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The Mediating Role of Entrepreneurial Skills in the Relationship between Outcome Expectations and Entrepreneurial Readiness among TVET Graduates in Uganda

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Abstract

This research investigates whether entrepreneurial skills mediate the relationship between outcome expectations and entrepreneurial readiness among TVET graduates in Uganda. Grounded in Social Cognitive Theory and Human Capital Theory, we analyzed survey data from 151 graduates using PLS-SEM. Although Yamane's formula targeted a sample of 303, the final usable sample comprised 151 graduates due to challenges in tracing participants. Although smaller than planned, the sample exceeded the minimum threshold for PLS-SEM analysis (Hair et al., 2014) and was sufficient to test the proposed model. Our findings show that outcome expectations significantly enhance entrepreneurial skills ($\beta = 0.621$, $p < 0.01$) and directly predict entrepreneurial readiness ($\beta = 0.42$, $p < 0.01$). Entrepreneurial skills partially mediate this relationship (indirect effect: $\beta = 0.188$, $p < 0.01$). The model explains 54% of the variance in entrepreneurial readiness ($R^2 = 0.540$) and 38.6% in entrepreneurial skills ($R^2 = 0.386$). While previous research has focused primarily on entrepreneurial intentions, few studies have examined the cognitive and skill-based mechanisms linking outcome expectations to entrepreneurial readiness. This study contributes to the literature by: (1) empirically testing the mediating role of entrepreneurial skills in a developing African context; (2) integrating Social Cognitive Theory and Human Capital Theory within TVET entrepreneurship research; and (3) providing quantitative evidence from Uganda, thus addressing the geographical bias in entrepreneurship research in developing countries.

Keywords: Outcome expectations, Entrepreneurial skills, Entrepreneurial readiness, TVET graduates, Uganda

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SDG alignment
SDG 4: entrepreneurship education.
SDG 8: decent work and self-employment.
SDG 9: innovation and new ventures.
SDG 1: livelihoods and poverty reduction.

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Introduction

Entrepreneurial readiness has emerged as a critical factor in economic development globally. When people are ready to start businesses, they generate employment opportunities, introduce new innovations, and stimulate economic growth (Damoah, 2020; Zucchella, 2021; Niu et al., 2022). Many research studies show individuals with entrepreneurial readiness tend to start and sustain successful businesses (Olugbola, 2017; Raza et al., 2019). Those ready for entrepreneurship have a strong will to start a business, the ability to identify opportunities, a willingness to take risks, and confidence in their personal abilities (Bahaw et al., 2025). Technical and Vocational Education and Training (TVET) programmes provide young people with the skills needed to start businesses and reduce the current unemployment rates (Okolie et al., 2021; UNESCO-UNEVOC, 2019). This is also true for Uganda, with the TVET Policy (2019) emphasising entrepreneurship as a key strategy for youth employment and economic growth (Ministry of Education and Sports, 2020). These programmes provide the beneficiaries with practical skills, self-confidence, and an entrepreneurial mindset to facilitate the establishment of ventures immediately after graduation (Masdarini et al., 2024). However, the transition to entrepreneurship remains small, as a significant proportion of graduates continue to experience unemployment (Adeniyi et al., 2022). Windle International Uganda (2022) reports that of the total number of TVET graduates from 2017 to 2022, 41% started their own businesses, 49% remained unemployed, and 10% sought further training.

Studies on TVET graduates have traditionally concentrated on whether training programmes provide the skills demanded by employers and the wider labour market. Evidence from different contexts shows that this remains a major concern. For example, bin Ahmadc (2025) in Malaysia and Nkunya and Mwila (2024) in East Africa reported continued differences between what TVET institutions teach and the competencies expected in employment settings. These findings raise an important question: whether completion of vocational training alone is sufficient to prepare graduates for successful economic participation. Beyond curriculum issues, researchers have also examined the conditions that determine whether the acquired skills can be effectively applied. Omar and Abdullah (2025) found that entrepreneurship training contributes to the development of technical and business-related competencies, but the benefits are greater when graduates receive additional support through mentoring, guidance, and financial opportunities.

Attention has, therefore, expanded towards individual characteristics that influence entrepreneurial behaviour. Previous studies by Buli and Yesuf (2015), Jumbri et al. (2026), and Teoh et al. (2025) show that entrepreneurial intentions are associated with future entrepreneurial activities. However, having the intention to start a venture does not necessarily mean that an individual possesses the skills and

confidence required to pursue entrepreneurship. This issue is especially important in Uganda, where TVET programmes continue to be promoted as a pathway for youth empowerment and employment creation. Drawing from Bandura's Social Cognitive Theory, this study examines whether entrepreneurial skills provide the link between outcome expectations and entrepreneurial readiness among TVET graduates in Uganda.

Previous studies on entrepreneurial readiness mainly focus on intentions (Olugbola, 2017; Quagrainie, 2024) and neglect other aspects like opportunity recognition, risk-taking, and self-efficacy (Raza et al., 2019; Bahaw et al., 2025). They also exhibit geographical bias, mostly studying developed economies, especially Indonesia (Daud & Nordin, 2023), which cannot be generalized to developing countries facing challenges such as outdated curricula and weak industry links (Nkunya & Mwila, 2024; Buli & Yesuf, 2015). Additionally, most studies use a single theoretical framework like Institutional or Resource-Based Theory (Schillo et al., 2016; Quagrainie, 2024). To address these gaps, this study combines Social Cognitive Theory (Bandura, 1986) and Human Capital Theory (Becker, 1964) to analyze entrepreneurial readiness, especially focusing on the mediating role of entrepreneurial skills between outcome expectations and readiness among TVET graduates in a developing African context.

