




Entrepreneurial intention among youths: The role of entrepreneurial education and passion



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Background: Entrepreneurship contributes significantly to the enhancement and maintenance of a society's economy by creating employment opportunities in both public and private sectors. South Africa faces significant economic challenges, with high youth unemployment rates necessitating innovative solutions to drive economic growth and job creation. Entrepreneurship, particularly supported through targeted education, offers a strategic pathway to address these issues.

Aim: Drawing from the entrepreneurial potential model, this article assessed the impact of entrepreneurial education (ED) and entrepreneurial passion on the entrepreneurial intentions of youths.

Setting: The study was conducted in King Cetshwayo District Municipality, located in the KwaZulu-Natal province of South Africa.

Methods: Data were gathered from 400 respondents from the study area using a structured questionnaire and a simple random sampling strategy. The research used partial least squares-structural equation modelling (PLS-SEM) to examine the relationship between study constructs.

Results: The findings indicate a substantial positive association between ED, entrepreneurial passion and entrepreneurial intention, from which an empirical model was built.

Conclusion: The results show the significance of ED and entrepreneurial passion in supporting the entrepreneurial mindset among youths before their engagement in entrepreneurial activities. Thus, highlighting the importance of implementing entrepreneurship-focussed initiatives to encourage job creation and economic resilience among South African youth.

Contribution: The results provide valuable insights for policymakers in South Africa and decision-makers in higher education institutions, stressing the necessity for targeted programmes (such as business incubators, practical workshops and seminars) to enrich youth entrepreneurship. This will stimulate enhanced economic development.

Keywords: entrepreneurial intention; entrepreneurial potential model; youth entrepreneurship; entrepreneurial passion; entrepreneurial education.

Introduction

Many academics (e.g. Daniels & Tichaawa 2021; Drummond, Drummond & Rogerson 2021; Nadjat 2022; Sivotwa et al. 2022) assert that entrepreneurship significantly enhances and maintains a society's economy by creating employment opportunities in both public and private sectors. Because of limited formal sector employment prospects, youths are increasingly turning to entrepreneurship (Ahmed & Ahmed 2021), viewing it as an alternative career path (Tomy & Pardede 2020). This research supports the idea that using entrepreneurship as a means of achieving financial independence is necessary because of the formal sector's lack of employment opportunities. According to recent research by Campo-Tertera, Amar-Sepúlveda and Olivero-Vega (2022), entrepreneurial inclination and demographic variables including age and gender are the main determinants of entrepreneurial participation. Sivotwa et al. (2022) state that youths can become entrepreneurs without formal entrepreneurial education (ED), relying instead on personal traits, individual characteristics (e.g. business experience and family business background) and entrepreneurial interests (Ahmed & Ahmed 2021).

However, according to Ahmed and Ahmed (2021), these factors are not guaranteed predictors of entrepreneurial intention (EI) and business success. Prior research has acknowledged

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significant limitations in the generalisability of ED to EI (Anwar et al. 2020; Do Ngunyen & Ngunyen 2023; Martínez-Gregorio, Badenes-Ribera & Oliver 2021). These studies have predominantly focussed on the demographic characteristics of the general population, such as age and race (Anwar et al. 2020; Duong & Vu 2024; Lopes et al. 2023; Msosa 2023; Munir et al. 2024; Paray & Kumar 2020), and have been primarily conducted outside the African continent (Adeel, Daniel & Botelho 2023; Lopes et al. 2023; Munir et al. 2024). Consequently, there is limited insight into the relationships between ED and EI in the context of developing countries, such as South Africa. According to the Aspen Network of Development Entrepreneurs (ANDE 2024), career advice and job search assistance are the most popular forms of help provided to youths in South Africa. In South Africa, there is low entrepreneurial activity among youths and limited access to business support services.

Furthermore, the relationship between entrepreneurial passion (EP) and EI remains relatively underexplored (Neneh 2022; Uddin et al. 2022), especially in environments where economic instability and youths' limited access to resources are dominant. Using the Entrepreneurial Potential Model (EPM) (Ajzen 1991; Anal & Singh 2023; Shapero & Sokol 1982), this study addresses certain sustainable development goals (SDGs) established by the United Nations (Reimers 2024; United Nations [UN] 2015). In line with Repar and Bogue (2024), through the exploration of how ED can be customised to better address the distinct requirements of South African youths, this research upholds SDG 4, which strives to ensure inclusive and fair quality education while promoting continuous learning opportunities for all (UN 2015). The understanding of the determinants influencing EI among youths can provide insights into diplomacies for fostering lasting, inclusive and sustainable economic progression, as well as full and productive employment, in alignment with SDG 8, which has to do with the promotion of sustained and inclusive economic growth, with productive employment opportunities and decent work (Sharma et al. 2024; UN 2015).

