

A quantitative study of the career aspirations of female university students in a transforming labor market in Saudi Arabia



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ABSTRACT

Career aspirations, including leadership, education, and achievement, are both a process and an outcome shaped by interactions among factors at multiple levels. However, limited research has examined how individual, cultural, and institutional factors influence female career aspirations, particularly in the context of labor market change. This study investigates the effects of institutional factors (perceived government labor market support), individual factors (career decision-making self-efficacy), and cultural dimensions (long-term orientation) on the career aspirations of female university students in Saudi Arabia, a country experiencing rapid labor market transformation. Survey data were collected from 552 female university students and analyzed using partial least squares structural equation modelling. The results show that perceived government support is a strong predictor of career aspirations, both directly and indirectly. Higher levels of career decision-making self-efficacy are also associated with stronger aspirations across all domains, while long-term orientation has a weaker effect. This study contributes to cross-cultural research on female career development in the Middle East by highlighting the combined influence of multi-level factors. It also improves understanding of the career aspirations of female university students, an important group for achieving national economic and labor market goals. The findings offer practical implications for higher education institutions, policy-makers, and researchers.

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1. Introduction

Career aspirations reflect females' career motivation and engagement. They impact key labor market outcomes, such as workforce participation and career development (Elbushra et al., 2025; Polok, 2024), and influence career processes such as decision-making and choice, ultimately shaping females' career paths. Career aspirations encompass more than job advancement and include leadership, education, and achievement (Gregor and O'Brien, 2016). Specifically, they are valuable for understanding females' perceived career opportunities and constraints, a key precursor for investment intentions in career and skill development. This landscape is significantly changing for females in Saudi Arabia.

As a high-income developing country in the Middle East, Saudi Arabia is undergoing rapid state-driven labor market change as part of a wide-ranging socio-economic transformation (i.e., Saudi Arabia's Vision 2030) driven by local and global economic conditions. Central to this change is increasing female workforce participation and lower national unemployment rates.

Nationally, female labor force participation rates rose notably from 23% in 2019 to 35% in 2024. Internationally, despite ranking in the top 1% in educational attainment, female labor force participation in Saudi Arabia alarmingly ranks in the bottom 26%. Female university students constitute an instrumental group in realizing national economic and labor market objectives. Additionally, since 71% of the Saudi population is under the age of 35, female career development becomes crucial.

Active labor policy, such as job nationalization schemes; upskilling programs (i.e., Tamheer and Dorood); and removing legal and structural barriers to female employment (i.e., transportation, childcare), have been utilized to reshape career opportunities and the institutional labor market

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environment for females in Saudi Arabia. Today, graduate and undergraduate female students in Saudi universities are being socialized under these progressive policies, where their career planning and exploration take place within a markedly transformed socio-political landscape. This study maintains that career aspirations are socially embedded, shaped by the interplay between individual, cultural, and institutional factors.

Despite Saudi Arabia's significant labor market reforms under Vision 2030 and notable increases in female labor market participation, a good understanding of females' career aspirations in a non-Western, rapidly changing labor market remains lacking. Limited research investigates how institutional labor market support interacts with individual and broader cultural factors to shape and influence the career aspirations of female university students in a high-income developing country in the Middle East. Existing evidence indicates structural and institutional barriers to female labor market participation (Alfarran et al., 2018) and inferior working conditions compared to males (Al-Waqfi and Abdalla Al-Faki, 2015). Addressing this knowledge gap is both timely and crucial for guiding labor and education policy and developing effective interventions to support Saudi Arabia's labor market modernization goals.

This research aims to investigate the effects of institutional factors (i.e., perceived government labor market support), individual factors (i.e., career decision-making self-efficacy), and broader cultural dimensions (i.e., long-term orientation) on the career aspirations (i.e., leadership, education, and achievement) of female university students in Saudi Arabia, within a rapidly modernizing labor market. This study extends cross-cultural scholarship on females' career development in a changing labor market in the Middle East by investigating the effects of multi-level factors on the career aspirations of female university students.

The findings from this study provide valuable insights for labor and education policymakers and leaders. They provide evidence-based feedback on the effectiveness of institutional labor market support on females' career aspirations—a key indicator of workforce participation and attachment. Additionally, they support the revision and/or tailoring of labor policies and programs to enhance and sustain targeted labor market outcomes for females, aligning them with broader socio-economic transformation objectives.

Higher education leaders will benefit from these research findings by gaining deeper insights into the aspirations of female students, enabling them to design targeted interventions such as career guidance programs and institutional support that directly address career barriers and enhance opportunities. Nationally, this study contributes to realizing Saudi Arabia's Vision 2030 by supplying decision-makers with evidence-based insights aimed at increasing and sustaining female workforce participation and supporting their career

development. The following section will synthesize existing research to contextualize and situate the study within the broader body of knowledge.

2. Literature review

Career aspirations are both a career process and outcome that is shaped by the interaction of multi-level factors—individual, cultural, and institutional. The following section will review the relevant theoretical and empirical literature to appropriately contextualize this research in the broader body of knowledge, identify gaps, and effectively address this research aim.

2.1. Perceived government support and females' career aspirations

Government support is an institutional factor that significantly influences females' career outcomes through various processes. Rapid and wide-ranging change in laws, policies, and social norms is largely driven by top-down regulatory tools (Scott, 2014) and coercive mechanisms. These processes reshape the job and labor market landscape for females and transform guidelines for social behavior, which trickle down to individuals' adaptive career processes and outcomes, such as career decision-making self-efficacy (CDMSE) and aspirations. Perceived government support (PGS) refers to perceptions of financial, training, advisory, and regulatory government assistance extended to females in the context of labor market participation, empowerment, and/or progression. On the other hand, career aspirations comprise leadership, education, and achievement aspirations (Gregor and O'Brien, 2016). Leadership career aspirations (LCA) refer to pursuits of leadership and training/managing others in one's work. Education career aspirations (ECA) refer to the planning of pursuing advanced education related to one's career. Finally, achievement career aspirations (ACA) refer to the desire to accomplish something of value or importance through efforts to meet standards of excellence. It involves the pursuit of recognition, responsibility, and promotion in one's career.