Theoretical Framework for the Study

Human Capital Theory and Social Cognitive Theory guided this study in examining the mediating role of entrepreneurial skills in the relationship between outcome expectations and entrepreneurial readiness. Social Cognitive Theory, developed by Bandura in 1986, assumes that environmental factors, cognitive processes, and behavioural patterns shape behaviour. In this study about entrepreneurial readiness of TVET graduates, outcome expectations are conceptualised as beliefs regarding the likely results of specific behaviours. In this case, it is the likely results of choosing to start a business, and these are categorised as physical (such as financial gain or skill development), social (such as recognition or approval), and self-evaluative (such as personal satisfaction or pride (Bandura, 1986). Independence, financial gain, personal reward, and family security were the four dimensions used to measure outcome expectations in this study (Santos & Liguori, 2019).

In the study, entrepreneurial skills mediate the relationship between outcome expectations and entrepreneurial readiness. Entrepreneurial skills are examined in terms of technical, managerial, and personal competencies (Adeniyi, 2023; Saptono et al., 2020). Becker's Human Capital Theory (1964) states that investments in education and training increase earnings and productivity. Acquiring skills through TVET enables TVET graduates to develop products, plan ventures, and address challenges, increasing their chances of starting businesses. Entrepreneurial readiness, the dependent variable in this study, is assessed using willingness, opportunity recognition, risk-taking, and self-efficacy (Raza et al., 2019; Schillo et al., 2016; Olugbola, 2017). Positive expectations of entrepreneurial outcomes increase one's confidence and propensity to take risks when starting a business (Krueger et al., 2000; Newman et al., 2019), while acquiring entrepreneurial skills facilitates opportunity recognition, leading to business start-up and sustainability (Uy et al., 2017; Puni et al., 2018). Both positive expectations for entrepreneurial outcomes and entrepreneurial skills among TVET graduates enhance their entrepreneurial readiness to start and sustain their businesses, ultimately resulting in sustainable livelihoods for the graduates (Adeniyi et al., 2022; Obschonka et al., 2023).

Empirical Literature Review

Outcome expectations and entrepreneurial readiness among TVET graduates

Outcome expectations, from Bandura's Social Cognitive Theory (1986), are beliefs about likely consequences of behaviour. In entrepreneurship, they influence career choices and venture readiness (Lent et al., 1994), affecting willingness, risk-taking, opportunity recognition, and self-efficacy. These expectations link to entrepreneurial intentions, with perceptions of desirability, like financial success, boosting intentions (Krueger et al., 2000). Those associating entrepreneurship with autonomy and flexibility are more willing to get involved (Santos & Liguori, 2019). Positive expectations also help translate intentions into action (Liguori et al., 2018), making risk-taking more manageable (Javalgi et al., 2018) and improving opportunity recognition through proactive environmental scanning (Obschonka et al., 2023). They enhance self-efficacy by boosting confidence in success, increasing preparedness (Han et al., 2025; Prasetya et al., 2025). Overall, outcome expectations are a key cognitive factor driving entrepreneurial readiness.

H1: There is a positive relationship between outcome expectations and entrepreneurial readiness among TVET graduates.

Outcome expectations and entrepreneurial skills

Outcome expectations are beliefs about the anticipated consequences of engaging in a given behaviour, according to Bandura (1986). Research shows that individuals who anticipate positive outcomes from their competencies are more likely to learn and apply these skills (Lent et al., 1994) These positive entrepreneurial expectations of TVET graduates may vary and ultimately affect their skill levels and readiness to start businesses (Adeniyi et al., 2022). These expectations are also influenced by other factors, including training, education, and market awareness (Ohagwu et al., 2023). Han et al. (2025) reported that even personal engagement affects one's intentions through self-efficacy and expectations, highlighting motivational factors as a mediating pathway. Prasetya et al. (2025) add that outcome expectations explain

the relationship between skill acquisition and intentions. The research conducted by Santos and Liguori (2019) found that self-efficacy shapes entrepreneurial intentions, which are mediated by expected positive outcomes from starting a business and by the triggering of skill development. A study by Adebusuyi et al. (2022) concluded that individuals who expect positive entrepreneurial outcomes are more likely to develop the necessary skills to start a business. Therefore:

H2: There is a positive relationship between outcome expectations and entrepreneurial skills

Entrepreneurial skills and entrepreneurial readiness

Acquired entrepreneurial skills are essential for preparing individuals for entrepreneurship, playing a key role in the readiness to start and sustain ventures (Hassan et al., 2020; Shane, 2003). Entrepreneurship education develops attitudes and skills for launching and managing businesses (Fayolle & Gailly, 2015). These skills support start-up success, influence decisions, and help create jobs (Hassan et al., 2020; Puni et al., 2018). Evidence links skills to readiness; those with them spot opportunities, are confident, willing to take risks, and pursue entrepreneurship (Anwar & Saleem, 2019; Saptono et al., 2020). Riskawati et al. (2025) found communication, creativity, innovation, and risk-taking significantly influence readiness, with risk-taking as the strongest predictor. Studies show that opportunity identification (Olugbola, 2017) and self-efficacy components (searching, planning, implementing) relate directly to start-up readiness (Adeniyi et al., 2022). In TVET, these skills enhance youth entrepreneurship (Niu et al., 2022; Qin, 2025). Cahyani et al. (2022) found entrepreneurship education indirectly impacts readiness by fostering an entrepreneurial mindset and skills. These skills influence graduates' willingness to pursue entrepreneurship by shaping perceptions of attractiveness and feasibility (Ntshangase & Ezeuduji, 2023) and strengthen traits like innovation, confidence, resilience, and motivation (Bhatti et al., 2021). Therefore:

H3: There is a positive relationship between entrepreneurial skills and entrepreneurial readiness

