Saudi youth and entrepreneurship: A study of prospects for national economy

Faisal Mohammed Maghamis

ABSTRACT

Saudi Vision 2030 defines entrepreneurship in the country's context as part of the process for diversifying its economy; a vision for universities to foster entrepreneurial thinking among their graduates and move towards decreasing the Kingdom's dependence on petro revenue and public sector jobs. Although there is some government interest in the subject, the determinants of entrepreneurial intentions (EI) amongst Saudi university students are not well researched. To fill this gap, the researcher investigated the role of five predictors in this quantitative study—self-efficacy, risk-taking propensity, risk cushioning, appropriateness of EI, and state support—in relation to EI. The convenience sample comprised 97 students from three state universities and two private universities across three cities viz., Riyadh, Jeddah, and Dammam. Data was gathered using a validated questionnaire and analyzed using multiple regression or structural equation modeling (SEM). Results indicate that, together with entrepreneurship education, self-efficacy is the strongest and most important predictor of EI (58% of variance). Risk-taking propensity does not stand out by itself but is slightly influenced by state support ($\beta = .18$, $p < .05$). Further, risk cushioning does not play a statistically significant role. Robustness of the hypothesized model was confirmed by the SEM results (CFI = .96, RMSEA = .058). The study has implications for curriculum planners, university leaders, and policymakers in their efforts to realize the goals outlined in Vision 2030.

Keywords: *Entrepreneurial intention, self-efficacy, entrepreneurship education, Vision 2030.*

INTRODUCTION

In the last two decades, entrepreneurship readiness has become a distinguishing feature of the global higher education environment and a desired graduate attribute. This is especially true in the Gulf countries as governments have launched bold National Agendas for Transformation (NAT) to move their respective economies away from petroleum dependence. Under cognition of the initiative to adapt a knowledge-based, innovation-driven economy, Crown Prince Mohammed bin Salman (2016) introduced Vision 2030 which set targets for substantial enhancement of small and medium businesses (SMEs), innovation and technology startups, and greater employment in the private sector in Saudi Arabia. A key element of this dream is building a workforce of young people with an entrepreneurial mindset, trained to identify opportunities, deal with uncertainty, and translate ideas into viable economic options. The gamechanger in this scenario is the youth, more specifically those enrolled at the universities as here the learning environments can be utilized to foster entrepreneurial thinking in them. However, the factors that influence students' intention to become entrepreneurs has not been rigorously studied in the Saudi context.

Prior research on entrepreneurial intention (EI) has mostly been conducted in Western, East Asian, or Latin American countries (Andrade & Carvalho, 2023; Soomro & Shah, 2022; Xanthopoulou & Sahinidis, 2024), and results from these contexts cannot be blindly applied to culturally diverse contexts such as KSA which also has a different work-leisure culture. At the same time, there are well-developed theoretical models for EI research. Both the Theory of Planned Behavior (TPB) (Ajzen, 1991; Wach & Wojciechowski, 2016) and the Entrepreneurial Event Theory (Shapero & Sokol, 1982; Wach & Wojciechowski, 2016) stress the importance of attitudes, social norms, and perceived behavioral control (including self-efficacy) in predicting intentional behavior. This has been expanded in recently published work to include institutional and educational factors (Küttim et al., 2014; Wang et al., 2023)

Department of Business Administration, College of Business Administration,
Majmaah University, Majmaah 11952, Saudi Arabia
f.maghamis@mu.edu.sa
https://orcid.org/0009-0004-7712-6872

indicating the role of the ecosystem in which potential entrepreneurs exist. In addition, the relationship between entrepreneurial culture and state/state institutions assumes a systemic dimension in terms of the co-evolutionary model of the quintuple helix (Carayannis & Campbell, 2010). In the background of these studies, the present study examines five hypothesized predictors of EI among Saudi university students: (1) self-efficacy (self-confidence in one's ability to carry out entrepreneurial activities), (2) risk-taking propensity (penchant for venturing into risk-taking activities), (3) risk cushioning (access to social, financial, and institutional safety nets that buffer perceived risks), (4) entrepreneurship education (perceived quality and relevance of entrepreneurship instruction at university), and (5) state support (views about state policies, funding programs, and regulatory frameworks that support new venture creation). Based on theoretical arguments and prior findings, this study hypothesizes that two constructs–self-efficacy and entrepreneurship education–have the most significant influence on EI within this population (Doanh et al., 2021; Doanh & Bernat, 2019; Su et al., 2021).

This study is significant in three ways. First, it offers empirical findings based on a sample from Saudi universities, thus filling a void in EI research in the region. Second, it uses multiple regression analysis and SEM which help determine important predictors and testing of the relationships between latent constructs. Third, the results are explicitly discussed and translated into recommendations for teachers and policymakers that can facilitate the achievement of Vision 2030 goals.

LITERATURE REVIEW

Entrepreneurial Intention: Theoretical Foundations

Entrepreneurial intention is the personal aspiration to undertake a new venture or embark upon a self-employment opportunity in the future (Krueger & Brazeal, 1994; Krueger et al., 2000). EI has been considered a motivational construct which is also the closest known determinant of entrepreneurial activities and has been extensively applied in new venture creation research as a dependent variable (Kolvereid & Isaksen, 2006; Liñán & Chen, 2009). The TPB framework was adapted for entrepreneurship by Krueger et al. (2000) who suggested that attitudes toward entrepreneurship, subjective norms, and perceived behavioral control determine EI which is a conceptualization that parallels self-efficacy. Shapero's and Sokol's (1982) model of the entrepreneurial event also suggests that the behavior of forming an organization is preceded by two cognitive factors, perceived desirability and perceived feasibility of the event; self-efficacy is closely related to perceived feasibility. In recent years, these core models have been built upon to include other factors such as emotional factors (Velástegui & Chión, 2021), cultural orientations (Chukwuma-Nwuba, 2018; Saleem et al., 2018), educational context (Küttim et al., 2014), and institutional variables (Su et al., 2021). Individual-level cognitive factors, such as self-efficacy, have emerged as some of the strongest and most generalizable predictors of EI as confirmed by meta-analytic and systematic review research (Xanthopoulou & Sahinidis, 2024). Consistently, attitude and subjective norms have also been found to be significant to varying magnitudes across cultural and educational contexts.