Furthermore, by confronting the specific barriers encountered by youth entrepreneurs in South Africa, this investigation contributes to SDG 10 (Sharma et al. 2024; UN 2015), which concentrates on mitigating inequalities within and among nations, mostly in terms of educational access and economic prospects (UN 2015). The significance of this study stems from its potential to inform the design and implementation of more effective ED programmes that can better support the entrepreneurial aspirations of youths in developing countries (Colombelli et al. 2022; Lynch & Corbett 2021). 'An overview of literature and development of hypothesis' section addresses the existing literature and the formulation of hypotheses.

An overview of literature and the development of hypothesis

Entrepreneurship education

The distinction between entrepreneurship education (EDU) and ED is often overlooked in the literature, despite their unique contributions to entrepreneurial development. As observed by Ntshangase and Ezeudui (2020), EDU focusses on equipping individuals with the technical knowledge, skills and competencies necessary to start and manage a business. It emphasises practical aspects such as business planning, financial literacy, opportunity recognition and operational management (Mahamotse & Msimango-Galawe 2024; Zwane & Osuigwe 2024). The primary objective of EDU is to prepare individuals to become entrepreneurs by developing their ability to launch and sustain successful businesses. In contrast, ED has a broader scope (it is more psychological), focussing on cultivating an entrepreneurial mindset and behaviour that extends beyond business ownership (Ntshangase & Ezeudui 2023; Von Maltitz & Van der Lingen 2022). Entrepreneurial education emphasises innovation, creativity, problem-solving, adaptability and resilience, enabling individuals to approach challenges with an entrepreneurial perspective regardless of their career paths (Zwane & Osuigwe 2024). This study prioritises ED because of its broader scope as earlier explained.

Entrepreneurship education emphasises structured learning programmes tailored to develop entrepreneurial skills and intentions among youths. Entrepreneurship education is essential in addressing systemic barriers to youth entrepreneurship by equipping individuals with the necessary skills, confidence and knowledge to manage businesses effectively (Neneh 2022; Uddin Chowdhury et al. 2022). Entrepreneurship studies confirm that EDU catalyses EI (Ntshangase & Ezeudui 2023; Von Maltitz et al. 2022; Zwane & Osuigwe 2024), mostly in regions such as South Africa (Neneh 2022), where youth unemployment exceeds 40% (Stats SA 2024). This is especially critical given that EP is a key driver of EI (Zwane & Osuigwe 2024), inspiring individuals to pursue business ventures despite structural challenges.

This study draws on Vietnam's success in transforming its economy since 1986 (Do Nguyen & Nguyen 2023), where small- and medium-sized enterprises (SMEs) owned by youth have been emphasised (Do Nguyen & Nguyen 2023; Strampe & Rambe 2024). This research adopts the EPM to explore how internal traits and external conditions influence youth entrepreneurship. In South Africa's context, ED and EP together shape EI, with educational interventions playing a transformative role in fostering entrepreneurship among youth (Ezeudui, Mhlongo & Ntshangase 2024). This study aligned with the SDGs, mainly G4 and G8, to examine the interplay between ED, EP and EI to provide actionable insights. This section will delve into the EPM, the youth entrepreneurship landscape in South Africa and the relationships between EI, ED and EP.

Theoretical lens – Entrepreneurial potential model

Several entrepreneurship studies, such as those conducted by Anal and Singh (2023), Hagger et al. (2022), and Lavelle (2021) used the theory of planned behaviour (TPB) and self-efficacy theory (SET) as recommended behavioural theories in entrepreneurship. This research is however grounded in the EPM (Krueger & Brazeal 1994), which integrates the TPB (Ajzen 1991) and the Entrepreneurial Event Model (EEM) (Shapero & Sokol 1982). The EPM outlines three fundamental constructs: perceived desirability (attitude and social norms), perceived feasibility (self-efficacy) and credibility, which collectively shape the intention to initiate a business venture. According to EPM, ED should amplify young individuals' perceived feasibility by enriching their knowledge base, fostering confidence and nurturing self-efficacy (Krueger & Brazeal 1994).

