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Article

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Article

Munificent Environment Factors Influencing Entrepreneurial Intention and Behaviour: The Moderating Role of Risk-Taking Propensity

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Abstract: This study examined the effect of munificent environment factors on the antecedents of entrepreneurial intention and risk-taking propensity by means of the theory of planned behaviour. The study also assessed the effect of perceived behavioural control and entrepreneurial intention on entrepreneurial behaviour, as well as the moderating role of risk-taking propensity on the association between the antecedents of entrepreneurial intention, entrepreneurial intention, and entrepreneurial behaviour. Data were gathered from 127 SME owners in the Gauteng metropolitan cities of Ekurhuleni, Johannesburg, and Tshwane using a structured self-administered questionnaire. Partial least squares structural equation modelling (PLS-SEM) was employed to test the relationships. Findings revealed the varying effects of the munificent environment factors on the antecedents of entrepreneurial intention and risk-taking propensity. Perceived behavioural control had a significant effect on entrepreneurial intention, while attitude towards behaviour and subjective norms were non-significant. Risk-taking propensity weakened the link between entrepreneurial behaviour and entrepreneurial intention and did not exhibit a significant moderating effect on the association between attitude towards the behaviour and entrepreneurial intention or between subjective norms and entrepreneurial intention. Risk-taking propensity had a significant effect on both entrepreneurial intention and entrepreneurial behaviour. Perceived behavioural control had a direct positive significant effect on entrepreneurial behaviour, whereas entrepreneurial intention did not. Efforts to promote access to entrepreneurial role models and social capital are vital in regard to stimulating risk-taking propensity and entrepreneurial behaviour. Thus, interventions that are directed at the enhancement of perceived behavioural control could help shape the formation of entrepreneurial intentions and stimulate entrepreneurial activity.

Keywords: theory of planned behaviour; entrepreneurial intention; entrepreneurial behaviour; entrepreneurship education; role models; social capital; government policy; risk-taking propensity



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1. Introduction

The promotion of entrepreneurship is considered pivotal in stimulating economic development and in addressing economic and social challenges (Tehseen et al. 2019; Hill et al. 2022). Thus, researchers, policymakers, and educators continue to have a keen interest in understanding the drivers of entrepreneurial intention and the actions of entrepreneurs (Belchior and Lyons 2021). Insights into the factors facilitating the development of entrepreneurial intentions and the emergence of new ventures are vital in assisting policymakers to craft effective policies that foster a munificent environment for entrepreneurship. According to Krueger and Brazeal (1994), successful entrepreneurship development efforts require a nutrient-rich environment or what Tang and Tang (2007) refer to as a munificent environment. A munificent environment pertains to the abundance of resources available to facilitate the establishment of new ventures and the growth and survival of

businesses sharing that environment (Castrogiovanni 1991; Long and Dong 2017; Tang 2008; Tang and Tang 2007). Research evidence indicates that munificent environments stimulate entrepreneurial intentions and enhance entrepreneurial activity (Doanh 2021; Kibler 2013; Li et al. 2020; Malebana 2016b; Nergui 2020; Nowiński et al. 2020; Shiri et al. 2017; Valencia-Arias and Restrepo 2020).

A munificent environment encompasses favourable government policies and processes, training and education programmes, sociocultural conditions, as well as the presence of aid and diverse support programmes, all of which influence people's intentions and capacity to engage in entrepreneurial activities (Castrogiovanni 1991; Gnyawali and Fogel 1994). In South Africa, entrepreneurs are constantly confronted with many challenges that negatively affect their operations, hindering them from implementing their intentions to create new additional ventures or grow their existing ones (Bowmaker-Falconer et al. 2023). Cited challenges and barriers include government regulations, access to markets, availability of support and funding, networking opportunities, as well as a lack of knowledge and skills (Bowmaker-Falconer et al. 2023). Due to these challenges and barriers, a hostile business environment has emerged, leading to a notable decline in Total Entrepreneurial Activity (TEA) from 10.8% in 2019 to 8.5% in 2022, and the business discontinuation rate also increased from 4.9% in 2019 to 13.9% in 2021 (Bowmaker-Falconer et al. 2023). In order to help entrepreneurs to cope with these challenges, the South African government has been formulating and implementing policies and support programmes aimed at creating an enabling environment for the emergence and growth of micro, small, and medium enterprises (Small Enterprise Development Agency 2016). Dewi et al. (2018) opine that government policies that encourage and support entrepreneurship can stimulate the supply of entrepreneurs, assist them in overcoming the challenges associated with starting a business, and thereby boost entrepreneurial activity.