Self-Efficacy and Entrepreneurial Intention

Bandura's idea of "self-efficacy" – that is, self-confidence in one's ability to perform behaviors that would bring about desired ends – has been much utilized in entrepreneurship research and practice. However, specifically, entrepreneurial self-efficacy is one's confidence in the ability to execute entrepreneurial activities and tasks, including opportunity recognition, resource mobilization, and new venture management. A strong positive association between ESE and EI has been observed in various studies (Doanh, 2021; do Nascimento Silva et al., 2022; Trivedi, 2016, 2017). Critically, it seems that ESE might moderate the relationship between situational factors (e.g., fear of failure and exposure to role models) and EI, and not only increase the prediction of intention, but also influence how contextual factors are processed (Shahriar et al., 2024; Bui and Duong, 2024). In the Saudi context, ESE is of special concern due to the reinforcement of social reputation as an essential asset in the culture and the minimal entrepreneurial role model experiences of the young Saudi generation aside from family businesses. Students who believe they can take up entrepreneurship are more likely to consider self-employment a viable and attractive occupation, particularly if there is a cultural preference for public-sector jobs. Regarding the cross-gender relevance of ESE in the Kingdom, Eid et al. (2023) stated that ESE was a significant predictor of EI among Princess Nourah Bint Abdulrahman University students, highlighting that ESE is an important predictor of EI across all female students in the Kingdom.

Entrepreneurship Education

Entrepreneurship education (EE) refers to both formal and informal EE curricula, external programs, mentoring initiatives, and EE programs at universities, all of which aim to develop entrepreneurship knowledge, attitudes, and skills of students. There have been different approaches to the relationship between EE and EI. Studies report either a direct positive effect of EE on EI (Küttim et al., 2014; Soomro & Shah, 2022), or EE's effects are found to be rather moderating than affecting the link between variables at the individual level and EI, or EE's effects have been reported to depend crucially on the pedagogical approach used (Duong, 2022). There appears to exist an

important difference between experiential, practice-oriented EE and didactic, conceptual EE. Moreover, experiential EE generally seems more effective at building both ESE and EI. In recent years, Saudi higher education system has strongly focused on developing infrastructure and systems for entrepreneurship centers and incubators, as well as training courses and units dedicated to entrepreneurship in accordance with Vision 2030 goals. However, these have been unevenly expanded and developed across institutions and disciplines. Eid et al. (2023) found that EI is higher among students in universities with higher entrepreneurial readiness, indicating that institutions can also impact EI in addition to student attitudes. This is also shown by George (2023) who confirmed that incorporating artificial intelligence tools into entrepreneurship education pedagogy can improve student entrepreneurial fear tolerance, and that this fear tolerance may consequently positively impact students' entrepreneurial intentions indirectly.

Risk-Related Factors: Propensity and Cushioning

Although theoretical links exist between risk and entrepreneurial behavior, empirical findings on the direct link between risk-taking propensity and entrepreneurial intention (EI) vary. Širola (2020) and Doanh and Bernat (2019) reporting positive, though relatively small, and direct links between risk taking propensity and EI ability, willingness to take risks is a prerequisite, but not adequate precondition for entrepreneurial intent. Perceived individual losses from the failure of business enterprise can be cushioned by other variables, including financial safety nets, family support, and governmental social insurance. Thus, in a context such as the Middle East, where family and tribal safety nets are strong and offer informal risk cushioning, there can be a difference in the functioning of risk cushioning compared to the liberal market economies of the west. Further, collectivist values can promote or even limit the ability to take risks (via social safety nets versus social stigma of failure) (Saleem et al., 2018).

State Support and Institutional Environment

Institutional support for entrepreneurship implies government policies, regulatory frameworks, financial support schemes, and preferences for public sector procurement. The quintuple helix model (Carayannis & Campbell, 2010) considers the state, along with four other institutional spaces that constitute the innovation and entrepreneurship ecosystem: universities, industries, civil society, and the natural environment, as a set of five interlocked institutions. Vision 2030 in Saudi Arabia is a compilation of governmental initiatives such as the Small and Medium Enterprises General Authority (Monsha'at), entrepreneur competition, and seed financing, which has significantly enhanced the profile of entrepreneurship as a policy issue. Su et al. (2021) demonstrated that perceived university and institutional support was a significant predictor of EI among Chinese students, reinforcing its relevance in the Saudi context as these institutions are state-controlled and tied to national agendas.

The Saudi Context and Research Gaps

EI has been explored with limited samples of university students in Saudi Arabia, with a few exceptions that focused on Saudi Vision 2030, the effect of the young population of KSA, and the Saudi labor market which has been petro-dependent. The only exception is Eid et al. (2023) which focuses on female students in one institution and has therefore limited reach. However, the present study involves predictors of multiple etiologies, both male and female students in multiple state and private institutions, and the application of SEM for a more dedicated analysis of structural relationships than feasible in simple regression analysis. Together with these characteristics and the literature reviewed earlier, the following hypotheses are tested in this study:

H1: Self-efficacy will have a significant positive effect on entrepreneurial intention.
H2: Entrepreneurship education will have a significant positive effect on entrepreneurial intention.
H3: Risk-taking propensity will have a positive effect on entrepreneurial intention.
H4: Risk cushioning will have a positive effect on entrepreneurial intention.
H5: State support will have a significant positive effect on entrepreneurial intention.
H6: Self-efficacy and entrepreneurship education will be the two most influential predictors of entrepreneurial intention in the combined model.