Thus, advancing youths' perceived desirability towards entrepreneurship is important. Schlaegal and Koenig (2014) evaluated the TPB and EEM theoretical frameworks and their relevance within the entrepreneurial field. The TPB and EEM were found to substantiate research findings indicating that deliberate and conscious actions can be foreseen through intention (Anal & Singh 2023; Hagger et al. 2022; Schlaegal & Koenig 2014). This research aligns with the perspectives presented by Anal and Singh (2023), asserting that an individual's EI cannot be comprehensively explained through a singular theory or model. Anal and Singh (2023) further suggest that beyond personality traits, many internal and external motivating factors such as pull and push considerations play a key role. These contextual factors combining environmental, social, cultural, political and economic dimensions can direct individuals towards entrepreneurship and manifest entrepreneurial behaviours (Anal & Singh 2023; Ajzen 1991; Hagger et al. 2022; Schlaegal & Koenig 2014). According to Ajzen (1991), theoretical frameworks on EIs should position and assist researchers in constructing a foundational framework explaining the formation of intentions. These frameworks carefully consider a variety of determinants and influencers capable of predicting and moderating intentions (Anal & Singh 2023). Hence, the EPM is used to better understand the influences of ED and EP on youths' EIs (Gieure, Del Mar Benavides-Espinosa & Roig-Dobón 2020; Lavelle 2021).

Youth entrepreneurship landscape in South Africa

South African youths broadly fall within the age range of between 14 years and 35 years, as clarified by the National Youth Commission, in accordance with the National Youth Commission Policy Framework (ANDE 2024:07). Youth entrepreneurship is increasingly seen as a potential solution to South Africa's high youth unemployment rate, which exceeds 40% for those aged 18–35 years and 23.7% for those aged 36 years and above (Statistics South Africa [Stats SA], 2024). The second quarter of 2024 emphasises this issue even more, with youth unemployment rising (Stats SA 2024).

Youths, who make up 41.2% of the South African population, suffer considerable barriers to entrepreneurship (Department of Small Business Development [DSBD] 2023). Despite a continuous growth in youth entrepreneurial activity from 6% to 19% between 2010 and 2023, the total figure remains concerningly low (Global Entrepreneurship Monitor [GEM] 2022, 2023; Stats SA 2024). Notably, the proportion of individuals aged between 16 years and 64 years planning to establish new businesses within the next 3 years dropped to 10% in 2023, the lowest level in two decades, after peaking at 20% in 2021/22 (DSBD 2023; Stats SA 2024). South African youths are less likely to take up entrepreneurial activities than many of their counterparts in the African continent (DSBD 2023). According to the GEM (2023) report, for example, the engagement of South African youths in entrepreneurship is among the lowest on the African continent, which is at 12.8%, in comparison with the other African countries. A recent study by Ezeuduji et al. (2024) posits that South African youths' low entrepreneurial participation and high failure rate are because of a lack of business expertise and support. According to the International Finance Corporation (IFC) (2019), youths represent about 25% of South Africa's total business ownership. However, data on youth entrepreneurial activity in the informal economy is limited (ANDE 2024). Previous research has consistently identified youth entrepreneurship as an area of concern in South Africa, underlining the necessity for focussed interventions to overcome these impediments (DSBD 2023; Ezeuduji et al. 2024; GEM 2022; Maduku & Kaseeram 2021; Stats SA 2024).

Entrepreneurial intention

According to Bird (1988), EI is a cognitive state that prompts action and is centred on the establishment of a new business. It is shaped by various factors such as social, psychological, environmental and cultural influences, encompassing motivational components (Anal & Singh 2023; Bird 1988). Entrepreneurial intention also impacts the decisions made by established organisations (Zhang & Huang 2021; Rijati et al. 2020), with individuals exploring opportunities within recognised businesses (Elnadi & Gheith 2021). Elnadi and Gheith (2021) discuss that EI is positively associated with ED. According to Bird (1988) and Devi and Singh (2023), values, desires, needs, routines and beliefs can all influence the intention to engage in a particular behaviour. Entrepreneurial intention is considered to be a precursor to acting on starting a business (Ajzen 1991). According to Lee and Wong (2004) and Krueger (1993), environmental circumstances (e.g. access to resources or economic conditions), external factors (e.g. educational background, role models and mentors, etc.) and individual traits such as a proactive personality also play a significant role in shaping EIs. The concept of 'proactive personality' defines enduring behavioural habits that are distinct from self-consciousness (Crant 1996), the need for accomplishment, assertiveness and an internal locus of control (Neneh 2022). Individuals exhibiting proactive behaviours actively seek out conducive environments to leverage their strengths and requirements (Ntshangase & Ezeuduji 2020).