Moreover, the extant literature emphasises the significance of risk-taking propensity in the formation of entrepreneurial intentions (EIs) (Darmanto and Yuliari 2018), the creation of new businesses, and the growth of existing ones (Razak et al. 2020; Twum et al. 2021). This is because entrepreneurial activity, by definition, entails individuals taking various types of risks, including psychological, social, and financial risks, to establish a new business (Anwar and Saleem 2019; Fernandes et al. 2018) despite the high failure rate of new businesses (Antoncic et al. 2018; Anwar and Saleem 2019). Bacq et al. (2016) suggest that, in an environment where critical resources and support services to facilitate the entrepreneurial process are readily available, perceived risks and fear of failure associated with initiating a new business can be mitigated. As entrepreneurship is an inherently intentional and planned behaviour (Krueger et al. 2000), individuals in supportive environments are more likely to develop a propensity for risk-taking (Tang and Tang 2007). Research evidence shows that individuals exhibiting a high propensity for risk-taking are more inclined to develop entrepreneurial intentions, search for entrepreneurial opportunities, and capitalise on these opportunities by initiating a new business (Jan et al. 2022; Luc et al. 2021). However, the examination of the existing literature indicates a scarcity of studies that have explored the environmental factors influencing risk-taking propensity (Adu et al. 2020; Ndofirepi 2020; Yasin and Khansari 2021). Consequently, this results in limited knowledge about the environmental factors influencing RTP.

The theory of planned behaviour (TPB) suggests that human behaviour can be directly predicted from intentions or perceived behavioural control (Ajzen 1991). However, the majority of entrepreneurship studies that have applied the TPB concentrated on identifying the factors influencing the formation of entrepreneurial intentions (EIs) (Akter and Iqbal 2022; Mothibi and Malebana 2019; Nasri 2023; Sampene et al. 2023). Consequently, limited research has applied the TPB to examine the effect of EIs and perceived behavioural control (PBC) on entrepreneurial behaviour (EB) (for example, Boubker 2024; Duong et al. 2022; Kautonen et al. 2015; Kibler et al. 2014; Kautonen et al. 2013; Kolvereid and Isaksen 2006; Tran et al. 2024). While prior research has investigated the association between RTP and the antecedents of EIs (Karimi et al. 2017; Munir et al. 2019), there is a paucity of research

on the moderating role that risk-taking propensity plays in the association between EIs and their antecedents, between PBC and EB, and between EIs and EB.

To address these current research gaps, this research investigated the impact of EIs and PBC on EB among entrepreneurs in South Africa based on the TPB. In addition, the study tested the direct impact of munificent environment factors that include entrepreneurship education (EE), social capital (SC), role models (RMs), and government policy (GP) on the antecedents of EIs and RTP. Furthermore, the study determined the moderating effect of RTP on the relationship between the antecedents of EIs and EIs, between PBC and EB, and between EIs and EB. The next section reviews the relevant literature. It will be followed by the methodology that was adopted for this study and the presentation and discussion of the results. Then, the implications, limitations, and areas of further research are highlighted.

2. Literature Review and Hypothesis Development

2.1. The Theory of Planned Behaviour (TPB)

The TPB is a widely applied framework for studying and predicting various kinds of human behaviour, including EIs (Ajzen 1991, 2020; Al-Ghani et al. 2022; Mothibi and Malebana 2019; Nasri 2023). The TPB posits that a person's inclination to participate in any given behaviour is impacted by their attitude towards the behaviour (ATB), subjective norms (SNs), and perceived behavioural control (PBC) (Ajzen 1991, 2020). Within the realm of entrepreneurship, ATB reflects an individual's favourable or unfavourable evaluation of pursuing an entrepreneurial career (Ajzen 1991). SNs refer to an individual's perception of the social pressure or influence from significant others regarding one's decision to engage in entrepreneurial activities or whether these significant others perform these activities (Ajzen 1991, 2005; Bosnjak et al. 2020). PBC represents an individual's perception of how easy or challenging it is to execute a specific entrepreneurial behaviour (Ajzen 2005). According to the TPB, individuals are prone to develop EIs when they have a positive ATB, perceive favourable SNs that support entrepreneurial activities, and believe that they have the ability to successfully engage in EB (Ajzen 1991, 2005, 2020; Bosnjak et al. 2020).