METHODOLOGY

Research Design

This study employed a quantitative, cross-sectional, survey design approach which is most commonly used in EI research (Andrade & Carvalho, 2023; Xanthopoulou & Sahinidis, 2024). Primary data was collected through a self-report questionnaire administered to students at Saudi universities.

Participants and Sampling

Ninety-seven students from five Saudi universities were recruited of which three are public universities (Majmaah University, King Saud University, and Imam Abdulrahman Bin Faisal University) and two are private universities (Dar Al Hekma University and Prince Sultan University). Convenience sampling was used to access students of business, engineering, and social science programs. The inclusion criteria were: (a) currently enrolled undergraduate or postgraduate students, (b) Saudi nationals or permanent residents, and (c) 18 years of age or older. The final sample (after four reverts were dropped) comprised 55 female (56.7%) and 42 male (43.3%) participants,

with ages ranging from 18 to 34 years (M = 22.4, SD = 2.87). Out of the total participants enrolled for this study (59.8%) were from state universities and (40.2%) were from private universities.

Measures

The questionnaire was divided into six sections based on the five predictor constructs and outcome variables. Based on the procedure followed in earlier EI studies (Laguía et al., 2017; Liñán & Chen, 2009), all items were to be answered on a five-point Likert scale (Strongly Disagree, 5; Strongly Agree, 1).

Entrepreneurial Intention (EI) items were adapted from the Entrepreneurial Intention Questionnaire (EIQ; Liñán & Chen, 2009) which has been validated and found to be reliable in various cultural contexts. Sample item: "In the future, I will definitely want to establish a firm." Six items of self-efficacy (SE) were adapted from Doanh (2021) which measured trainees' confidence in various entrepreneurial activities, including opportunity recognition, skill in acquiring necessary resources, interpersonal teamwork, and team management. Entrepreneurship Education (EE) was measured using five items from the works of Küttim et al. (2014) which encompass students' opinion about quality, relevance, and application based of their university's entrepreneurship programs.

Risk-Taking Propensity (RT) and Risk Cushioning (RC) were measured using four items each adapted from Širola (2020) while items for RC were drawn from discussions of access to family financial resources, social networks, and government safety nets in the theoretical discourses of Saleem et al. (2018) and Doanh and Bernat (2019). State Support (SS) was assessed using five items from Su et al. (2021) and Eid et al. (2023) and included perceptions of funding availability from the government, regulatory ease, and supportive programs provided by various institutions.

Procedure

The forward-back translation procedure was employed when the questionnaire was translated into Arabic for linguistic equivalence. Before administering the instrument, the translated items were reviewed by two bilingual panels of faculty members for semantic accuracy. The data was collected from February to April 2024 through hand delivery by instructors during class time (with permission) and through a secure link delivered online through institutional emails. Participation was purely voluntary with guaranteed anonymity of participants and secrecy of data. Completed questionnaires were checked for missing information and straight lining during which four reverts were eliminated (N=97).

Data Analysis

Once the data was compiled, descriptive statistics was applied to compute means, standard deviations, and Cronbach's alpha reliability coefficients. Pearson's correlation was used to explore bivariate relationships. Multiple linear regression (MLR) was therefore performed with EI as the dependent variable, and the five constructs as simultaneous predictors to assess unique contributions in variance. Finally, the full hypothesized structural model was tested using structural equation modeling (SEM) implemented in software R (version 4.3.2) with the lavaan package. Standardized indices of model fit were used: chi-square ($\chi^2/df < 3.0$), the Comparative Fit Index (CFI > .95), the Tucker-Lewis Index (TLI > .95), the Root Mean Square Error of Approximation (RMSEA < .06), and the Standardized Root Mean Square Residual (SRMR < .08). Harman's single-factor test was used to determine whether common method bias was a concern, the single factor did not explain the bulk of the variance (31.4%), thus indicating that there was no significant common method bias identified in this study.

RESULTS

Descriptive Statistics and Reliability

The demographic characteristics of the sample are summarized in Table 1.

Table 1

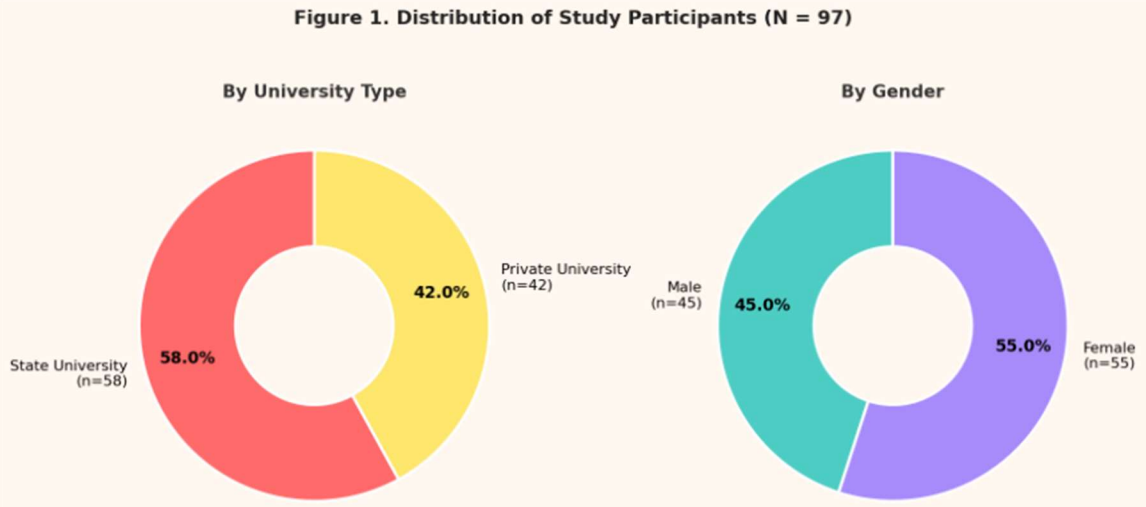
Demographic Characteristics of Participants (N = 97)