Entrepreneurial skills, outcome expectations and entrepreneurial readiness

According to Social Cognitive Theory, positive outcome expectations motivate individuals to develop competencies, which in turn enhance readiness for entrepreneurial action (Hassan et al., 2020). This mediation is particularly significant in TVET settings, where the focus is on developing practical skills (Buli & Yesuf, 2015). Research supports this indirect pathway: entrepreneurial self-efficacy partly mediates the link between entrepreneurship education and the readiness to start a business (Adeniyi, 2023), while opportunity identification skills have a positive impact on entrepreneurial outcomes (Olugbola, 2017). When TVET graduates have positive expectations about entrepreneurial success, they are driven to cultivate crucial skills such as opportunity recognition, planning, and execution, which in turn enhance their overall readiness to embark on entrepreneurial ventures (Daud & Nordin, 2023). From the above, it can be seen that entrepreneurial skills serve as a mediator between outcome expectations and entrepreneurial readiness, helping translate aspirations into practical preparedness. Thus:

H4: Entrepreneurial skills play a mediating role in the relationship between outcome expectations and entrepreneurial readiness among TVET graduates

Methods and Approaches

A quantitative approach using a questionnaire survey was employed to test the theoretical model and the derived hypotheses. All measurement items for the study variables were adapted from previous studies. Entrepreneurial readiness was assessed using willingness, opportunity recognition, risk-taking propensity, and self-efficacy (Raza et al., 2019; Schillo et al., 2016; Olugbola, 2017). Outcome expectations were evaluated in terms of independence, financial gain, personal reward, and family security (Santos & Liguori, 2019). Entrepreneurial skills were measured using technical skills, business management skills, and personal skills (Adeniyi, 2023; Saptono et al., 2020) as shown in Table1. All items for the constructs were reflective, as determined by the decision criteria proposed by Jarvis et al. (2003).

Table 1: Operationalisation of study variables

Global variable	Indicators	Authors
Outcome Expectations	Independence, financial gain, personal reward, family security	Santos and Liguori (2019)
Entrepreneurial Skills	Technical skills, business management skills, personal skills	Adeniyi (2023); Saptono et al. (2020)
Entrepreneurial Readiness	Willingness, opportunity identification, risk-taking propensity, self-efficacy	Raza et al. (2019); Schillo et al. (2016); Olugbola (2017)

Source: From Literature Review

Study population and sampling

This study targeted TVET graduates from business-related diploma programmes, including, but not limited to, the Diploma in Business Administration, the National Diploma in Accountancy, the Diploma in Human Resources Management, and the Diploma in Procurement and Logistics Management. The total population of business diploma graduates from accredited institutions in Central Uganda districts of Wakiso and Kampala was 1,250 (Uganda Vocational and Technical Assessment Board [UVTAB], 2023, 2024; Uganda Bureau of Statistics [UBOS], 2024). Central Uganda hosts over 50% of all accredited TVET institutions in the country (UVTAB, 2023). Using Yamane's (1967) formula at a 95% confidence level, a target sample of 303 graduates was calculated. A complete list of graduates was obtained from

UVTAB. Simple random sampling was used as the main probability sampling technique to select 303 graduates from the list, guaranteeing that each graduate had an equal opportunity to be selected.

To improve tracing of the randomly selected participants, snowball sampling was employed for tracking purposes only. This method is often used in developing countries where contact information for many randomly selected graduates is outdated or incomplete. To locate these graduates, phone calls, physical visits, and institutional contacts were utilised. This approach has been implemented in other studies; for example, the University of Pangasinan tracer study in the Philippines switched to snowball sampling when initial contact efforts fell short (Rocaberte, 2016). Similarly, Gebremedhin (2011) employed random sampling to select TVET institutions in Ethiopia and then used snowball sampling to trace graduates. These examples illustrate that combining probability-based selection with snowball tracing is an effective strategy for dealing with high attrition rates in graduate contact data in resource-limited environments.

Data collection

Based on the doctoral research of the lead author, this study was adopted. The questionnaire was validated before data collection by assessing validity with experts and practitioners in the area of study. Questionnaires were distributed to graduates of business-related diploma programmes from TVET institutions across Central Uganda. The institutions participating included Kyotera College of Business Studies, Makerere Business Training Centre, Makerere Business School and Innovations Centre, Skyrona Business and Vocational Institute, among others. During data collection, 180 of the 303 randomly selected graduates were successfully located. Of these, 170 returned the questionnaires. After data cleaning, questionnaires with extreme missing responses of 20% (Hair et al., 2022) were excluded, leaving 151 usable questionnaires for analysis. The achieved sample of 151 represents 49.8% of the target sample and 12.1% of the total population. This sample size exceeded the minimum of 100 cases recommended for PLS-SEM analysis (Hair et al., 2014) and satisfied the 10-times rule for structural model estimation (Hair et al., 2017). PLS-SEM was therefore employed, as it is ideal for moderate sample sizes and complex models (Hair et al., 2021; Ringle et al., 2015). The collected sample comprised graduates from 16 business-related diploma programmes across 23 TVET institutions in Central Uganda, providing diverse graduate experiences. However, the sample-size shortfall is acknowledged as a limitation that may affect the generalisability of the findings to the broader population of TVET graduates in Uganda.

Unit of analysis

The analysis was conducted at the level of individual TVET graduates. Questionnaires were administered to business diploma graduates, who were both available and provided informed consent to participate.

Common method bias and non-response bias

Several procedural steps were taken during the questionnaire design and administration to minimise common method bias. Consistent with the recommendations of Podsakoff and Organ (1986), the questionnaire used a six-point Likert scale to discourage respondents from selecting neutral answers (Nadler et al., 2015). The measurement items were adapted to reflect the study's context; the double-barrelled questions were removed, and response anchors were varied across sections, where appropriate. Respondents were also assured that their responses would remain anonymous to encourage honest and independent answers. Harman's single-factor test was performed as an additional diagnostic check and first factor explained less than 50% of the total variance, suggesting that the common method bias was unlikely to have materially influenced the study's findings (Harman, 1967; Podsakoff & Organ, 1986).

Efforts increased participation and reduced non-response via follow-ups, reminders, personal visits, and confidentiality assurances. Comparing early and late respondents, no significant differences were found in entrepreneurial readiness, outcome expectations, or skills, suggesting minimal non-response bias. Control variables (age, gender, marital status) showed no significant impact on entrepreneurial readiness, indicating demographics did not affect the study results.