The TPB has received full support in most studies that have tested the association between the antecedents of entrepreneurial intention and EIs (Al-Ghani et al. 2022; Eleck 2022; Hossain et al. 2023; Mensah et al. 2023; Mothibi and Malebana 2019; Nasri 2023; Sampene et al. 2023). However, there are instances where only one (Amrouni and Azouaou 2024) or two (Aker and Iqbal 2022; Boubker 2024; Che Nawi et al. 2022; González-Serrano et al. 2023; Ilomo and Mwantimwa 2023; Krueger et al. 2000; Liñán and Chen 2009; Tran et al. 2024) of the antecedents were significantly related to EIs. For example, Aker and Iqbal (2022); Boubker (2024); Che Nawi et al. (2022); Khumalo (2023); Krueger et al. (2000); Liñán and Chen (2009); Ilomo and Mwantimwa (2023) and González-Serrano et al. (2023); Mawasha (2022) and Tran et al. (2024) found that EIs have a significant relationship with ATB and PBC but not with SNs. In contrast, Amrouni and Azouaou (2024) reported the positive effect of SNs on EIs while ATB and PBC were insignificant. Some studies found that EIs are significantly associated with PBC and SNs but not with ATB (Zhang et al. 2015), while others found that EIs are significantly associated with PBC but not with ATB or SNs (Ezeh et al. 2019). Additionally, Hong et al. (2020) found that EIs are significantly related with ATB only but not with SNs or PBC. Despite the mixed results reported in previous studies, it is apparent that individuals' intentions to engage in entrepreneurial activities are collectively influenced by their ATB, SNs, and PBC. Thus, it is hypothesised that:

H1. *ATB is significantly associated with EIs.*

H2. *SNs are significantly associated with EIs.*

H3. *PBC is significantly associated with EIs.*

H4. *The association between the precursors of EIs and EIs is significantly moderated by RTP.*

2.2. Entrepreneurship Education (EE)

Entrepreneurship education (EE) is considered among the crucial instruments for stimulating entrepreneurial activities (Adeel et al. 2023; Liu et al. 2019). Findings of earlier studies show that exposure to EE contributes to the formation of EIs (Arruda et al. 2023; Kurniawan et al. 2024; Ng et al. 2020) and increases the likelihood of engaging in EB (Cui and Bell 2022; Rauch and Hulsink 2015).

Prior research that has investigated the influence of EE on the antecedents of EIs has found that EE impacts the antecedents of EIs differently, depending on the sample examined (Duong 2022; Tsaknis et al. 2024). Lopez et al. (2021) report a positive significant association between EE, ATB, SNs, and PBC. In Nigeria, Abdullahi et al. (2021) found that EE has a significant effect on ATB and SNs but not on PBC. Furthermore, EE has a positive impact on RTP (Adu et al. 2020; Ndofirepi 2020). Studies, such as those conducted by Jan et al. (2022), contend that EE fosters a more positive attitude towards risk-taking, as individuals equipped with entrepreneurial knowledge and skills may perceive risks as manageable challenges rather than insurmountable obstacles. However, Marques et al. (2018) found an insignificant association between EE and RTP. Therefore, it is hypothesised that:

H5. *EE is significantly associated with ATB, SNs, and PBC.*

H6. *EE is significantly associated with RTP.*

2.3. Entrepreneurial Role Models (RM) and Social Capital (SC)

Entrepreneurial activity is perceived as a social process intertwined with the networks of interpersonal relationships (Ali and Yousuf 2019; Malebana 2016b; McKeever et al. 2014). These social networks enable entrepreneurs to access various forms of social support and resources during the different stages of the venture life cycle (Hampton et al. 2009; Anderson and Miller 2003). Social networks play a fundamental role in the formation of SC and serve as a significant source of entrepreneurial RMs (Kwon and Adler 2014; De Carolis et al. 2009; Dohse and Walter 2012; Malebana 2016b). SC is defined as the totality of tangible and intangible resources inherent in, accessible through, and derived from the network of associations possessed by individuals (Burt 2019; Pillai and Ahamat 2018; Thai et al. 2020). Entrepreneurial role models are deemed as those individuals who, through their behaviour, influence the attractiveness and credibility of an entrepreneurial career choice (Efrata et al. 2021; Malebana 2016a). RMs and SC facilitate EB by enabling entrepreneurs to obtain the necessary resources, acquire knowledge, identify and exploit opportunities, build a reputation, and improve performance (Oldford et al. 2020; Pillai and Ahamat 2018; Thai et al. 2020). SC and access to entrepreneurial role models contribute to the formation of EIs (Chen et al. 2020; Henegedara and Gamage 2019; Moreno-Gómez et al. 2020; Sahinidis et al. 2019) and impact positively on the antecedents of EIs (Choukir et al. 2019; Fellnhöfer and Mueller 2018; Palmer et al. 2019; Doanh 2021; Kusumawardani et al. 2020; Malebana 2016a, 2016b; Ha et al. 2020; Vuković et al. 2017) and RTP (Efrata et al. 2021; Mujahid et al. 2020). Additionally, entrepreneurs who have access to SC are more likely to engage in EB (Khoshmaram et al. 2018).