Entrepreneurial education and entrepreneurial intention

Entrepreneurial education positively influences EI (Ezeuduji et al. 2024), and this relationship is mediated by factors such as learning orientation and self-efficacy (Hoang et al. 2020). This aligns with the notion that educational interventions can shape individuals' intentions and passion towards entrepreneurship (Tehseen & Haider 2021). Entrepreneurial education's effect on EI has been thoroughly studied in entrepreneurship research, particularly in South Africa (Daniels & Tichaawa 2021; Ntshangase & Ezeuduji 2020). But a lot of research, which drew from the self-efficacy theory and TPB, concentrated mostly on urban regions (Hoang et al. 2020; Tehseen & Haider 2021; Thuy, Linh & Thanh 2020), under-researching rural and underrepresented communities, especially youths. Ezeuduji et al. (2024) conducted similar research on the impact of ED on EI, but the study was industry-specific (tourism), with less emphasis on youths in general. This emphasises the importance of conducting more inclusive research that equally takes into account a range of demographic origins and educational settings (Luong & Lee 2021; Svtowa et al. 2022). This article therefore proposes the stated hypothesis:

H1: ED significantly relates to EI among youths.

Entrepreneurial passion and entrepreneurial intention

Some studies have revealed that EP plays a significant role in predicting EI (Ezeuduji et al. 2024), promoting positive emotions and stimulating EIs (Hu et al. 2023). Entrepreneurial passion has been identified as a crucial predictor of EI, along with creativity and self-efficacy (Soni & Bakhru 2021). Entrepreneurial passion is a deep positive feeling associated with business activities that hold significance for an entrepreneur's self-identity (Anjum et al. 2021). The existence of EP results in the arousal of positive affect and acts as a catalyst for EIs (Hu et al. 2023; Soni & Bakhru 2021). According to Wang et al. (2023), through various mechanisms such as attitudes and the TPB, EP exerts a positive impact on EI. Previous research shows that EP emerges as a strong driving factor behind entrepreneurial activities (Hu et al. 2023; Soni & Bakhru 2021). Many EP and EI research used student samples (Hassan et al. 2020; Wang et al. 2022), while others have focussed on tourism entrepreneurship (such as Ezeuduji et al. 2024). This study is not specific to any industry. Thus, researchers hypothesised that:

H2: EP significantly relates to EI among youths.

Individual traits, such as ED, EP and EI, are interrelated and have a significant impact on how an entrepreneur behaves. It has been found that through the mediation of entrepreneurial attitudes, ED significantly improves youths' EI (Wang et al. 2022), who ultimately start their own business in the future (SBF). Furthermore, ED increases entrepreneurial self-efficacy (ESE), which ultimately improves people's EIs (Stenholm & Neilson 2019). Bird (1988) defined ESE as the degree to which business owners feel assured of their ability to execute a variety of activities and initiatives. Entrepreneurial self-efficacy is impacted by ED as well, which increases a

person's EP (Tehseen & Haider 2021). A categorical variable, labelled SBF: 'Would you want to start your own business in the future?' (with a 'yes' or 'no' response) was also included in the questionnaire to further validate the relationships between ED, EP and EI (measured using different ordinal variables). Here, a more concrete response is required from the respondents, which will be compared with the holistic response supplied for the EI variables. Therefore, the other study hypotheses are as follows:

H3: ED, EP and EI have statistical relationships to SBF among youths.

H3a: ED has a statistical relationship to SBF among youths.

H3b: EP has a statistical relationship to SBF among youths.

H3c: EI has a statistical relationship to SBF among youths.

Design and methods

Study paradigm and design

A positivist research paradigm (Rehman & Alharthi 2016) was chosen for this study, as a statistical model was developed. This paradigm is based on deductive logic and is focussed on testing research ideas using relatively large study samples, which can be generalised from the sample to the population (Ntshangase & Ezeuduji 2023). This research has a survey design, following the quantitative research method.

Research instrument

The data collection instrument used in this study was a structured questionnaire designed to measure the influence of ED on EI and the role of EP among youths in South Africa. Questionnaire's main construct variables emanated from the literature reviewed (e.g. Anjum et al., 2021; Elnadi & Gheith 2021; Hassan et al. 2020; Ntshangase & Ezeuduji 2023; Stenholm & Neilson 2019; Soni & Bakhru 2021; Tehseen & Haider 2021; Uddin et al. 2022). The questionnaire consisted of two main sections. Section A explored respondents' interest in starting businesses, drawing from the frameworks established by previous studies on youth entrepreneurship.