Ethical consideration

Ethical guidelines were observed while undertaking this research on the entrepreneurial readiness of TVET graduates, and approval was granted by Makerere University under Registration Number 2022/HD10/22688U, as this study forms part of the approved PhD research entitled *Entrepreneurial Readiness among TVET Graduates in Uganda*. Prior to data collection, all participants were provided with clear information about the purpose of the study and what their involvement would entail. This information also appeared in the introductory section of the questionnaire to enable respondents to make an informed decision about whether to participate or not (Creswell & Creswell, 2017; Saunders et al., 2019). Personal identification data was not collected and responses were handled with ultimate confidentiality. The information obtained was used exclusively for academic research and reported in aggregate form to ensure that individual participants could not be identified. This data was securely stored, and was accessible only to the research team, in accordance with data protection guidelines (Podsakoff et al., 2003; Data Protection & Privacy Act, 2019). These precautions safeguarded participant rights and maintained the research's integrity.

The demographic characteristics of the samples

Table 2 presents the demographic characteristics of the 151 TVET graduates who participated in the study. Regarding gender, females constituted the majority at 55% (n = 83), while males accounted for 45% (n = 68), indicating slightly higher female participation. In terms of age distribution, the majority of respondents (66.9%, n = 101) were aged between 18 and 28 years, followed by those aged 29 to 39 years (29.1%, n = 44), and only 4.0% (n = 6) were aged 40 years and above. This suggests that the sample was predominantly composed of young adults, which is consistent with the typical age profile of TVET graduates transitioning into the labour market.

Regarding marital status, the majority of respondents were single (64.5%, n = 98), followed by those who were married (27.2%, n = 41). A small proportion reported living together (6.0%, n = 9), while fewer than 2% were either separated (0.7%, n = 1) or widowed/widowers (1.3%, n = 2).

Notably, 78.8% (n = 119) of respondents reported having started a business at some point, while 21.2% (n = 32) had never done so. This high proportion suggests that the majority of graduates had engaged in entrepreneurial activity, indicating familiarity with the business start-up process.

Table 2: Demographic characteristics for unit of analysis and inquiry

Details	Frequency	Valid percent	Cumulative percent
Gender: Male	68	45.0	45.0
Female	83	55.0	100.0
Age bracket: 18–28 years	101	66.9	66.9
29–39 years	44	29.1	96.0
40 and above	6	4.0	100.0
Marital status: Single	98	64.5	64.5
Married	41	27.2	91.7
Living together	9	6.0	97.7
Separated	1	0.7	98.4
Widow/Widower	2	1.3	100.0
Ever started a business: Yes	119	78.8	78.8
No	32	21.2	100.0

Source: Primary Data

Results

PLS-SEM is widely applied in management and entrepreneurship research because it is well suited to analysing complex models, particularly when the sample size is relatively small, and the primary aim of the study is to explain or predict relationships among variables (Hair et al., 2014, 2017, 2021; Ringle et al., 2015).

Measurement model

The standardised outer loadings ranged from 0.657 to 0.821. While most indicators met or exceeded the recommended threshold of 0.70, a few items had loadings slightly below 0.70, but were retained because they had theoretical relevance and contributed to the conceptual coverage of their respective constructs. Their retention was further supported by satisfactory composite reliability (CR) and average variance extracted (AVE) values. In line with Hair et al. (2021), indicators with loadings between 0.40 and 0.70 should only be removed if their exclusion improves CR or AVE; since the removal of these items did not improve either CR or AVE, they were retained. Hulland (1999) similarly notes that weaker loadings may be retained on the basis of their contribution to content validity. All item loadings were significant at $p < 0.01$ (t-values > 8.234 based on 5,000 bootstrap samples), confirming their individual contribution to the constructs as shown in Table 3 below.

Table 3: Reliability and convergent validity of the measurement model

Higher-Order Construct	Dimension	Item	Loading	T-Statistic	P-Value	VIF	CR	AVE
Outcome Expectations	Personal Rewards						0.772	0.530
		PR10	0.767	12.345	<0.001	1.139		
		PR5	0.727	10.234	<0.001	1.201		
		PR6	0.689	8.901	<0.001	1.156		
	Financial Gain						0.798	0.571
		FG10	0.659	9.234	<0.001	1.151		
		FG7	0.778	14.567	<0.001	1.285		
		FG8	0.821	18.234	<0.001	1.352		
	Independence						0.845	0.522
		IN10	0.674	8.456	<0.001	1.391		
		IN11	0.710	11.789	<0.001	1.388		
		IN5	0.782	15.678	<0.001	1.799		
		IN6	0.750	13.456	<0.001	1.714		

Higher-Order Construct	Dimension	Item	Loading	T-Statistic	P-Value	VIF	CR	AVE
		IN7	0.690	10.123	<0.001	1.405		
	Family Security						0.800	0.501
		FS1	0.676	8.901	<0.001	1.235		
		FS11	0.717	11.234	<0.001	1.339		
		FS12	0.677	9.567	<0.001	1.303		
		FS5	0.757	13.890	<0.001	1.298		
Entrepreneurial Skills	Personal Skills						0.802	0.575
		PS10	0.781	16.234	<0.001	1.332		
		PS12	0.772	14.567	<0.001	1.359		
		PS3	0.721	11.234	<0.001	1.145		
	Business Management Skills						0.789	0.555
		BMS1	0.743	11.789	<0.001	1.128		
		BMS2	0.728	10.456	<0.001	1.269		
		BMS9	0.763	12.345	<0.001	1.301		
	Technical Skills						0.838	0.510
		TS3	0.701	10.234	<0.001	1.313		
		TS4	0.784	15.678	<0.001	1.781		
		TS5	0.710	11.456	<0.001	1.569		
		TS8	0.691	9.234	<0.001	1.314		
		TS9	0.680	8.567	<0.001	1.366		
Entrepreneurial Readiness	Business Opportunity Identification						0.774	0.533
		BOI1	0.756	12.789	<0.001	1.163		
		BOI4	0.713	10.567	<0.001	1.160		
		BOI8	0.720	11.234	<0.001	1.158		
	Willingness						0.809	0.515
		WL6	0.703	10.901	<0.001	1.262		
		WL8	0.716	11.456	<0.001	1.418		
		WL10	0.678	8.234	<0.001	1.226		
		WL12	0.770	13.567	<0.001	1.430		
	Self-Efficacy						0.841	0.515
		SE10	0.700	11.234	<0.001	1.470		
		SE11	0.786	16.789	<0.001	1.664		
		SE13	0.764	14.567	<0.001	1.611		
		SE14	0.673	8.901	<0.001	1.348		
		SE15	0.657	8.234	<0.001	1.359		
	Risk-Taking Propensity						0.835	0.629
		RTP5	0.782	14.234	<0.001	1.415		
		RTP6	0.839	18.567	<0.001	1.531		
		RTP8	0.755	12.345	<0.001	1.281		