Recent empirical studies indicate a strong direct and indirect impact of institutional government support for females on their workforce participation and employment. For example, Parveen (2022) conducted a comprehensive document review and secondary data analysis from 2010 to 2020, which indicated a significant positive impact of government support on gender equality and female diverse career opportunities. Polok (2024) examined the legal and legislative changes made in alignment with Saudi Arabia's Vision 2030, such as driving rights, gender segregation, anti-harassment laws, and the personal status law. Results show that these changes indirectly facilitate females' access to jobs in both the public and private sectors.

Elbushra et al. (2025) examined the connection between female empowerment (proxied by females'

employment in the government sector) and national economic growth in Saudi Arabia (proxied by Gross Domestic Product), using secondary data from 1997 to 2022. Results indicate a significant positive relationship between the two and were consistent with a related study by Miller et al. (2022). Using administrative employer-employee data, their findings highlight the strong impact of nationalization quota schemes on increasing females' employment and wages in the private sector despite binding integration costs. On the other hand, inconsistent findings existed in a study by Gorondutse et al. (2021).

They examined the moderating effect of government support on the relationship between future orientations and female leadership effectiveness, using a cross-sectional survey of 500 female leaders. While the relationship between future orientations and females' leadership effectiveness was significant, the moderating effect of government support on that relationship was insignificant. Collectively, the literature indicates strong macro- and firm-level effects of government support on females' employment. Accordingly, we hypothesize the following:

H1a. Perceived government support has a positive and significant effect on leadership aspirations among female university students in Saudi Arabia.

H1b. Perceived government support has a positive and significant effect on education aspirations among female university students in Saudi Arabia.

H1c. Perceived government support has a positive and significant effect on achievement aspirations among female university students in Saudi Arabia.

2.2. Perceived government support, career decision-making self-efficacy, and females' career aspirations

Career decision-making self-efficacy (CDMSE) refers to an individual's perceived capability to complete tasks necessary to make career decisions (Betz et al., 1996). This psychological construct is rooted in Bandura's (1997) self-efficacy theory and social cognitive career theory (Lent and Brown, 2013). Both theories acknowledge the influence of contextual factors on individuals' subjective self-evaluations, rendering CDMSE an adaptive process.

Theoretically, government support is expected to enhance females' CDMSE perceptions by providing job information—a key factor for effective career decision-making. Moreover, government support is predicted to influence females' sense of control and perceived capability to make good career decisions through a persuasion process. Specifically, institutional support (e.g., nationalization programs, training and development support, economic diversity) and legal protection (e.g., anti-discrimination and harassment laws, workers' rights) are predicted to transform females' perceived structural barriers and career opportunities, creating social validation and psychological

empowerment to aspire and persist in career development pursuits. Empirically, Almutarie (2025) and Al-Qahtani (2022) investigated female labor market empowering laws and regulations in Saudi Arabia. Almutarie (2025) highlighted the national transformation plan Vision 2030 as a key vehicle for change, while Al-Qahtani (2022) found that lifting the driving ban, diversity of career opportunities, and amendments to the personal status law were the strongest empowering factors. However, efficiency of resources, limited awareness of empowerment legislations, and resource access mechanisms, and family resistance were key obstacles. Both studies underscore the importance of the sociocultural context in supporting or hindering female empowerment initiatives in traditional societies with pronounced gender roles and expectations. Accordingly, we hypothesize the following:

H2. Perceived government support has a positive and significant direct effect on career decision-making self-efficacy among female university students in Saudi Arabia.

CDMSE is an individual-level adaptive process of career goal selection and planning that is shaped not only by interests, values, and goals but also by perceived barriers and opportunities (Lent and Brown, 2020; Song et al., 2025). It proceeds on the premise that individuals are socially embedded. While they possess and exercise some level of agency over their career development, their decision-making process and ultimate choices are equally influenced by institutional and social rules and norms. CDMSE is a key mechanism to understand imperative predictors of career outcomes, such as career aspirations, where lower perceived CDMSE can restrict females' career exploration and aspirations.

Empirically, Abdalla (1995) investigated the effect of sex and sex-role self-concepts on the CDMSE of 329 male and female university students in Qatar and Kuwait. Results indicate an insignificant effect of sex on CDMSE. However, instrumental (or masculine) attributes showed a stronger positive effect on CDMSE than expressive (feminine) attributes and undifferentiated self-concepts. Results indicate a significant, positive, and direct relationship between the two. Additionally, there were no significant gender differences in the ambition scale dimensions, except for tolerance of frustration, which was skewed towards females. Similarly, for self-efficacy beliefs, there were no significant gender differences, except for proactive behavior, which was skewed towards males. However, differences existed by institutional type and academic major.

Students from public universities scored higher on openness to novelty, while students from scientific majors scored higher on proactive behavior and perseverance in overcoming obstacles. Based on the literature review, we hypothesize the following:

H3a. Career decision-making self-efficacy positively influences leadership aspirations among female university students in Saudi Arabia.

H3b. Career decision-making self-efficacy positively influences education aspirations among female university students in Saudi Arabia.

H3c. Career decision-making self-efficacy positively influences achievement aspirations among female university students in Saudi Arabia.

CDMSE acts as a mediator by enhancing the impact of external support sources on individuals' career outcomes. When females feel capable of making good career decisions, it positively impacts their career outcomes. Studies have shown that CDMSE mediates the relationship between parental career support and career exploration and commitment among 400 senior high school students in Indonesia (Pratama and Muttaqin, 2024). Additionally, Zhou et al. (2024) found that CDMSE and psychological capital mediate the relationship between social support and CDM difficulties among 770 college students in China. Accordingly, we hypothesize the following:

H4a. Career decision-making self-efficacy mediates the relationship between perceived government support and leadership aspirations among female university students in Saudi Arabia.

H4b. Career decision-making self-efficacy mediates the relationship between perceived government support and education aspirations among female university students in Saudi Arabia.

H4c. Career decision-making self-efficacy mediates the relationship between perceived government support and achievement aspirations among female university students in Saudi Arabia.