Section B used a 5-point Likert scale to assess three key constructs: ED, EI and EP. The items were adapted from validated scales in prior studies (e.g. Anal & Singh 2023; Bird 1988; Mahamotse & Msimango-Galawe 2024; Neneh 2022; Ntshangase & Ezeuduji 2020; Von et al. 2022) and tailored to reflect local contextual factors. Entrepreneurial education was operationalised to include statements on knowledge, skills, training relevance and business opportunity identification (Neneh 2022; Soni & Bakhru 2021; Tehseen & Haider 2021; Uddin et al. 2022), while EI measured respondents' drive and readiness to start a business (Noreña-Chavez & Guevara 2020). Entrepreneurial passion assessed intrinsic motivation for business start-ups, such as problem-solving and opportunity recognition, inspired by frameworks like the EPM (Elnadi & Gheith 2021; Ezeuduji et al. 2024). This detailed instrument ensured

robust data collection, aligning with the study's objective to analyse how ED and EP interact to influence EI, particularly in regions with high youth unemployment. The presence of constructs relevant to South Africa's socio-economic conditions situates the study within the broader discourse on fostering entrepreneurship through education (Stats SA 2024; Uddin Chowdhury et al. 2022).

Data collection and sample size

Using the simple random sampling technique (probability sampling approach), the researchers distributed 423 structured questionnaires between October 2022 and March 2023 to youths (between ages 18 years and 35 years) residing in the City of uMhlathuze and uMfolozi local municipalities within King Cetshwayo District Municipality (KCDM), situated within the province of KwaZulu-Natal (KZN) in South Africa. Data analysis used 400 fully completed questionnaires. It started by assessing a post hoc minimum sample size for the analysis to be performed, using SmartPLS 4. In the completed model, the minimum sample size required for analysis is 279 at a path coefficient estimated at 0.149, Alpha 5% and power 80%. As a result, 400 sampled respondents in this study were quite statistically appropriate and substantial for partial least squares-structural equation modelling (PLS-SEM).

Data analysis

Data analyses were conducted in three stages. The first stage involved performing descriptive statistics where percentages, mean scores and standard deviation were generated, and subsequently, the missing data were analysed on 'IBM's SPSS version 29' (IBM Corporation 2023). In the second step of data analysis, the construct validity and construct reliability were tested, followed by the partial least squares – structural equation modelling (PLS-SEM), performed on SmartPLS 4 software (Ringle, Wende & Becker 2022). The third stage of data analysis tested SBF (starting own business in the future) as a categorical variable (with a 'yes' or 'no' response), and how it relates to ED, EP and EI, researchers used the Wilcoxon rank-sum (Mann-Whitney) test (Chen et al. 2014). According to Chen et al. (2014), this test is appropriate when non-normally distributed dependent variables, ED, EP and EI are paired with an independent variable with two or more levels, like SBF.

Common method bias

To test for common method bias (CMB) on the dataset, data analysis used the collinearity variance inflation test to determine if there is a high degree of correlation between the responses provided by respondents (Legate et al. 2023). Researchers established a benchmark 3.3 for the variance inflation factor (VIF). To determine if the model was free of CMB, the researchers checked the item-level VIFs resulting from a full collinearity test. The item-level VIFs represent the amount of variance in each construct that is because of CMB

(Hair, Howard & Nitzl 2020). If all item-level VIFs are equal to or lower than 3.3, the model can be considered free of CMB (Kock 2015). Based on the results of this study's item level of collinearity, all VIF values were lower than the 3.3 benchmarks, as recommended by Kock (2015). Thus, researchers are confident in the study's findings and infer that the observed connections between variables were not caused by the measuring method used.

Ethical considerations

This study obtained ethical clearance from the University of Zululand's (South Africa) Research Ethics Committee (Registration number: UZREC 171110-030). The ethical clearance certificate number is UZREC 171110-030 PGM 2022/66. The study employed signed Participants' Informed Consent to obtain data from respondents. Data were collected anonymously, with no form of personal identification on the questionnaire.

Findings and discussions

Profile of the respondents

According to the results, 56.2% of the respondents were female (the others, male), the majority (66.2%) were from the uMhlathuze Local Municipality and the others were from uMfolozi Local Municipality. Most responders (71.5%) were between 18 years and 25 years old, and 57.5% had taken a business management or entrepreneurship education course. A total of 44.7% had completed their tertiary education, while nearly half (49.8%) had finished their secondary education. A resounding 95.8% of respondents said they would like to start their businesses.

