extended SCCT framework.

TABLE XII SUMMARY OF HYPOTHESIS1-10

Hypothesis	Results
H1-4	Satisfied
H5-7	Satisfied
H8-10	Satisfied

Prior SCCT-based research demonstrating the central role of self-efficacy in shaping career aspirations and decision confidence is consistent with the current findings. This study, however, provided a more in-depth explanation of career decision-making processes by simultaneously examining mediation and moderation mechanisms, in contrast to previous studies that primarily focused on direct relationships. The extended model unifies cognitive, behavioral, contextual, and emotional factors, in contrast to recent empirical studies that focused on isolated constructs.

4.7 Limitations and Future Scope

Even though this paper contributes theoretically and empirically, there are several limitations that need to be addressed. The cross-sectional nature of the study makes it difficult to draw any causal conclusions; hence, longitudinal or experimental designs should be used in future research for more conclusive results on the relationship between self-efficacy, outcome expectations, career exploration, and decision self-efficacy. The collection of subjective information in the form of a questionnaire introduces the potential problem of social desirability and common method bias, and therefore, multi-source data and objective measurements ought to be included in future studies.

V. Conclusion

The importance of this proposed analysis was to enhance the development procedures in career by incorporating additional cognitive, behavioral, contextual, emotional, and cognitive variables into SCCT. The results also showcase that all constructive effects are influenced by the cognitive beliefs, and contextual conditions influence career decision confidence. Based on the qualitative analysis, OE, CEB, PSS, and CRD are impacted via CA and CDSE. Also, factors like Emotional regulation, proactive exploration, supportive environments, motivational expectations, and individual belief systems are all components of the complex process that results in confidence in career decision-making. This study also provides a comprehensive and contemporary perspective on career development that is in line with the realities of contemporary educational and employment transitions by validating multiple direct, mediated, and moderated pathways. The model also demonstrated strong satisfactory fit indices and also signifies the hypothesis and its respective relationship that supports the framework. Confirmatory Factor Analysis (CFA) with a value over 0.6 and having the threshold range of 0.6-0.88 & Structural Equation Modeling (SEM) with an evaluative measurement of mean value range above 0.5, skewness value range above -0.3, Standard deviations over 0.6, and finally kurtosis with the range above 0.2. In conclusion, the extended SCCT framework used in this study enhances the theoretical understanding and serves as a strong basis for future empirical studies. It provides a foundation for evidence-based interventions that promote youth adults' self-confident and flexible career decision making, and highlights the need to target both enabling and

disabling factors in career development. In terms of engagement of individuals with career related decisions, signifying relevant inputs and environments contribute more towards findings in information science. Future research can extend this model to understand the impact of shifting digital environments on career development processes by employing longitudinal data, cross-cultural samples, and contexts for career exploration through technology.

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