2.3. Perceived government support, long-term orientation, and females' career aspirations

Long-term orientation (LTO) is a future-oriented cultural value (Hofstede et al., 2010) shaped by a country's sociohistorical, economic, and legal context and transmitted through its social institutions, such as laws, education, and media (Gelfand et al., 2024). Government support, as part of long-term national development plans, can enhance females perceived opportunities and trust in government planning, motivating them to think and behave in long-term, future-oriented ways about their career planning and outcomes. Using a survey of 445 university students in Thailand, Khampirat (2020) examined factors affecting students' career aspirations. Results indicate a significant direct effect of paternal education, resilience, and future orientation on students' career aspirations, while self-esteem showed an indirect effect. Accordingly, we hypothesize the following:

H5. Perceived government support has a positive and significant direct effect on long-term orientation among female university students in Saudi Arabia.

H6a. Long-term orientation has a positive and significant effect on leadership aspirations among female university students in Saudi Arabia.

H6b. Long-term orientation has a positive and significant effect on educational aspirations among female university students in Saudi Arabia.

H6c. Long-term orientation has a positive and significant effect on achievement aspirations among female university students in Saudi Arabia.

While a society's LTO tends to be stable over time, rapid institutional modernization can indirectly influence how females interpret and respond to enhanced career opportunities (Pagda et al., 2021). A quantitative study by Baltacı et al. (2019), on 462 university students in Turkey, found that academic procrastination partially mediates the relationship between long-term orientation and students' career intentions. This positions LTO as a key cultural process linking government support to females' career aspirations. Accordingly, we hypothesize LTO as a key cultural process linking government support to females' career aspirations in the following way:

H7a. Long-term orientation mediates the relationship between perceived government support and leadership aspirations among female university students in Saudi Arabia.

H7b. Long-term orientation mediates the relationship between perceived government support and education aspirations among female university students in Saudi Arabia.

H7c. Long-term orientation mediates the relationship between perceived government support and achievement aspirations among female university students in Saudi Arabia.

In summary, this literature review is grounded in a multidisciplinary and multi-level theoretical framework—individual, cultural, and institutional. It contextualizes this research in the broader body of knowledge, providing a strong basis for interpreting females' career aspirations in a rapidly modernizing labor market. Additionally, this review identifies gaps in the literature by highlighting that, despite the numerous studies that analyze female empowerment policies and focus on female labor market outcomes, they tend to overlook how institutional government support can affect individual-level career processes and outcomes. Fig. 1 demonstrate the theoretical framework deduced from the literature review. The following section will describe the research methods and sample characteristics.

3. Methodology

This study adopts a quantitative research approach, employing a cross-sectional survey method and purposive, snowball sampling to investigate the career aspirations of graduate and undergraduate female students in Saudi Arabia. This approach aligns with this study aim of investigating

the effects of institutional factors (i.e., perceived government labor market support), individual factors (i.e., career decision-making self-efficacy), and broader cultural dimensions (i.e., long-term

orientation) on the career aspirations (i.e., leadership, education, and achievement) of female university students in Saudi Arabia, within a rapidly modernizing labor market.

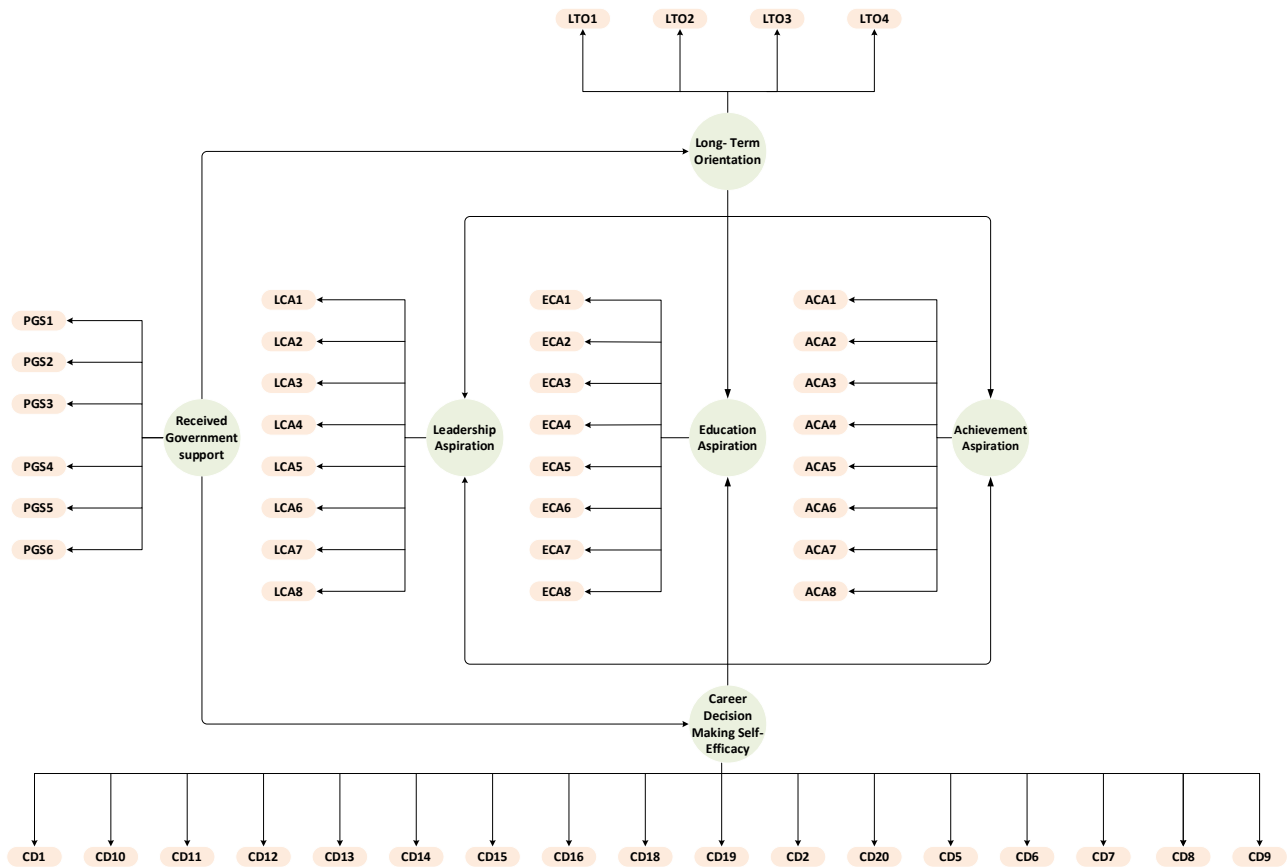


Fig. 1: Theoretical framework

Initially, 584 responses were received before incomplete responses, and outliers were removed, using Cook's distance and leverage tests. Finally, this research sample consisted of 552 valid responses from Saudi-national graduate and undergraduate female students in Saudi Arabia (N = 552).