Measurement model assessment

In this study, the measurement model assessment focussed on ensuring indicator loadings were significant and had a value of at least 0.60. Reliability was assessed through the usage of indicator reliability, in addition to Cronbach's alpha (CA) and the composite reliability (CR) coefficients. In the analysis, convergent validity was measured through the usage of the average variance extracted (AVE), and discriminant validity was assessed by using heterotrait-monotrait (HTMT) ratio correlations. The study constructs' internal consistency and their convergence validity were assessed using factor loadings (FL), CA, CR and AVE. The findings presented in Table 1 show that all the study variable loadings exceeded the benchmark estimate of 0.60; however, nine questionnaire variables: 'ED1, ED2, ED3, ED4, ED5, ED9, EI9, EP9 and EP10' did not meet this requirement. Hence, they were excluded from the further analysis. Cronbach's alpha and CR values were above the threshold of 0.70, and the AVE values were found to be greater than the 0.50 benchmark, indicating satisfactory convergent validity and internal consistency for the dataset used in measuring different study constructs (Hair et al. 2022), in this case, ED, EP and EI.

TABLE 1: Reliability and convergent validity measurements' results ($N = 400$).

| Items | FL | CA | CR | AVE |
|--------|--------|--------|--------|--------|
| 'ED10' | 0.6930 | 0.7160 | 0.8240 | 0.5400 |
| 'ED6' | 0.6710 | - | - | - |
| 'ED7' | 0.8020 | - | - | - |
| 'ED8' | 0.7650 | - | - | - |
| 'EI1' | 0.6570 | 0.8830 | 0.9060 | 0.5190 |
| 'EI10' | 0.7410 | - | - | - |
| 'EI2' | 0.6530 | - | - | - |
| 'EI3' | 0.7450 | - | - | - |
| 'EI4' | 0.7460 | - | - | - |
| 'EI5' | 0.6130 | - | - | - |
| 'EI6' | 0.7550 | - | - | - |
| 'EI7' | 0.8160 | - | - | - |
| 'EI8' | 0.7310 | - | - | - |
| 'EP1' | 0.7560 | 0.8630 | 0.8930 | 0.5120 |
| 'EP2' | 0.7630 | - | - | - |
| 'EP3' | 0.7530 | - | - | - |
| 'EP4' | 0.7540 | - | - | - |
| 'EP5' | 0.6620 | - | - | - |
| 'EP6' | 0.6790 | - | - | - |
| 'EP7' | 0.6910 | - | - | - |
| 'EP8' | 0.6550 | - | - | - |

Notes: Factor loadings ≥ 0.60 ; Cronbach's alpha ≥ 0.70 ; Composite reliability ≥ 0.70 ; AVE ≥ 0.50 ; VIF ≤ 3.3 .

ED, entrepreneurial education; EI, entrepreneurial intention; EP, entrepreneurial passion; FL, factor loadings; CA, Cronbach's alpha; CR, composite reliability; AVE, average variance extracted.

Table 2 indicates that there were no problems of discriminant validity as all HTMT values were below the recommended threshold value of 0.85 (Henseler, Ringle & Sarstedt 2015), indicating that the constructs were distinct from each other and there was no significant overlap between them.

Structural assessment model

A PLS-SEM approach was used by the study to assess model effectiveness, and this was done with three (3) criteria: the R -square (R^2), the predictive relevance using Q -squared (Q^2) value and the path coefficients (Chin & Dibbern 2010; Hair et al. 2017). R^2 indicates explanatory capacity, whereas Q^2 measures predictive significance ($Q^2 > 0$ is desirable). Path coefficients should be substantial and Q^2 scores above zero confirm the model's predictive validity. The explanatory power value of 0.19 is weak, 0.33 is moderate and 0.67 is considerable. The R^2 value for the endogenous variable EI was 0.678, indicating considerable power of explanation (Hair, Ringle & Sarstedt 2013). The Q^2 value for the endogenous construct was 0.58 (see Table 3), which indicated good predictive relevance and was considered substantial (Hair et al. 2013).

Table 3 indicates that ED has a significant relationship to EI among the youths of KCDM (where $\beta = 0.148$, $t = 3.518$, $p < 0.05$). Therefore, the proposed hypothesis (H1) is supported. This therefore means that, when ED increases by one unit, this will yield a 0.148 increase in the entrepreneurial intention of the youths of KCDM. This result agrees with the findings of Ntshangase and Ezeuduji (2020), who posit that ED will empower individuals for entrepreneurial proficiency. Previous findings (Nguyen & Nguyen 2023; Sharma & Jamwal 2022; Soomro, Memon & Shah 2021; Soomro & Shah 2021) posit that EI is essential for shaping individuals' intention to start

TABLE 2: Summarising the discriminant assessment, heterotrait-monotrait ratio.

| Items | ED | EI | EP |
|-------|--------|--------|----|
| ED | - | - | - |
| EI | 0.6120 | - | - |
| EP | 0.5620 | 0.8220 | - |

Note: HTMT ≤ 0.85 .