Variable	Category	n	%
Gender	Female	55	56.7
	Male	42	43.3
University Type	State	58	59.8
	Private	39	40.2
Age Group	18–21 years	38	39.2
	22–25 years	41	42.3

Variable	Category	n	%
	26+ years	18	18.6
Discipline	Business/Economics	42	43.3
	Engineering	30	30.9
	Social Sciences	25	25.8
Year of Study	Year 1–2	29	29.9
	Year 3–4	48	49.5
	Postgraduate	20	20.6

Note. Percentages may not sum to 100 due to rounding.

The distribution of participants according to university type and gender is shown in Figure 1.



As mentioned, 55 of the participants were female (56.7%), 58 of the participants came from state universities (59.8%), and the mean age of the sample was 22.4 years. Business and Economics, Engineering and Social Sciences were the largest disciplinary groups, accounting for 43.3% and 30.9%, respectively, while Social Sciences accounted for 25.8%. The means, standard deviations, Cronbach's alpha reliability coefficients, and Pearson zero-order correlations for all the study constructs are reported in Table 2.

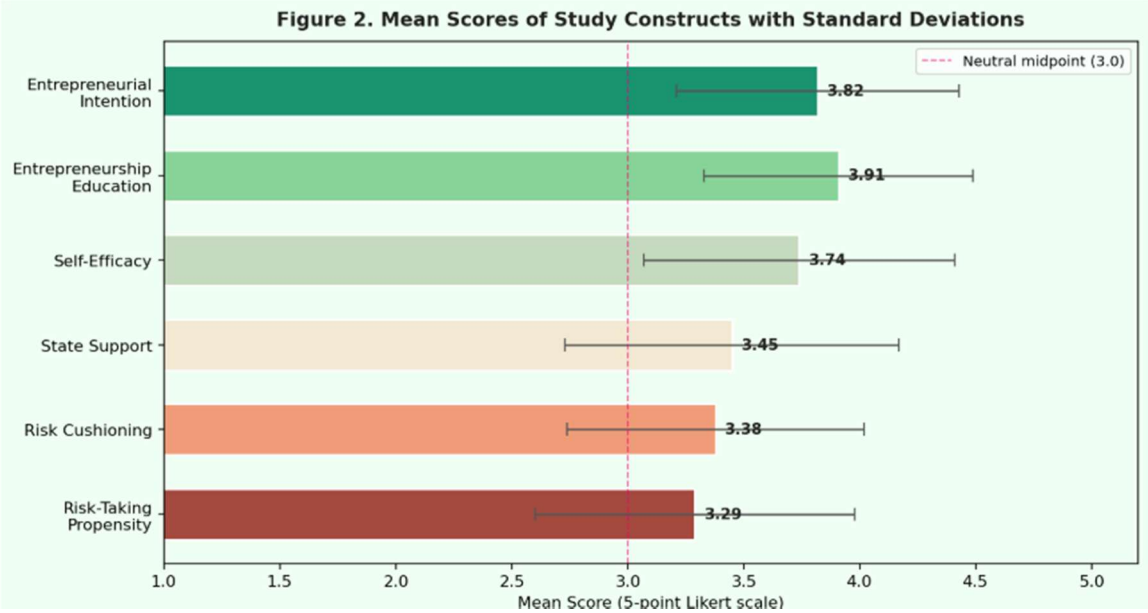
Table 2

Descriptive Statistics, Reliability Coefficients, and Zero-Order Correlations

Construct	M	SD	α	1	2	3	4	5
1. SE	3.74	0.67	.86	—				
2. EE	3.91	0.58	.88	.52***	—			
3. RT	3.29	0.69	.79	.38***	.31**	—		
4. RC	3.38	0.64	.74	.24*	.29**	.12	—	
5. SS	3.45	0.72	.82	.47***	.41***	.28**	.33***	—
6. EI	3.82	0.61	.85	.61***	.57***	.33***	.28**	.44***

*Note. SE = Self-Efficacy; EE = Entrepreneurship Education; RT = Risk-Taking Propensity; RC = Risk Cushioning; SS = State Support; EI = Entrepreneurial Intention. N = 97. *p < .05. **p < .01. ***p < .001.*

All the constructs had reliabilities above the conventional threshold of α = .70 as used in related literature, with EE having the highest reliability (α = .88) and RC the lowest (α = .74), but still acceptable. Generally, the orientations towards entrepreneurship were positive across all constructs with mean scores above the 3.0 (midpoint) of the scale. EI (M = 3.82, SD = 0.61) and EE (M = 3.91, SD = 0.58) recorded the highest means while risk cushioning (M = 3.38, SD = 0.64) and risk-taking propensity (M = 3.29, SD = 0.69) were comparatively lower. All but one of the bivariate correlations in the present study were positive and statistically significant; the only exception was the correlation between RC and RT (r = .12, p = .24). SE and EI showed the strongest bivariate correlation (r = .61, p < .001) followed by EE and EI (r = .57, p < .001), and SS and EI (r = .44, p < .001). These patterns are generally consistent with those that are theoretically expected. These findings are graphically represented in Figure 2.