For the sample demographics, 65% were between the ages of 20-24, followed by 12% between the ages of 25-29, and 10% over the age of 35. For level of education, 70% were pursuing a Bachelor's degree while 25% were pursuing a Master's degree. Finally, 68% of the sample did not have family responsibilities. An all-Saudi female sample aligns with this research aim and the key objectives of labor market reform under Vision 2030.

Primary data was collected from 15th August 2025 to 15th October 2025, through a questionnaire distributed to students through Blackboard and WhatsApp. Before data collection commenced, Institutional Review Board (IRB) approval was obtained from the researchers' affiliated institution (Ref. No. 10-25). Informed consent was similarly obtained electronically from participants by agreeing to a statement confirming their understanding of the study information, voluntary participation, and assurance of confidentiality and anonymity.

Validated measurement tools, consisting of a five-point Likert scale, ranging from 1 (strongly disagree)

to 5 (strongly agree), were adapted and used to measure this study's variables. The questionnaire comprised six scales, in addition to the sample demographics section, which collected data such as sex, nationality, age, level of education, and family responsibilities.

Perceived government support (PGS) refers to any form of financial, training, advisory, and regulatory government assistance extended to females in the context of labor market participation, empowerment, and progression. This variable was assessed using six items adapted from Al-Shihabi (2008). A sample item is "The government ensures the availability of diverse job opportunities for Saudi females across industries and sectors." The CFA results confirmed that all six items were significant and were hence included in the final analysis.

Career aspirations were measured using the three subscales: leadership career aspirations, education career aspirations, and achievement career aspirations, developed by Gregor and O'Brien (2016). Each subscale consisted of eight items. Leadership career aspirations (LCA) refer to pursuits of leadership and training/managing others in one's work. A sample item for leadership aspirations is "Becoming a leader in my job is important to me." Education career aspirations (ECA) refer to the planning of pursuing advanced education related to

one's career. A sample item for education aspirations is "I plan to reach the highest level of education in my field." Achievement career aspirations (ACA) refer to the desire to accomplish something of value or importance, involving the pursuit of recognition, responsibility, and promotion in one's career. A sample item for achievement aspirations is "I want to be among the very best in my field." To examine the scale validity, confirmatory factor analysis (CFA) was applied, which demonstrated a factor loading of more than 0.70 for all subscales' items. Thus, all LCA, ACA, and ECA items were retained for further analysis.

Career decision-making self-efficacy (CDMSE) refers to an individual's perceived capability to complete tasks necessary to make career decisions. It was measured using a twenty-item scale developed by [Betz et al. \(1996\)](#). A sample item is "I can determine what my ideal job would be." After applying the CFA test, three items were removed due to low factor loading, while the Cronbach alpha, composite reliability, rho_A, AVE, and [Fornell and Larcker's \(1981\)](#) discriminant validity tests all confirmed the reliability and validity of the variables.

Long-term orientation (LTO) refers to a future-oriented cultural value. This variable was measured using the four-item scale developed by [Nevins et al. \(2007\)](#). A sample item is "I work hard for success in the future." The CFA test confirmed all four items of the scale, which were hence included in the final analysis. Finally, Harman's single-factor test was applied to assess common method bias. Additionally, principal component analysis (PCA) was applied, identifying six factors, where the single factor explained 32.37% of variance (Threshold 50%), indicating insignificant common-method variance (CMV) according to [Hair et al. \(2021\)](#).

4. Results and discussion

For data analysis, SmartPLS version 4.1.1.3 and SPSS version 30 were utilized. To evaluate the proposed study framework, partial least squares structural equation modelling (PLS-SEM) was utilized. By using multiple latent constructs (i.e., LCA, ACA, ECA, PGS, LTO, and CDMSE), PLS-SEM tackle general measurement limitations in social science studies ([Hair et al., 2021](#)).

4.1. Model assessment

[Table 1](#) demonstrates the analysis of the factor loading, reliability, convergent validity, and multicollinearity within the constructs. For all the constructs, the factor loadings were within the preferred threshold of above 0.70 ([Hair et al., 2021](#)). However, three items from the CDMSE scale were removed from further analysis due to low factor loading (i.e., less than 0.5). Internal consistency reliability evaluation was made using Cronbach's alpha and composite reliability. All the constructs demonstrated satisfactory levels of reliability, where the values of CA and CR were between 0.791 and

0.926 and 0.794 and 0.927, respectively, thereby exceeding the suggested minimum requirement of 0.70 ([Hair et al., 2021](#)).

Convergent validity was confirmed by the AVE, where all the constructs achieved the AVE values above 0.50 (0.501 to 0.571), hence fulfilling the acceptability criterion of 0.50 ([Fornell and Larcker, 1981](#)). Moreover, multicollinearity among items has been analyzed by the VIF test, where the values range between 1.116 and 1.942 and thus indicate that there is no problem regarding multicollinearity since these are still less than the recommended threshold value of 3 ([Hair et al., 2021](#)). These results (CA, CR, AVE, VIF) confirm that the reflective measurement model is valid and reliable, and that further data analysis can proceed.

4.2. Discriminant validity

[Table 2](#) analyzes the discriminant validity of the data by utilizing the Fornell-Larcker criterion to ensure that each variable is empirically unique. The inter-construct correlations were lower than the diagonal bold values (i.e., the square root values of AVEs), thus validating discriminant validity ([Fornell and Larcker, 1981](#)). By the criterion of the threshold, the values of the square root of AVE must be greater than the relative correlation values to prove each variable has more variance shared with its indicators than with other variables ([Fornell and Larcker, 1981](#)).