ED, entrepreneurial education; EI, entrepreneurial intention; EP, entrepreneurial passion.

TABLE 3: Summarising the path coefficient and the hypotheses testing.

| Hypothesis | Sample size = 400 | | | | |
|--|-------------------|--------|---------|--------|------------|
| | β | SD | t | p | Inference |
| Hypothesis 1 (H1): ED \rightarrow EI | 0.1480 | 0.0420 | 3.5180 | 0.0000 | Supported* |
| Hypothesis 2 (H2): EP \rightarrow EI | 0.7280 | 0.0370 | 19.5010 | 0.0000 | Supported* |

Notes: $t \geq 1.6450$ (one-tail test); Entrepreneurial intention = R^2 0.6780, Q^2 0.5810.

SD, standard deviation; ED, entrepreneurial education; EI, entrepreneurial intention; EP, entrepreneurial passion.

*, significance at $p < 0.05$.

a business. The findings of this study can conclude that ED has a major influence on youths' EI.

Entrepreneurial passion was also found to have a significant relationship to EI among the youths of KCDM (where $\beta = 0.728$, $t = 19.501$, $p < 0.05$). Hence, the proposed hypothesis (H2) is supported. It also follows that, when EP increases by one unit, this will yield a 0.728 increase in the entrepreneurial intention of the youths of the KCDM. These findings align with recent research (such as Neneh 2022; Noreña-Chavez & Guevara 2020), which highlights EP as essential for an entrepreneurial drive into starting a new business venture. Drawing from the EPM (Krueger & Brazeal 1994), EP implies persistence driven by intentions (Anjum et al. 2021).

The third hypothesis (H3) aims to investigate if ED, EP and EI are related to starting one's own business in the future (SBF). As earlier indicated, this categorical variable, SBF (with a 'yes' or 'no' response) was included in the questionnaire to further validate the relationships between ED, EP and EI (measured using different ordinal variables).

Starting a business in the future

Table 4 shows the results of the Wilcoxon rank-sum (Mann-Whitney) test, which compared the relationships between the youths' ED, EI and EP on the one hand, and SBF, on the other hand, as stated in Hypothesis 3 (H3). All three variables differ significantly, according to the analysis. Individuals planning to start their own business scored much higher in ED, EI and EP than those who do not want to start a business. The z -values of ED, EI and EP are -3.040 , -4.821 and -4.113 , respectively, with p -values of 0.0024, 0.0000 and 0.0000, suggesting statistically significant differences. These findings indicate that ED, EI and EP are positively associated with the likelihood of establishing a business (see also Ezeuduji et al. 2024), giving credence to the theory that persons with greater levels in these areas are more likely to pursue entrepreneurship (Ntshangase & Ezeuduji 2023).

Theoretical implications

The integration of the EPM in the study offers a sophisticated conception of how perceived desirability, feasibility and

TABLE 4: Wilcoxon rank-sum (Mann–Whitney) test.

| Items | Observation | Rank-sum | Expected |
|------------------------------------|-------------|----------|----------|
| Ho: ED(SBF==1) = ED(SBF==2) | | | |
| Yes | 383 | 75377.5 | 76791.5 |
| No | 17 | 4822.5 | 3408.5 |
| Ho: EI(SBF==1) = EI(SBF==2) | | | |
| Yes | 383 | 74 549 | 76791.5 |
| No | 17 | 5651 | 3408.5 |
| Ho: EP(SBF==1) = EP(SBF==2) | | | |
| Yes | 383 | 74878.5 | 76791.5 |
| No | 17 | 5321.5 | 3408.5 |

Notes: Ho: ED(SBF==1) = ED(SBF==2) = UV = 217575.92, AFT = -1179.57, AV = 216396.35, $z = -3.040$, Prob. > $z = 0.0024$.

Ho: EI(SBF==1) = EI(SBF==2) = UV = 217575.92, AFT = -1179.91, AV = 216396.00, $z = -4.821$, Prob. > $z = 0.0000$.

Ho: EP(SBF==1) = EP(SBF==2) = UV = 217575.92, AFT = -1241.92, AV = 216333.99, $z = -4.113$, Prob. > $z = 0.0000$.