Means, Reliability, and Correlations

Multiple Regression Analysis

The findings of the simultaneous multiple regression analysis predicting EI based on the five constructs are shown in Table 3.

Table 3

Multiple Regression Analysis Predicting Entrepreneurial Intention (N = 97)

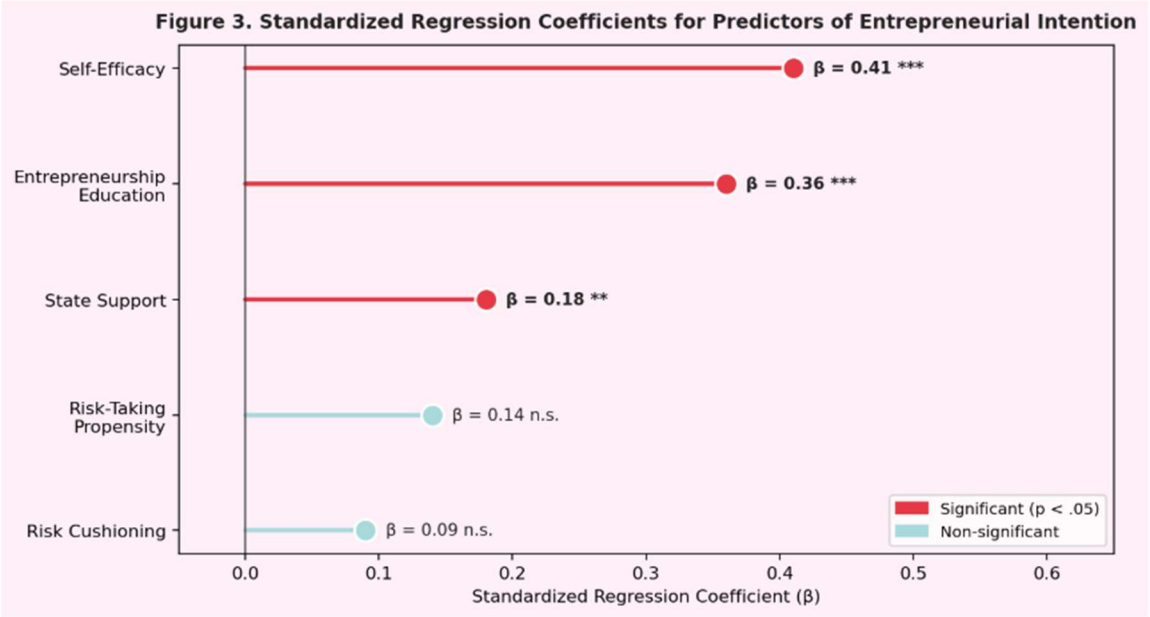
Predictor	B	SE B	β	t	p	95% CI	VIF
Self-Efficacy	0.37	0.075	.41	4.92	<.001	[0.22, 0.52]	1.74
EE	0.38	0.091	.36	4.18	<.001	[0.20, 0.56]	1.83
State Support	0.15	0.074	.18	2.04	.044	[0.00, 0.30]	1.94
Risk-Taking Propensity	0.12	0.074	.14	1.63	.107	[-0.03, 0.27]	2.31
Risk Cushioning	0.08	0.079	.09	1.02	.310	[-0.08, 0.24]	1.18

R^2 = .605; Adjusted R^2 = .584; F(5, 91) = 27.84, p < .001

Note. EE = Entrepreneurship Education. B = unstandardized coefficient. β = standardized coefficient. CI = confidence interval. VIF = variance inflation factor.

This overall model was significant (F(5, 91) = 27.84, p < .001, R^2 = .605, adjusted R^2 = .584), and the five predictors together accounted for approximately 60% of the variance in EI. The values of the variance inflation factor (VIF) ranged from 1.18 to 2.31 which are sufficiently small and do not exceed 10 (usually considered the threshold for concern) and show that there was no likelihood of multicollinearity. As expected with Hypotheses H1 and H2,

self-efficacy (β = .41, t = 4.92, p < .001) and entrepreneurship education (β = .36, t = 4.18, p < .001) were the best predictors of EI. Support from the government also had a unique but smaller effect (β = .18, t = 2.04, p = .044), consistent with H5. Neither risk-taking propensity (β = .14, t = 1.63, p = .107) nor risk cushioning (β = .09, t = 1.02, p = .310) attained conventional levels of statistical significance, resulting in the rejection of both H3 and H4 in the regression model. This is represented in Figure 3.



Standardized regression coefficients (β) for predictors of entrepreneurial intention. Red bars indicate statistical significance (p < .05); blue bars indicate non-significant predictors. Significance markers: *** p < .001, ** p < .01, * p < .05, n.s. = not significant.

Structural Equation Modeling

The complete SEM path diagram is shown with standardized path coefficients in Figure 4.