4.3. Descriptive statistics and correlation analysis

[Table 3](#) demonstrates the descriptive statistics and the correlation analysis between the study variables among female students in Saudi Arabia. Mean values for the variables ranged from 4.18 to 4.36, and standard deviations ranged from 0.40 to 0.55, indicating an overall positive perception of all the measured variables. All Pearson correlation values were statistically significant at the 0.01 level (2-tailed) and thus confirmed the strong intercorrelations among the variables. The lowest correlation coefficient was between PGS and LTO ($r = 0.583$), and the highest between LCA and ACA ($r = 0.864$). These results indicate that higher levels of PGS and LTO are associated with higher career aspirations (i.e., LCA, ECA, and ACA) and higher CDMSE. Overall, the results highlight an integrative pattern among Saudi female students, revealing the effect of PGS and psychological determinants on career-oriented aspirations.

4.4. Structural equation modeling

[Table 4](#) shows the findings from Structural Equation Modelling (SEM), which analyzed direct and indirect interactions among the variables examined in this study. A statistically significant relationship has a path coefficient (b) exceeding 0.10

with a t-value exceeding 1.96 at the 0.05 significance threshold (Hair et al., 2021). The findings in Table 4 and Fig. 2 illustrate that all path coefficients ranged

from 0.114 to 0.842. In contrast, t-values ranged from 2.878 to 23.026, indicating that all hypotheses were statistically significant.

Table 1: Assessment of reflective measurement

Constructs	# of items	Loading range	Reliability			Validity	Multicollinearity
			CA	CR	Rho_A	AVE	VIF range
Perceived government support	06	0.723 – 0.793	0.850	0.853	0.889	0.571	1.612 – 1.877
Leadership aspirations	08	0.737 – 0.863	0.857	0.859	0.889	0.501	1.473 – 1.942
Education aspiration	08	0.701 – 0.748	0.872	0.872	0.899	0.527	1.603 – 1.838
Achievement aspirations	08	0.702 – 0.760	0.828	0.839	0.870	0.519	1.314 – 1.896
Career decision-making self-efficacy	17*	0.704 – 0.798	0.926	0.927	0.935	0.553	1.634 – 1.938
Long-term orientation	04	0.725 – 0.786	0.791	0.794	0.815	0.550	1.116 – 1.206

CA: Cronbach alpha; CR: Composite reliability; AVE: Average variance extracted; VIF: Variance inflation factor; *: Three CDMSE items were removed from the analysis as their factor loadings were below 0.5. (removed items factor loadings were, CDMSE2 = 0.436, CDMSE6 = 0.379, CDMSE15 = 0.414). The reliability, validity, and multicollinearity values are based on remaining 17 items

Table 2: Discriminant analysis (HTMT and Fornell-Larcker criterion)

Constructs	PGS	LCA	ECA	ACA	LTO	CDMSE
Perceived government support	0.756					
Leadership aspirations	0.608	0.708				
Education aspiration	0.607	0.664	0.726			
Achievement aspirations	0.601	0.564	0.669	0.720		
Long-term orientation	0.583	0.608	0.619	0.701	0.742	
Career decision-making self-efficacy	0.588	0.657	0.695	0.645	0.678	0.744

PGS: Perceived government support; LCA: Leadership career aspirations; ECA: Education career aspirations; ACA: Achievement career aspirations; LTO: Long-term orientation; CDMSE: Career decision making self-efficacy; The diagonal bold numbers in discriminant analysis are square root of AVE of each construct, and other numbers are correlation between constructs

The direct association showed that PGS had a positive and statistically significant influence on CDMSE (b = 0.588, t = 19.053, p < 0.01), LCA (b = 0.567, t = 18.857**), ECA (b = 0.561, t = 18.690, p < 0.01), and ACA (b = 0.561, t = 18.786, p < 0.01). This finding suggests that PGS positively contributes to the confidence and motivation among Saudi female students to pursue their career aspirations. Second, LTO also has a positive influence on LCA (b = 0.156, t

= 4.269, p < 0.01), ECA (b = 0.114, t = 2.878, p < 0.01), and ACA (b = 0.146, t = 3.601, p < 0.01). This suggests that female students with a strong future-directed perspective are likely to set aspiring career objectives. Third, PGS significantly influenced LTO (b = 0.583, t = 18.904, p < 0.01), and CDMSE influenced LCA, ECA, and ACA (b values ranging from 0.810 to 0.842), thus validating its position as an influential psychological motivator of career aspirations.

Table 3: Descriptive statistics and correlation analysis

Constructs	Descriptive statistics		Correlation analysis					
	Mean	SD	PGS	LCA	ECA	ACA	LTO	CDMSE
Perceived government support	4.313	0.548	1					
Leadership aspirations	4.313	0.437	0.604**	1				
Education aspiration	4.355	0.468	0.597**	0.756**	1			
Achievement aspirations	4.333	0.452	0.605**	0.864**	0.852**	1		
Long-term orientation	4.219	0.399	0.583**	0.722**	0.804**	0.711**	1	
Career decision-making self-efficacy	4.182	0.423	0.586**	0.757**	0.739**	0.849**	0.745**	1

** : Correlation is significant at the 0.01 level (2-tailed)

Table 4: Hypothesis testing (structural equation modeling)

Hypothesis	b-value	T-values	CI_BC (0.95)		Decision
			2.50%	97.50%	
H1a PGS → LCA	0.567	18.857**	0.501	0.621	Supported
H1b PGS → ECA	0.561	18.690**	0.496	0.616	Supported
H1c PGS → ACA	0.561	18.786**	0.497	0.615	Supported
H2 PGS → CDMSE	0.588	19.053**	0.520	0.644	Supported
H3a CDMSE → LCA	0.810	23.026**	0.739	0.878	Supported
H3b CDMSE → ECA	0.842	21.797**	0.765	0.915	Supported
H3c CDMSE → ACA	0.810	20.292**	0.730	0.886	Supported
H4a PGS → CDMSE → LCA	0.476	13.635**	0.411	0.540	Supported
H4b PGS → CDMSE → ECA	0.495	15.432**	0.425	0.566	Supported
H4c PGS → CDMSE → ACA	0.471	13.295**	0.406	0.546	Supported
H5 PGS → LTO	0.583	18.904**	0.516	0.639	Supported
H6a LTO → LCA	0.156	4.269**	0.084	0.228	Supported
H6b LTO → ECA	0.114	2.878**	0.038	0.191	Supported
H6c LTO → ACA	0.146	3.601**	0.068	0.227	Supported
H7a PGS → LTO → LCA	0.104	4.093**	0.078	0.166	Supported
H7b PGS → LTO → ECA	0.086	2.857*	0.042	0.113	Partially supported
H7c PGS → LTO → ACA	0.101	3.551**	0.070	0.154	Supported