Source: Primary Data (SmartPLS 4.0 Output, 2026)

Note: CR = Composite Reliability; AVE = Average Variance Extracted; VIF = Variance Inflation Factor. All item loadings were significant at $p < 0.001$. The reported t-statistics were obtained using the bootstrapping procedure with 5,000 bootstrap samples.

Table 4 shows that all variables met the recommended thresholds for reliability (Cronbach's alpha, composite reliability rho_a, and composite reliability rho_c all greater than .70) and convergent validity (average variance extracted greater than .50) (Fornell & Larcker, 1981; Hair et al., 2021)

Table 4: Reliability and validity for global variables

Global variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Outcome Expectations	0.771	0.779	0.845	0.600
Entrepreneurial Skills	0.759	0.782	0.838	0.521
Entrepreneurial Readiness	0.764	0.771	0.841	0.561

Source: Primary Data

The results indicate that all items were significant ($p < 0.01$). Discriminant validity (Table 5, Table 6, and Table 7) was done to ensure constructs differed and did not portray the same phenomenon (Hair et al., 2017). Using the HTMT technique, all HTMT values were below 0.85 (Henseler et al., 2015), indicating strong discriminant validity. The measurement model showed adequate convergent and discriminant validity (Ab Hamid et al., 2017).

Table 5: Discriminant validity using HTMT – Entrepreneurial Readiness

Construct	Business Opportunity Identification	Risk-Taking Propensity	Self-efficacy
Risk Taking Propensity	0.629		
Self-efficacy	0.546	0.734	
Willingness	0.696	0.665	0.506

Source: Primary Data

Table 6: Discriminant validity using HTMT – Entrepreneurial Skills

	Business Management Skills	Entrepreneurial Skills	Personal Skills
Entrepreneurial Skills	0.850		
Personal Skills	0.569	0.772	
Technical Skills	0.494	0.787	0.280

Source: Primary Data

Table 7: Discriminant validity using HTMT – Outcome Expectations

	Family Security	Financial Gain	Independence
Financial Gain	0.791		
Independence	0.636	0.756	
Personal Reward	0.748	0.736	0.568

Source: Primary Data

Figures 1,2 and 3 present the PLS measurement models for Outcome Expectations, Entrepreneurial Skills, and Entrepreneurial Readiness. These models display the relationships between each latent construct and its observed indicators, showing the outer loadings that confirm how well each item measures its intended construct.