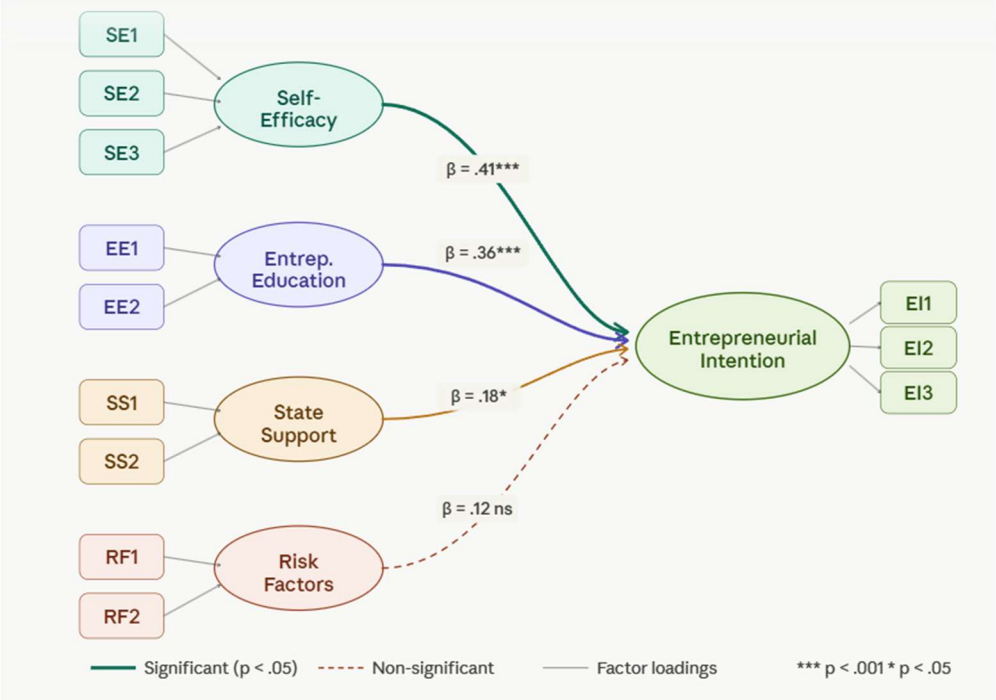


Figure 4: *Structural Equation Model — Path Diagram with Standardized Coefficients.* SE = Self-Efficacy; EE = Entrepreneurship Education; SS = State Support; RF = Risk Factors. Solid lines indicate significant paths; dashed lines indicate non-significant paths. *** $p < .001$, * $p < .05$, ns = not significant

To assess the measurement model, first a confirmatory factor analysis (CFA) was conducted. Convergent validity was provided by all factor loadings that were statistically significant and greater than .60. The average variance extracted (AVE) ranged from .51 (RC) to .67 (SE) which is greater than the .50 threshold. Construct reliability was found within the range of .78 (RC) to .91 (SE) for composite reliability which is above the accepted standard of .70. Discriminant validity was ensured by the AVE values for each construct found to be larger than the squared correlation between construct pairs. The structural model produced acceptable fit: $\chi^2(df = 182) = 384.2$, $\chi^2/df = 2.11$, CFI = .961, TLI = .953, RMSEA = .058 (90% CI [.047, .069]), SRMR = .071. Standardized path coefficients reproduced the results of the regression with good accuracy. Self-efficacy ($\beta = .41$, $p < .001$) and EE ($\beta = .36$, $p < .001$) were the strongest predictors of EI in the structural model, state support was also found to be significant ($\beta = .18$, $p = .032$). Risk-taking propensity ($\beta = .12$, $p = .141$) and risk cushioning ($\beta = .10$, $p = .261$) did not reach significance. The model explained 61.4% of how well data about EI were illustrated ($R^2 = .614$).

DISCUSSION

The core results of this research indicate self-efficacy and entrepreneurship education are the most influential factors affecting entrepreneurial intention among university students in KSA. These findings resonate with the large volume of international research and have unique implications for the Saudi context. The strength of the self-efficacy effect was also in line with findings reported by Doanh (2021) in Vietnam and Abubakar et al. (2023) in an Arab student population across several countries, and the results of the systematic review conducted by Xanthopoulou and Sahinidis (2024) which found self-efficacy to be one of the most consistent predictors of EI in various contexts. The importance of self-efficacy in the context of Saudi graduates could be further exacerbated because of the globally risk-averse nature of the labor market, public sector being the most sought after for jobs, and the history of the Saudi public and private sector labor market. The uncertainty faced by successful entrepreneurs may be compounded by career norms that are worker-, rather than entrepreneur-oriented, which could be a cultural factor. The fact that EE also has a strong direct effect on EI supports the growing view that EE can meaningfully impact entrepreneurial intentions beyond its direct influence on knowledge and attitudes (Küttim et al., 2014; Soomro & Shah, 2022). The mean score for EE in this sample is high (M = 3.91) in comparison to other countries, possibly due to the commitments that Saudi universities have made under the directives of Vision 2030 in terms of investing in entrepreneurship infrastructure. Although variations across EE and their association with institutional type (public or private) should not be ignored, there is likely more variation in EI than captured here, which a larger and more stratified sample might exhibit clearly. This is consistent with Su et al.'s (2021) observations and findings that state support is a small but statistically significant contributor to EI ($\beta = .18$) along with the theoretical logic of the quintuple helix model of entrepreneurial ecosystems (Carayannis & Campbell, 2010), identifying the state as one of the five co-evolutionary institutional spheres that shape entrepreneurial ecosystems.