*: p (0.05); **: p (0.01); CI_BC: Bias corrected confidence interval

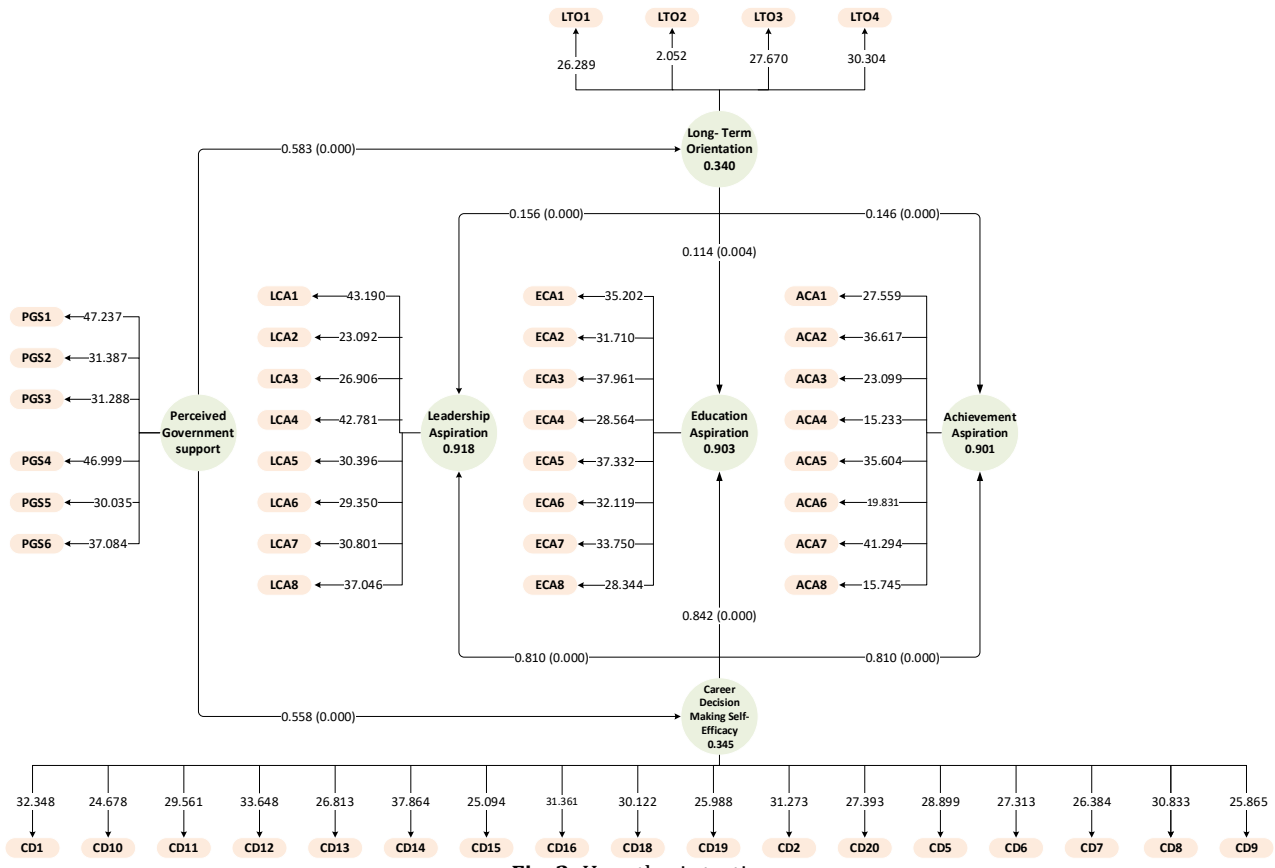


Fig. 2: Hypothesis testing

Regarding indirect effects (mediation), CDMSE and LTO function as mediators between PGS and career aspirations (i.e., LCA, ECA, and ACA). The indirect impact of PGS on LCA ($b = 0.476, t = 13.635, p < 0.01$), ECA ($b = 0.495, t = 15.432, p < 0.01$), and ACA ($b = 0.471, t = 13.295, p < 0.01$) through CDMSE was significant, thus validating CDMSE as an important mediator. Moreover, LTO mediated the influence of PGS and LCA ($b = 0.104, t = 4.093, p < 0.01$), ECA ($b = 0.086, t = 2.857, p < 0.05$), and ACA ($b = 0.101, t = 3.551, p < 0.01$). All hypotheses are supported by statistical analysis except H7b (i.e., partially supported). The classification of H7b as “partially supported” is therefore not due to a lack of statistical significance, but rather reflects the comparatively weaker magnitude of the mediation effect ($b = 0.086$). Overall, the results thus validate the integrity of the model and the critical roles of psychological empowerment (i.e., CDMSE) and LTO in transforming PGS into increased LCA, ECA, and ACA among Saudi female students (Table 4 and Fig. 2).

4.5. Predictive relevance

Table 5 demonstrates the predictive relevance through R^2_{adj} and Q^2 measures. While the R^2_{adj} measures ranged from 0.339 to 0.918 and indicate moderate to strong explanatory capability (Hair et al., 2021), the Q^2 measures ranged from 0.341 to 0.474 and all exceeded zero, thus confirming high predictive relevance, since values exceeding 0.35 indicate high predictive accuracy. However, these

findings confirm the model's integrity and predictive capacity.

Table 5: Predictive Relevance

Variables	R^2_{adj}	$Q^2_{Predict}$	Q^2 effect
Leadership career aspirations	0.918	0.474	Large
Education career aspirations	0.903	0.462	Large
Achievement career aspirations	0.901	0.455	Large
Long-term orientation	0.339	0.341	Medium
Career decision-making self-efficacy	0.344	0.348	Medium

$Q^2_{Predict}$: Predictive relevance

4.6. Discussion

The research findings provide critical, practical, and theoretical understandings of the female students' (i.e., higher education) career aspirations. The study also highlights the current institutional transformations under Vision 2030. The findings of the study provide evidence that individual (CDMSE), institutional (PGS), and cultural (LTO) collectively structure career aspirations (LCA, ACA, ECA). Thus, providing empirical evidence from the female higher education sector of Saudi Arabia.