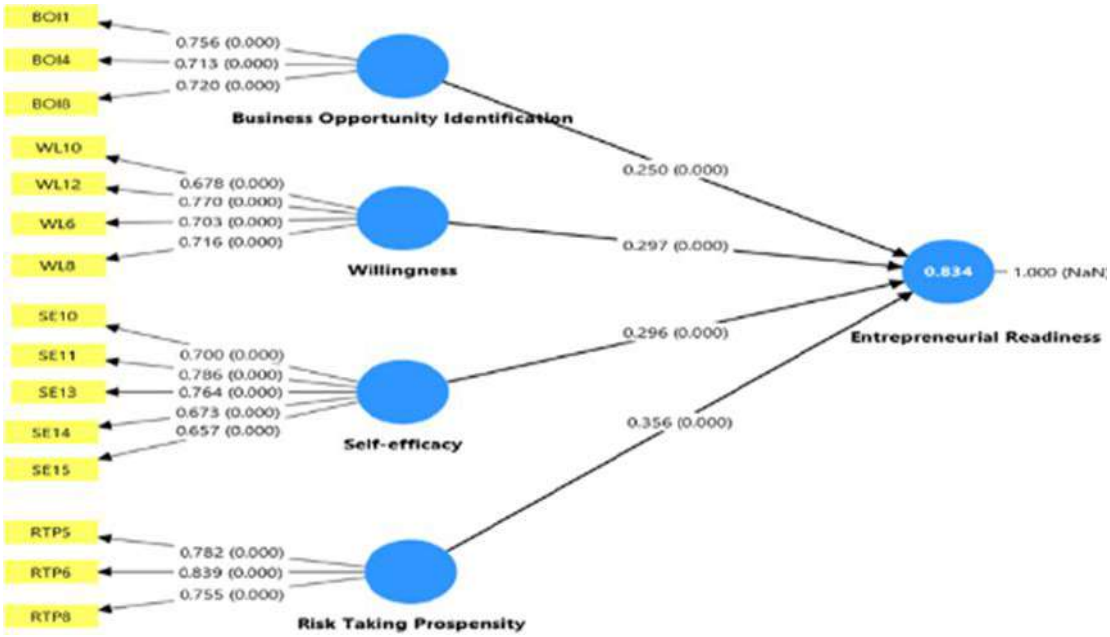


Figure 1: PLS measurement model for Outcome Expectations

Source: Primary Data

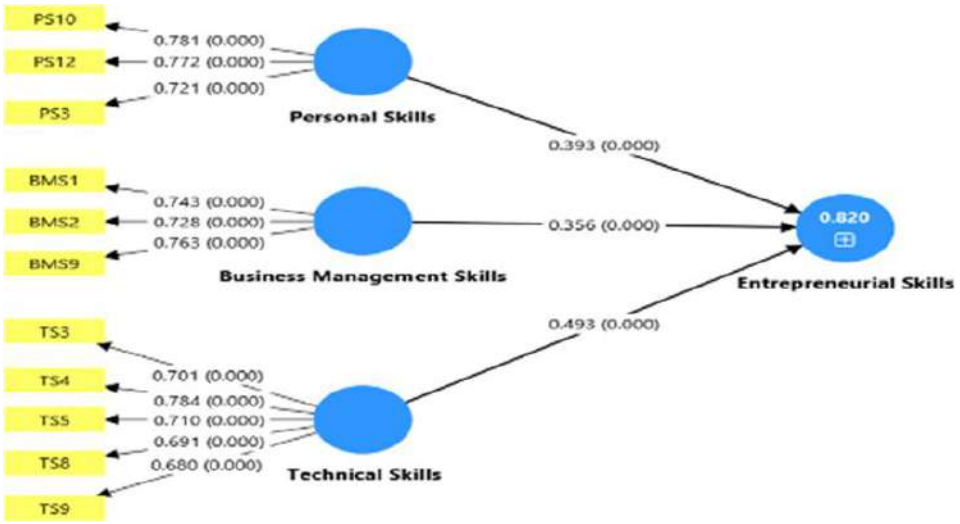


Figure 2: PLS measurement model for Entrepreneurial Skills
Source: Primary Data

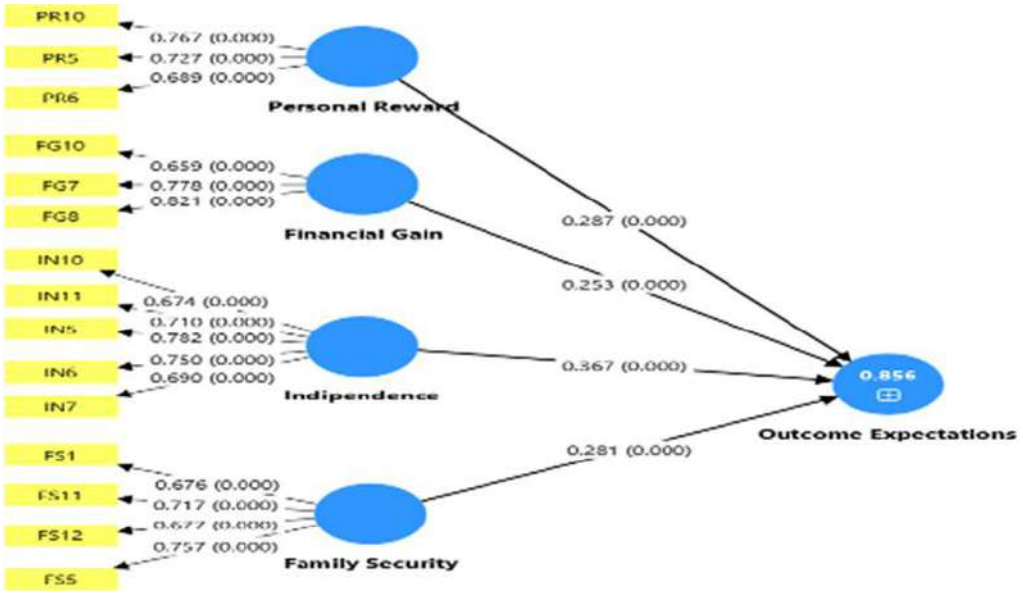


Figure 3: PLS measurement model for Entrepreneurial Readiness
Source: Primary Data

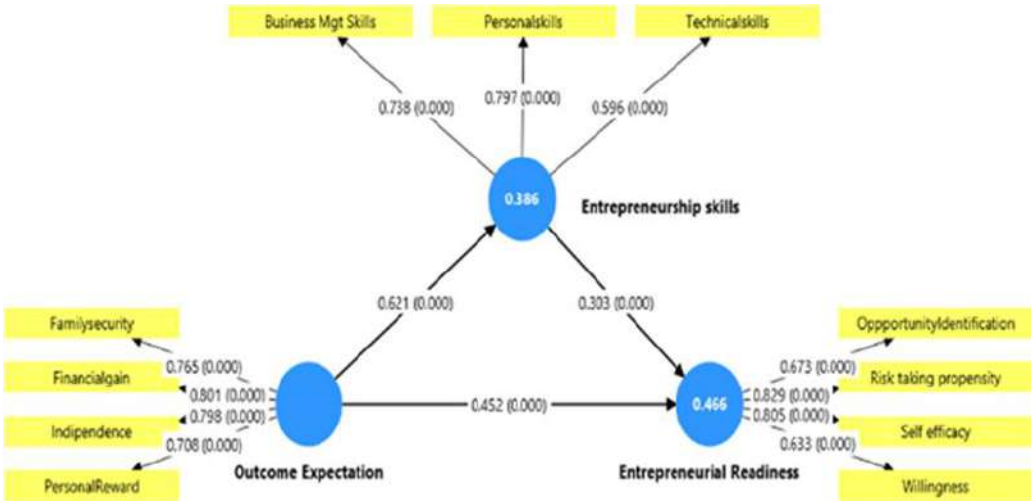


Figure 4: Summary of the results of the mediated model with direct and indirect effects
Source: Primary Data

The reliable and valid measurement model was analysed using SMART PLS 4.0. The structural model was assessed through path coefficients, significance via bootstrapping, and R^2 values. R^2 for entrepreneurial readiness and skills were 0.540 and 0.386, respectively. The direct effects tested were: OE→ER (H1: β=0.452, p<0.01), OE→ES (H2: β=0.621, p<0.01), and ES→ER (H3: β=0.303, p<0.01), all supporting the respective hypotheses.