This result is encouraging from a policy perspective as state support has remained significant beyond student-level factors such as self-efficacy and risk propensity, presumably indicating that there is value in government-level interventions (funding programs, regulatory simplification, mentoring) which add value beyond the self-brought characteristics of a student admitted to the university. Concurrently, the effect size is less than that for SE and EE, suggesting that policy interventions aimed at changing the individual-level entrepreneurial mindset through both quality EE and self-efficacy building interventions will have higher returns on investment (ROI). The magnitudes of these values make it important to interpret the contributions of risk-taking propensity and risk cushioning as not being singularly predictive of EI. This does not mean that risk perceptions are not significant for entrepreneurial intentions in this population; it might be that the implications of risk perceptions act through self-efficacy and attitudes, or that they are simply not that strong with students, when most have not yet encountered the facts of running a firm in practice. In collectivist cultural settings, familial risk-cushioning seems to work at the background level; in these settings, failure may be stigmatized and reduce variability in risk perceptions as suggested by Saleem et al. (2018). Mediation analysis could be used more extensively in the future to define the position of risk-related constructs in the EI formation process more precisely. Overall, the SEM results corroborate the measurement and structural characteristics of the hypothesized model and confirm that the conceptual model of the five factors is valid for describing the EI formation process in this population. The high amount of variance explained by the selected predictors ($R^2 = .61$) indicates that these are the main sources of variance in the EI of Saudi university students; thus,

there is a limited amount of unmeasured constructs, such as role model exposure, family entrepreneurship history, and domain-specific expertise, that can be related to it.

CONCLUSION

This study identified the factors that drive the entrepreneurial intentions of Saudi university students under the auspices of Vision 2030. Based on survey data from 97 respondents from five universities and the analysis using multiple regression and structural equation modelling, two factors, namely self-efficacy and education for entrepreneurship, were identified as the most important ones needed to become an entrepreneur, accounting for more than half of the variance, or R^2, in the dependent variable EI. The factors that accounted for the incremental effect were state support and risk-taking propensity, which were not incremental effects of risk cushioning. The inference drawn from these findings is both clear and prescriptive: the best way to boost entrepreneurial intention among Saudi youth is to enhance individual confidence in entrepreneurship which should be done primarily by providing experiential education with a positive focus on skills, not primarily through structural incentives or risk-mitigating measures. There is also the need to make entrepreneurship education part of the core competency in universities and promote its quality and liberalization as integral components to realize the goals set by Vision 2030 program on entrepreneurship development. Future research is recommended to replicate and extend these results by using larger, stratified, and nationally representative samples; longitudinal designs to track the evolution of EI and translation into actual venture creation behavior; and examining the role played by important theoretical factors, such as gender, family entrepreneurship background, and digital literacy, which were not explored in the present research.

Recommendations

Based on the findings of this study, it is evident there is a strong need for quality entrepreneurship education in Saudi HEIs which must also be a relevant learning experience for students. Moreover, it is recommended for HEIs to edge away from lecture-based modules to experiential-based formats such as business plan competitions, simulation exercises of running a start-up, access to alternative business incubators, and mentoring from alumni entrepreneurs that are specifically designed to create entrepreneurial self-efficacy and not pass down conceptual information. Because SE is so central, programs should incorporate structured reflection periods where students have the opportunity to see and take in evidence they observe as they become entrepreneurs. The analysis of policy actors who share the Vision 2030 perspective confirms the strategic rationale for prioritizing EE quality and ecosystem building but also shows that the necessary support mechanism should be differentiated to tackle variability in the perception of risk cushioning among less affluent students. The perception of the cost of entrepreneurial failure might be reduced with micro-grant programs through readily available mentoring networks and more streamlined business registration procedures, and this can boost and raise EI over time, perhaps a bit lower but not significantly different for female students than for male students in this sample.

Limitations

This study had a few limitations. The cross-sectional design of the study did not allow for causal inferences, as the associations observed were compatible with the direction of causality but not definitive. In addition, survey data is subject to bias as it is self-reported. Also, the study focused on measuring entrepreneurial intention rather than actual entrepreneurial behavior which would have given a more realistic, on-ground picture. Although this represents a proximal antecedent of entrepreneurial behavior, it does not necessarily—or adequately— assume that intentions lead to entrepreneurial behavior. Lastly, the sample consisted solely of urban universities which may have better access to entrepreneurship resources and support networks that are different in smaller regional universities in material terms. This factor also limits the applicability of the results to all Saudi contexts.

REFERENCES

Abubakar, A., Mourgan, F. H. A., Al Kharusi, B., & Elfitori, C. M. (2023). Impact of entrepreneurial education, trait competitiveness and psychological capital on entrepreneurial behavior of university students in GCC. *Journal of Enterprising Communities: People and Places in the Global Economy*, *17*(5), 1022-1044. https://doi.org/10.1108/JEC-03-2022-0047

Andrade, F. L. d., & Carvalho, L. M. C. (2023). Entrepreneurial intention of university students under the perspective of the theory of planned behaviour: Integrative literature review. *Administrative Sciences, 13*(11), 242. https://doi.org/10.3390/admsci13110242

Bui, H. N., & Duong, C. D. (2024). ChatGPT adoption in entrepreneurship and digital entrepreneurial intention: A moderated mediation model of technostress and digital entrepreneurial self-efficacy. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, *19*(2), 391-428. https://www.ceeol.com/search/article-detail?id=1265084

Carayannis, E. G., & Campbell, D. F. J. (2010). Triple helix, quadruple helix and quintuple helix and how do knowledge, innovation and the environment relate to each other? A proposed framework for a trans-disciplinary analysis of sustainable development and social ecology. *International Journal of Social Ecology and Sustainable Development, 1*(1), 41–69. https://doi.org/10.4018/jsesd.2010010105

Chukwuma-Nwuba, E. O. (2018). The influence of culture on entrepreneurial intentions: A Nigerian university graduates' perspective. *Transnational Corporations Review, 10*(3), 213–232. https://doi.org/10.1080/19186444.2018.1475124

do Nascimento Silva, L., dos Santos Silva Barroso, E., Lima Teixeira, L. I., & Cavalcante de Oliveira Jr., M. A. (2022). To undertake or not? That is the question! Analysis of the entrepreneurial intention of university students from a federal teaching institution. *Revista de Gestão e Secretariado, 13*(1), 94–119.