The findings of the study demonstrate a strong and significant influence of PGS on the three career aspiration dimensions for females (i.e., H1a, b, c). In contrast, the studies conducted by Parveen (2022) and Polok (2024) also emphasized that government legislative reforms and multiple programs can have a tendency to significantly improve women's employability and empowerment. Elbushra et al. (2025) in their study confirm that female career goals can be significantly influenced by government-

led programs, consequently contributing to national economic growth. Moreover, this study also expands the findings of the previous studies (e.g., Parveen (2022), Polok (2024), and Elbushra et al. (2025)) by demonstrating that government support or programs not only impact female employment but also influence their attitudes, behavior, and motivational outcomes (i.e., career aspirations). The results of the study also provide support to the institutional theories of Scott (2014), which state that in societies undergoing transformations (e.g., Saudi Arabia due to Vision 2030), the coercive and moral forces redesign their behavioral norms and expectations.

The study conducted by Gorondutse et al. (2021) highlighted that government support has an insignificant moderating impact on leadership effectiveness. Whereas the present study provides a strong empirical support for the influence of PGS (as an institutional function) determining career aspiration development as an independent factor, rather than a conditional factor (i.e., moderating or mediating). This variation can be because of differences in the population of the study. The current study explores the career aspirations of the female students who are developing their career aims, whereas the study of Gorondutse et al. (2021) included females in leadership positions.

The role of CDMSE as a direct predictor of career aspirations and the mediator between the relationship of PGS and career aspirations (i.e., H3a, H3b, H3c, H4a, H4b, and H4c), strengthens Bandura's (1997) self-efficacy theory. The findings highlight that an individual confidence on his/her career decision-making ability supports his/her competencies of goal setting, determination, and resilience. Moreover, the findings of the study also confirm Lent and Brown (2013) by demonstrating that CDMSE is a vital individual psychological resource that can influence their career outcomes. The study also provides support for Zhou et al.'s (2024) study, which stated that CDMSE mediated the association between social and parental support (i.e., family support) and occupational outcomes. The current study by demonstrating governmental support, through government policy or program-level interventions, psychological empowerment in young females can be developed. The highlighted association of PGS and CDMSE (i.e., H2) endorses that by enhancing individuals' perceived opportunities and reducing their potential barriers, governments can develop self-efficacy beliefs in their young generations.

The findings of hypothesis 5 illustrate that PGS has a strong and positive impact on LTO in Saudi female students. The study confirms and supports the findings of Hofstede et al. (2010), who stated that institutional or governmental frameworks design individuals' perceptions and their goal-setting orientations. The findings are also associated with the results of Khampirat (2020), which illustrates that a cultural futuristic approach is developed by supportive social and educational frameworks.

Furthermore, the results are also consistent with the institutional theory developed by Scott (2014). In the Saudi transformational context (i.e., Vision 2030), continuous government support has established trust in long-term national development initiatives.

The findings of the study also provide support to the hypothesis explaining the positive influence of LTO on career aspirations (i.e., H6a, H6b, and H6c). The study highlights the emergent role of the futuristic dimension of culture in developing young Saudi females' career aspirations. In contrast, Khampirat (2020) demonstrated that in Thai students, this futuristic cultural dimension and resilience influenced their career aspirations. The findings of that study also aligned with Hofstede et al. (2010) by illustrating the value of LTO associated with determination, planning, and delayed gratification. However, within Saudi Arabia, due to the transformational initiatives under Vision 2030, the socio-economic environment is evolving. These government-led initiatives motivate Saudi females to adopt a futuristic approach and invest their time and energies in their career development. In addition to that, the findings of the study also support the study of Baltaci et al. (2019) by confirming the mediating role of LTO between motivation-related variables and the career intentions of university students. In the current study, the mediation of LTO demonstrated that under the Vision 2030 program, government-led initiatives reduced the structural barriers and also established a cultural transformation towards futuristic thinking. This results in converting governmental support into substantial, persistent, and aspirational career goals among young Saudi females (i.e., H7a, H7b, and H7c).

The strength of CDMSE's mediating role highlights its proximity in the process of career decision, transforming institutional indicators into goal clarity, confidence in their actions, and agency. In the context of Vision 2030, training schemes (e.g., Tamheer), labor policy reforms, and labor market openness for Saudis, offer distinct domination and informational signals that directly improve young females' perceptions of their competence for decision making, therefore, resulting in enforcing a strong motivational framework. Whereas LTO functions as a more value-focused orientation as compared to CDMSE. In the study findings, the relatively weak influence implies a support mechanism where young Saudi females that socializes under Vision 2030 may endorse future orientation as opportunity-focused and practical ways that are different from national culture dimensions. Thus, resulting in favoring instant self-efficacy beliefs over abstract long-term cultural dimensions.

Specifically, the findings of the study provide an explicit connection among macro-level government initiatives and the micro-level PGS (i.e., perceptual) and CDMSE (i.e., psychological) processes. Moreover, the Saudi labor market policies, including Tamheer (including Graduate training and upskilling program,

and job nationalization schemes), childcare initiatives, legal reforms related to mobility (i.e., transportation), reforms related to workplace gender inequality, and workplace protection, establish prominent indicators that represent solid government support for female students. These policy initiatives improve PGS by decreasing structural barriers for women, enhancing women's career opportunity prominence, legalize females' participation in various occupational positions. Consequently, this intensified support perception transforms into sturdy CDMSE, as female students feel more proficient in setting career objectives, analyzing career options, and committing to career aspirations in leadership, educational, and achievement areas. Therefore, the study findings illustrate that in Saudi Arabia, under Vision 2030, government-led reforms are not just contextual frameworks, they function through perceptual (PGS) and psychological (CDMSE) networks. Thus, they transform the intention of macro policies into individual-level career self-efficacy and form career aspirations. The alignment of career policy intervention and psychological frameworks contributes to career development scholarship through demonstrating how institutional transformation influences what young females internalize at this early career planning stage. As a result, it strengthens the national labor market objectives and aligns individual career trajectories.