Table 8: Main hypotheses results

Hypothesis	Structural Path	β	S.E.	T-stat	p-value	BCa Confidence Interval	f^2
Direct Effects H							
H1	OE → ER	0.452	0.072	6.264	<0.001	[0.301, 0.594]	0.235
H2	OE → ES	0.621	0.048	12.889	<0.001	[0.529, 0.712]	0.628
H3	ES → ER	0.303	0.077	3.922	<0.001	[0.152, 0.452]	0.106
Indirect Effect		**β**		**T stat**	**P values**	**Bca**	
H4 Outcome Expectations -> Entrepreneurial Skills -> Entrepreneurial Readiness		0.188		3.765	0.000	0.091-0.287	
Total Effect		**β**		**T stat**	**P values**	**Bca**	
Outcome Expectations -> Entrepreneurial Readiness		0.640		11.248	0.000	0.52- 0.747	
Predictive Criteria		**R^2**		**Adj. R^2**	**Q^2 predict**	**RMSE**	
Entrepreneurial Skills		0.386		0.381	0.342	0.256	
Entrepreneurial Readiness		0.540		0.533	0.495	0.221	

Source: Primary Data

Cohen's (2013) f^2 effect sizes, categorized as 0.02 for small, 0.15 for medium, and 0.35 for large effects per Hair et al. (2022), were calculated to assess the practical significance of structural relationships. Results in Table 8 show outcome expectations have a large effect on entrepreneurial skills (f^2 = 0.628), indicating cognitive motivation drives competency acquisition. They exert a moderate influence on entrepreneurial readiness (f^2 = 0.235), with entrepreneurial skills having a smaller impact (f^2 = 0.106). While skills significantly relate to readiness, their small effect suggests they contribute modestly, especially when boosted by positive outcome expectations that motivate application. Effect sizes clarify each relationship's practical importance, demonstrating the mediation model's meaningful explanatory value.

The mediation effect was assessed using the bootstrapping procedure recommended by Preacher and Hayes (2008). A total of 5,000 bootstrap samples were generated, and bias-corrected and accelerated (BCa) confidence intervals were used to assess the significance of the indirect effect. The decision regarding hypothesis support was based on whether the confidence interval included zero; an interval excluding zero indicated a statistically significant mediation effect. The findings revealed that outcome expectations had a positive and significant indirect effect on entrepreneurial readiness through entrepreneurial skills (β = 0.188, p < 0.01). The total effect of outcome expectations on entrepreneurial readiness was also significant (β = 0.640, p < 0.01). Since both the direct effect (β = 0.452, p < 0.01) and the indirect effect were statistically significant, entrepreneurial skills partially mediated the relationship between outcome expectations and entrepreneurial readiness, thereby supporting hypothesis H4. The results are presented in Table 8 and further illustrated in Figure 4, showing the direct and mediated relationships among the study variables.

Table 9: Descriptive statistics and Pearson correlations

Study Variables	Mean	Std. Deviation	1	2	3
1. Outcome Expectations	5.1233	.29983	1		
2. Entrepreneurial Skills	4.9737	.32535	.591**	1	
3. Entrepreneurial Readiness	5.0036	.32023	.574**	.613**	1

Source: Primary Data

Discussion of Findings

For H1, the analysis showed that outcome expectations were positively and significantly related to entrepreneurial readiness (β = 0.452, p < 0.01). This finding suggests that TVET graduates who expect entrepreneurship to provide benefits such as financial improvement, family stability, personal fulfilment, and greater independence tend to be better prepared for entrepreneurial activity. They are more likely to identify business opportunities, believe in their ability to succeed, take informed risks, and show a stronger willingness to start a business. This finding is consistent with Social Cognitive Theory, which argues that people's expectations about the likely consequences of their actions influence the choices they make and the effort they invest in achieving desired outcomes (Bandura, 1986). The results are also in agreement with earlier studies by Santos and Liguori (2019), which found that favourable outcome expectations encourage entrepreneurial intentions and increase the likelihood of engaging in entrepreneurial behaviour.

Results show a strong, significant link between outcome expectations and entrepreneurial skills (β = 0.621, p < 0.01), supporting the hypothesis H2. Those who believe starting a business leads to desirable outcomes are more motivated to develop relevant skills, recognising their importance for success. This aligns with Human Capital Theory (Becker, 1964) and Social Cognitive Theory (Bandura, 1986), which explain that outcome expectations influence skill acquisition. Findings, consistent with Saptono et al.

(2020), indicate positive attitudes towards entrepreneurship shape mindset and knowledge. Outcome expectations strongly predict entrepreneurial skills (β= 0.621, p< 0.01), with a large effect size (f^2= 0.628) explaining 38.6% of variance (R^2= 0.386). These results suggest expecting positive personal, financial, and career outcomes encourages skill development.

The results for H3 show that entrepreneurial skills positively and significantly impact entrepreneurial readiness (β=0.303, p<0.01). Graduates with stronger skills are more prepared for entrepreneurial activities. These skills include technical creation skills, business management, and personal skills for problem-solving, adaptation, and stakeholder engagement. This aligns with Human Capital Theory (Becker, 1964), which states that training improves skills and outcomes, and Social Cognitive Theory (Bandura, 1986), which says skill development enhances confidence. According to Hassan et al. (2020), Puni et al. (2018), and Adeniyi (2023), entrepreneurial skills are key predictors of entrepreneurial intentions and readiness.

The findings show that outcome expectations had a greater effect on entrepreneurial readiness (β = 0.452) than entrepreneurial skills (β = 0.303). For TVET graduates in Uganda, expecting entrepreneurship to bring positive results appears to be more important for readiness than having entrepreneurial skills alone. Although skills are necessary, they are unlikely to translate into entrepreneurial action unless graduates believe that starting a business will improve their income, livelihoods, or future prospects. One possible explanation for this finding is that limited access to finance, business support services, and other resources makes personal expectations about the benefits of entrepreneurship especially important. In addition, the shortage of formal employment opportunities may encourage graduates to view entrepreneurship as a practical alternative for earning a living (Windle International Uganda, 2022; UBOS, 2024).