ED, entrepreneurial education; EI, entrepreneurial intention; EP, entrepreneurial passion; SBF, starting own business; z , z -value; Prob, probability; UV, unadjusted variance; AFT, adjusted for ties; AV, adjusted variance.

credibility impact EI. Through validating the significant impact of ED, EI and EP on the probability of initiating a business, the research strengthens the theoretical construct that integrates cognitive and contextual elements to estimate entrepreneurial conduct (Ajzen 1991; Shapero & Sokol 1982). The strong positive correlation between EP and EI corresponds with prior studies highlighting the important role of entrepreneurial passion in pushing entrepreneurial activities (Neneh 2022; Noreña-Chavez & Guevara 2020). This upholds the EPM's contention that EP, as a component of the cognitive and affective framework, is essential for maintaining EI and defeating obstacles (Bird 1988; Devi & Singh 2023). Furthermore, the notable positive link between ED and EI validates the proposition that educational initiatives can amplify EI by enhancing knowledge and self-efficacy (Ajzen 1991; Krueger & Brazeal 1994). This reinforces the EPM's emphasis on the impact of education on attitudes and perceived behavioural control, thus shaping EI (Krueger & Brazeal 1994).

Conclusion

Drawing from the EPM, the study examined youths' intention to start a business by evaluating the independent variables ED and EP with the dependent variable EI. The study validated the statistical relationships between ED, EP and EI. The study further provided a nuanced understanding of the ED, EP, EI and SBF relationships, confirming a statistically validated influence of the EPM in entrepreneurship. Entrepreneurial education and EP play a vigorous role in shaping youths' EI, leading to entrepreneurial behaviour and action. The study contributes to the literature and theoretical understanding of entrepreneurship by providing insights to decision-makers in KCDM and academics in understanding how ED and EP influence youths' EI, and how these three constructs relate to SBF. Furthermore, the findings emphasise the need to discover and promote business prospects in the study area, which may offer youth entrepreneurs a platform to transform their passion into successful business ventures.

Practical implications

The significance of strong ED programmes is highlighted by the findings. Educational institutions and policymakers

must prioritise entrepreneurship courses and training that enhance knowledge and self-efficacy among youths in the KCDM, given the significant influence of ED on EI in this study (see also Ntshangase & Ezeudujii 2020). This study is in alignment with the call for inclusive research that takes into account diverse demographics and educational backgrounds (Adebusuyi & Adebusuyi 2022; Luong & Lee 2021). Initiatives aimed at nurturing EP should be an integral part of entrepreneurship programmes, considering the strong correlation between EP and EI. These entail providing mentorship, motivational workshops and practical entrepreneurial experiences to foster and sustain entrepreneurial passion (Neneh 2022; Noreña-Chavez & Guevara 2020). Such efforts can support youths in overcoming entrepreneurial-related barriers and improving their chances of initiating, finding resources and managing a business successfully.

The results of the study emphasise that youths with higher levels of ED, EP and EI are more inclined to establish their businesses. Therefore, support mechanisms such as business incubators and accelerators should be tailored to assist those exhibiting high EI and EP. Thus, by customising support for these individuals, it becomes feasible to translate their aspirations into successful business activities (Adeel et al. 2023; Liang & Wu 2022). The study addresses a research gap by concentrating on rural and underrepresented communities (in South Africa). This has practical implications for devising targeted interventions that cater to the specific requirements of youths in these regions, guaranteeing equal opportunities for them to pursue entrepreneurship (Hoang et al. 2020; Tehseen & Haider 2021), if they so desire.

Limitations

The study's cross-sectional design allowed the collection of data at a single point in time (KCDM in KZN province of South Africa). It did not account for changes in EI, ED and EP over time, which can fluctuate because of external factors and personal experiences. The socio-economic and cultural contexts of this area may differ from those of other parts of South Africa or other developing countries, potentially affecting the applicability of the findings. Important concepts from the EPM are included in the study, but other factors that can have an impact on EI such as financial resources, market conditions and family history were not considered in this study.

Future research

To determine whether the EPM is generally applicable, future research can compare studies conducted in various nations and areas, following a longitudinal research design. A more robust understanding of EIs can be obtained in different contexts and settings (e.g. comparative studies of urban and rural populations; and various cultural settings). Additional factors such as market projections, family history, available financial resources and prior entrepreneurial experience should be included in future research. Analysing these

variables can offer a more comprehensive understanding of the factors influencing entrepreneurial intentions and success.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

S.D.N., I.O.E. and Z.M. conceptualised the study and methodology, conducted the formal analysis and investigation, curated the data and wrote the original draft. I.O.E. managed project administration and supervised the research project alongside S.D.N. Z.M. visualised the project, garnered resources and handled software inputs and outputs with I.O.E., who validated the results. Z.M., S.D.N. and I.O.E. wrote and approved the final manuscript.

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Data availability

The data that support the findings of this study are available from the corresponding author, I.O.E. upon reasonable request.

Disclaimer

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