The research results also highlight how LTO supplements the PGS (i.e., perceptual) and CDMSE (i.e., psychological) frameworks connecting micro-level career aspirations and macro-level government initiatives. Saudi government policy initiatives (i.e., Tamheer and institutional guarantees of female employment continuity) illustrate how government long-term commitment strengthens female students' trust in their future career aspirations. These indicators reinforce LTO through determination, future-oriented career planning, and delayed gratification.

Consequently, LTO strengthens the transformation of PGS into steady leadership, education, and achievement aspirations, though with moderately weaker effects compared to CDMSE. Together, the findings highlight that government support for female labor market participation influences females' aspirations through CDMSE and LTO. Thus, aligning institutional transformation with individual career aspirations.

4.7. Practical implication

Leaders and educators in higher education should effectively communicate job information and raise female students' awareness of available labor market support. Additionally, they should foster career self-efficacy perceptions through building students' career exploration skills and career planning competencies. Specifically, they should leverage career centers, female mentorship networks, and experiential learning methods to

influence females' pro-market career attitudes and outcomes.

For employers and human resource professionals, emphasizing gender equality and inclusive work environments can reduce female perceived barriers, fostering favorable career attitudes and outcomes. Moreover, developing career ladders that show clear progression lines is crucial to bind females to the workplace, enhancing both labor market attachment and organizational retention rates in alignment with labor market reform goals. Additionally, investment in leadership development programs and succession planning can effectively support females' leadership aspirations, while providing opportunities for learning and training can support their education and achievement aspirations. Finally, this study provides empirical evidence that state-driven modernization, psychological mechanisms, and cultural orientations collectively impact females' career aspirations.

4.8. Research limitations and implications for future research

This study has some context-specific limitations that future research can address. First, the focus on female university students demonstrates a comparatively privileged subgroup within the Saudi society, categorized by higher educational attainment, better digital access, and greater exposure to institutional career guidance and labor market information. As a result, the study findings may be partially generalizable to non-university females, vocational graduates, and females in similar socio-economic contexts. Second, the data collection process was conducted during an accelerated national transformation period (Vision 2030), in which strong government-directed narratives highlighting women's empowerment, women's employability, and job opportunity development are highly prominent. This situation may enhance social desirability bias in respondents' self-reported career aspirations and PGS, potentially expanding positive analysis in spite of anonymity assurance. Although procedural remedies were implemented to mitigate common method bias, such contextual influences cannot be entirely ruled out.

Future research should extend this framework by including more heterogeneous female samples across educational and occupational segments, employing longitudinal designs to track aspiration formation over time, and integrating qualitative or multi-source data to capture deeper motivational narratives and reduce reliance on self-reported perceptions.

5. Conclusion

This study fulfils its aim to investigate how institutional, individual, and cultural factors interact to shape the career aspirations of female university students in Saudi Arabia, within a rapidly transforming labor market. Specifically, the study

examined the effects of PGS, CDMSE, and LTO on females' career leadership, education, and achievement aspirations. The study is grounded in a multidisciplinary framework that combines institutional, psychological, and anthropological theoretical lenses. It contributes to cross-cultural scholarship on the ways state-driven modernization, evolving cultural logics, and adaptive career processes interact to shape young females' career goal selection and planning in developing oil economies and emerging markets in the Middle East.

The results of the hypothesized relationships consistently confirm that PGS is a strong predictor of females' career aspirations in Saudi Arabia, both directly and indirectly. Females' favorable perceptions of government labor market support, such as gender equality policies, skill development programs, and transportation subsidies, strongly support their leadership, education, and achievement aspirations. These findings empirically substantiate government efforts to increase female labor force participation and attachment under broader national socioeconomic transformation plans. They confirm the impact of institutional mechanisms on shaping females' motivational orientations at the individual level.

Furthermore, the results highlighted disparity in the power of CDMSE and LTO as explanatory mechanisms in understanding females' career aspirations. Higher levels of perceived capability in CDMSE were associated with stronger aspirations across all domains, aligning with SCCT's postulation of self-efficacy as a critical factor in shaping individuals' adaptive career processes and outcomes. On the other hand, despite growing future orientation at the national level, broader cultural orientations such as LTO seem to have a lesser effect at the individual female level. Critically, the mediation results confirm that government support shapes aspirations indirectly through enhancing females' perceived capability of making good career decisions in light of better job information, fewer perceived barriers, and a sense of psychological empowerment. All of which constitute channels through which institutional support influences females' career processes and outcomes.

Overall, the findings confirm the combined effect of institutional, individual, and cultural factors on females' career aspirations in a rapidly evolving labor market in the Middle East. Specifically, they emphasize the impact of institutional and regulatory tools in not only driving change but also simultaneously affecting individual-level career processes and outcomes, such as aspirations.

Finally, this study contributes to cross-cultural career development scholarship by extending SCCT to state-driven labor market change in a non-Western context. The findings empirically highlight how macro-level institutional change interacts with psychological and cultural mechanisms to shape individual-level career motivations. Furthermore, integrating the labor market's institutional setting into individual-level career research addresses gaps

in contextually grounded career development research in evolving labor markets.

List of abbreviations

ACA	Achievement career aspirations
AVE	Average variance extracted
B	Path coefficient (beta value)
CA	Cronbach alpha
CDMSE	Career decision-making self-efficacy
CI_BC	Bias-corrected confidence interval
CMV	Common method variance
CR	Composite reliability
ECA	Education career aspirations
HTMT	Heterotrait-monotrait ratio
IRB	Institutional review board
LCA	Leadership career aspirations
LTO	Long-term orientation
N	Sample size
PCA	Principal component analysis
PGS	Perceived government support
PLS-SEM	Partial least squares structural equation modelling
SD	Standard deviation
SEM	Structural equation modelling
SPSS	Statistical package for the social sciences
VIF	Variance inflation factor

Compliance with ethical standards

Ethical considerations

This study was approved by the Institutional Review Board (Ref. No. 10-25). All participants provided informed consent prior to participation. Participation was voluntary, and confidentiality and anonymity of responses were assured.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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