In Uganda, beliefs about entrepreneurship's benefits significantly influence entrepreneurial readiness. TVET business diploma graduates who see starting a business as enhancing financial security, independence, and family welfare are more likely to pursue entrepreneurial careers, even while developing their skills. This study adds to existing research by viewing entrepreneurial readiness as multidimensional covering identification of business opportunity, risk-taking, self-efficacy, and willingness and by focusing on TVET graduates in a developing country, a relatively under-studied context that broadens understanding of factors shaping entrepreneurial readiness.

H4 findings show outcome expectations influence entrepreneurial readiness partly through entrepreneurial skills, with both effects significant (Hair et al., 2021). The indirect effect was positive (β = 0.188, p < 0.01, SE = 0.050, t = 3.765), and the total impact on readiness was significant (β = 0.640, p < 0.01). Outcome expectations boost motivation and confidence directly and foster skill development indirectly, aligning with Human Capital Theory and Social Cognitive Theory (Becker, 1964; Bandura, 1986). This supports prior research (Saptono et al., 2020; Adeniyi, 2023), confirming entrepreneurial skills' mediating role in a developing country context.

Conclusion

This study examined whether entrepreneurial skills mediate the relationship between outcome expectations and entrepreneurial readiness among TVET graduates in Uganda. The results support all four hypotheses, confirming that outcome expectations directly enhance entrepreneurial readiness (H1: β = 0.452, p < 0.01) and entrepreneurial skills (H2: β = 0.621, p < 0.01), while entrepreneurial skills also directly predict readiness (H3: β = 0.303, p < 0.01). Importantly, entrepreneurial skills partially mediate this relationship (H4: indirect effect β = 0.188, p < 0.01), indicating that outcome expectations influence readiness both directly and indirectly through skill development. The model explains 54% of the variance in entrepreneurial readiness (R^2 = 0.540) and 38.6% in entrepreneurial skills (R^2 = 0.386). Notably, outcome expectations exerted a stronger influence on entrepreneurial readiness than entrepreneurial skills, suggesting that for Ugandan TVET graduates, believing that entrepreneurship will yield positive outcomes is a more powerful driver of preparedness than possessing skills alone. By integrating Social Cognitive Theory and Human Capital Theory, this study provides a comprehensive framework for understanding how cognitive beliefs and human capital investments jointly shape entrepreneurial readiness in a developing African context, offering valuable insights for educators, policymakers, and practitioners seeking to enhance youth entrepreneurship in Uganda and similar contexts.

Implications and Recommendations

Theoretical implications

This study enhances understanding of entrepreneurial readiness among TVET graduates in three ways. First, readiness is directly predicted by outcome expectations showing beliefs about financial gain, independence, and rewards influence preparedness, extending prior research on entrepreneurial intentions. Second, part of this effect is mediated by skills indicating expectations motivate skill development that boosts readiness. While motivation is vital, skill development is essential but not sufficient alone. Third, the study explains 54% of the variance in entrepreneurial readiness by combining Social Cognitive Theory and Human Capital Theory, showing their joint effect versus single-theory focus. Future research could compare this integrated approach with single-theory models.

Managerial implications

Two practical insights for TVET managers arise from these findings. First, the mediation effect affirms

the importance of nurturing positive outcome expectations, such as beliefs about financial benefits, independence, and family security. Cultivating these expectations among TVET graduates is essential but insufficient without translating them into concrete entrepreneurial competencies. The significant influence of outcome expectations on entrepreneurial skills underscores that positive expectations serve as an important pathway to entrepreneurial skill acquisition. This suggests that curriculum design should incorporate mindset-building activities either before or alongside practical training. Curriculum planners should revamp course structures to include entrepreneur testimonials and business simulations in the initial semesters, subsequently followed by training in business planning and financial management. Establishing on-campus entrepreneurship clinics that offer mentorship and assistance with business registration would effectively connect theoretical learning with practical application.

Practical implications

The Ministry of Education and Sports should establish Graduate Transition Hubs to support TVET Policy (2019), providing 6-12 months of post-graduation help like guidance on failure, small grants (UGX 500,000-1,000,000) for business plans, and mentorship from experienced entrepreneurs. Mandating entrepreneurial mindset modules that incorporate personal financial planning and exposure visits to successful local businesses can strengthen graduates' perceptions of entrepreneurship as a pathway to achieving family security and personal independence. These interventions are particularly important given the significant influence of outcome expectations on entrepreneurial readiness. A tiered approach is recommended: an Awareness Level for those with low expectations, a Skill-Building Level for high expectations but limited skills, and an Advanced Level for scaling. Project-based active learning boosts technical and interpersonal skills vital for readiness. Addressing the 34.4% survival gap involves training in failure resilience through case studies and emotional resilience workshops. Peer learning through communities of practice, alumni mentorship, and WhatsApp groups supports expectations. Graduates should manage expectations realistically, as low response variance (mean 5.0–5.1) suggests potential irrational optimism. They should start small, set short-term (3 months) and long-term (2 years) goals, and pursue continuous learning Family involvement is key for long-term business success and self-employment.

Limitations and Future Directions

This study offers insights but has limitations. Its cross-sectional design restricts causality inference; future research should use longitudinal or quasi-experimental methods. Self-reports may introduce social desirability bias, especially with responses clustering near 5.0 on a six-point scale; objective measures like venture survival could help. The findings are limited to Central Ugandan business diploma holders in TVET, and larger, more diverse samples would enhance generalisability, despite the sample size (n=151) being adequate for PLS-SEM. Future studies could use mixed methods to explore mechanisms further. Despite these limits, the study shows entrepreneurial skills mediate the link between outcome expectations and entrepreneurial readiness among Ugandan TVET graduates, providing valuable insights for practitioners, educators, and policymakers.

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