Doanh, D. C. (2021). The moderating role of self-efficacy on the cognitive process of entrepreneurship: An empirical study in Vietnam. *Journal of Entrepreneurship, Management and Innovation, 17*(1), 147–174. https://doi.org/10.7341/20211715

Doanh, D. C., & Bernat, T. (2019). Factors related to the intention of starting a business: A study among students in Vietnam. *Problemy Zarządzania—Management Issues, 17*(2), 133–157. https://doi.org/10.7172/1644-9584.83.8

Duong, C. D. (2022). Exploring the link between entrepreneurship education and entrepreneurial intentions: the moderating role of educational fields. *Education+ Training*, *64*(7), 869-891. https://doi.org/10.1108/ET-05-2021-0173

Eid, N. A. A., Alkhathlan, K. A., Haque, M. I., Alkhateeb, T. T. Y., Mahmoud, D. H. I., Eliw, M., & Adow, A. H. (2023). Exploring the entrepreneurial intentions of Princess Nourah Bint Abdulrahman University students and the university's role aligned with Vision 2030. *Sustainability, 15*(24), 16769. https://doi.org/10.3390/su152416769

George, A. S. (2023). Preparing students for an AI-driven world: Rethinking curriculum and pedagogy in the age of artificial intelligence. *Partners Universal Innovative Research Publication*, *1*(2), 112-136. https://doi.org/10.5281/zenodo.10245675

Kolvereid, L., & Isaksen, E. (2006). New business start-up and subsequent entry into self-employment. *Journal of Business Venturing, 21*(6), 866–885. https://doi.org/10.1016/j.jbusvent.2005.06.008

Krueger, N. F., & Brazeal, D. V. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship Theory and Practice, 18*(3), 91–104. https://doi.org/10.1177/104225879401800307

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5–6), 411–432. https://doi.org/10.1016/S0883-9026(98)00033-0

Küttim, M., Kallaste, M., Venesaar, U., & Kiis, A. (2014). Entrepreneurship education at university level and students' entrepreneurial intentions. *Procedia Social and Behavioral Sciences, 110*, 658–668. https://doi.org/10.1016/j.sbspro.2013.12.910

Laguía, A., Moriano, J. A., Gámez, J. A., & Molero, F. (2017). Validation of the entrepreneurial intention questionnaire in a sample of university students from Colombia. *Universitas Psychologica, 16*(1), 60–73. https://doi.org/10.11144/Javeriana.upsy16-1.veiq

Liñán, F., & Chen, Y.-W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice, 33*(3), 593–617. https://doi.org/10.1111/j.1540-6520.2009.00318.x

Saleem, F., Adeel, A., Ali, R., & Hyder, S. (2018). Intentions to adopt ecopreneurship: Moderating role of collectivism and altruism. *Entrepreneurship and Sustainability Issues, 6*(1), 517–537. https://doi.org/10.9770/jesi.2018.6.1(31)

Shahriar, M. S., Hassan, M. S., Islam, M. A., Sobhani, F. A., & Islam, M. T. (2024). Entrepreneurial intention among university students of a developing economy: the mediating role of access to finance and entrepreneurship program. *Cogent Business & Management*, *11*(1), . https://doi.org/10.1080/23311975.2024.2322021

Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. In C. A. Kent, D. L. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 72–90). Prentice Hall.

Širola, D. (2020). Determinants of entrepreneurial intentions. *Zbornik Veleučilišta u Rijeci, 8*(1), 169–187. https://doi.org/10.31784/zvr.8.1.11

Soomro, B. A., & Shah, N. (2022). Entrepreneurship education, entrepreneurial self-efficacy, need for achievement and entrepreneurial intention among commerce students in Pakistan. *Education+ Training*, *64*(1), 107-125. https://doi.org/10.1108/ET-01-2021-0023

Su, Y., Zhu, Z., Chen, J., Jin, Y., Wang, T., Lin, C.-L., & Xu, D. (2021). Factors influencing entrepreneurial intention of university students in China: Integrating the perceived university support and theory of planned behavior. *Sustainability, 13*(8), 4519. https://doi.org/10.3390/su13084519

Trivedi, R. H. (2016). Does university play significant role in shaping entrepreneurial intention? A cross-country comparative analysis. *Journal of Small Business and Enterprise Development, 23*(3), 790–811. https://doi.org/10.1108/JSBED-10-2015-0149

Trivedi, R. H. (2017). Entrepreneurial-intention constraint model: A comparative analysis among post-graduate management students in India, Singapore and Malaysia. *International Entrepreneurship and Management Journal, 13*(4), 1239–1261. https://doi.org/10.1007/s11365-017-0446-5

Velástegui, O. V., & Chión Chacón, S. (2021). Emotional competencies and entrepreneurial intention: An extension of the theory of planned behavior case of Ecuador. *Cogent Business and Management, 8*(1), 1943242. https://doi.org/10.1080/23311975.2021.1943242

Wach, K., & Wojciechowski, L. (2016). Entrepreneurial intentions of students in Poland in the view of Ajzen's theory of planned behaviour. *Entrepreneurial Business and Economics Review, 4*(1), 83–94. https://doi.org/10.15678/EBER.2016.040106

Wang, X. H., You, X., Wang, H. P., Wang, B., Lai, W. Y., & Su, N. (2023). The effect of entrepreneurship education on entrepreneurial intention: Mediation of entrepreneurial self-efficacy and moderating model of psychological capital. *Sustainability*, *15*(3), 2562.

Xanthopoulou, P., & Sahinidis, A. (2024). Students' entrepreneurial intention and its influencing factors: A systematic literature review. *Administrative Sciences, 14*(5), 98. https://doi.org/10.3390/admsci14050098