Prior research indicates that entrepreneurial RMs and SC play an essential role in enhancing the risk-taking propensity (Corrêa et al. 2021; Efrata et al. 2021; Rodríguez-Gutiérrez et al. 2020). However, some studies show that entrepreneurial RMs did not have a significant impact on ATB and SNs (Hoda et al. 2020). Thus, it is hypothesised that:

H7. *RMs are significantly associated with ATB, SNs, and PBC.*

H8. *SC is significantly associated with ATB, SNs, and PBC.*

H9. *RMs and SC are significantly associated with RTP.*

2.4. Government Policy (GP)

GP plays a pivotal role in influencing individuals' intentions to engage in entrepreneurship and their willingness to take risks (Dewi et al. 2018). As applied to entrepreneurship, government policies refer to a set of written rules and regulations targeted at enabling the formation of new enterprises and fostering the viability of entrepreneurial activities (Akinyemi and Adejumo 2018; Teixeira et al. 2018; Urban and Dlamini 2020). Studies suggest that people are more inclined to develop EIs and engage in risk-taking behaviour, such as starting a business, when they perceive that GP, as embodied in policies, rules and regulations, fosters a business-friendly environment, including improved access to finance and business support services for entrepreneurs (Alhnaity 2021; Ali et al. 2019; Huang et al. 2021; Jeon 2018; Li and Islam 2021).

Evidence from previous studies demonstrates that perceptions about government policies significantly influence people's ATB and their PBC (Nowiński et al. 2020; Salisu 2020). These results indicate that individuals are more inclined to develop positive attitudes towards an entrepreneurial career option and view themselves as personally capable of becoming entrepreneurs when they think that the government's policy is favourable towards entrepreneurship. However, other studies recorded that GP did not have a significant effect on ATB (Alhnaity 2021; Doanh 2021). Furthermore, studies, including those of Dewi et al. (2018), Siti et al. (2018), and Mukarutesi (2018), show that GP has a significant effect on RTP. In contrast, Urban (2019) discovered that GP did not have a significant effect on RTP. Therefore, it is hypothesised that:

H10. *GP is significantly associated with ATB, SNs, and PBC.*

H11. *GP is significantly associated with RTP.*

2.5. Entrepreneurial Behaviour (EB)

EB is defined as the tangible and observable actions necessary to initiate and expand a new business (Ben-Hafaïedh and Ratinho 2019; McAdam and Cunningham 2019). Thus, it is opined that EB is primarily demonstrated by initiating new ventures (Palma et al. 2009). Following the formation of EIs, individuals engage in the performance of activities that lead to the creation of a new venture. These activities include identifying and pursuing opportunities, committing resources, securing financing, and engaging in planning and in the hiring and training of employees, which ultimately result in the launch of a new venture (Ahmadi et al. 2020; Ben-Hafaïedh and Ratinho 2019; Jones et al. 2018).

According to the TPB, intention and PBC are the two main factors that directly predict any behaviour, including EB (Ajzen 1991, 2020). While Ajzen (1991, 2020) suggests that intention alone is a sufficient predictor of behaviour, he argues that, in situations with volitional control challenges, PBC could serve as an additional and independent predictor of behaviour. Prior research has shown that strong EIs combined with high perceived capability increase the likelihood of performing entrepreneurial behaviour (Boubker 2024; Duong et al. 2022; Farooq 2018; Kautonen et al. 2013; Kibler 2013; Kibler et al. 2014; Kautonen et al. 2015; Li et al. 2020; Nergui 2020; Shiri et al. 2017; Tran et al. 2024; Valencia-Arias and Restrepo 2020). Similarly, studies that have only tested the direct effects of EIs on EB reported the existence of a significant positive relationship between these variables (Tsou et al. 2023; Calza et al. 2020; Cui and Bell 2022; Darmanto and Yuliari 2018; Rauch and Hulsink 2015; Yaseen et al. 2018; Teixeira et al. 2018). Based on the above review of the literature, the following hypotheses are suggested:

H12. *EIs are significantly associated with EB.*

H13. *PBC is significantly associated with EB.*

H14. *The association between PBC and EB is significantly moderated by RTP.*

Figure 1 illustrates the hypothesised relationships.

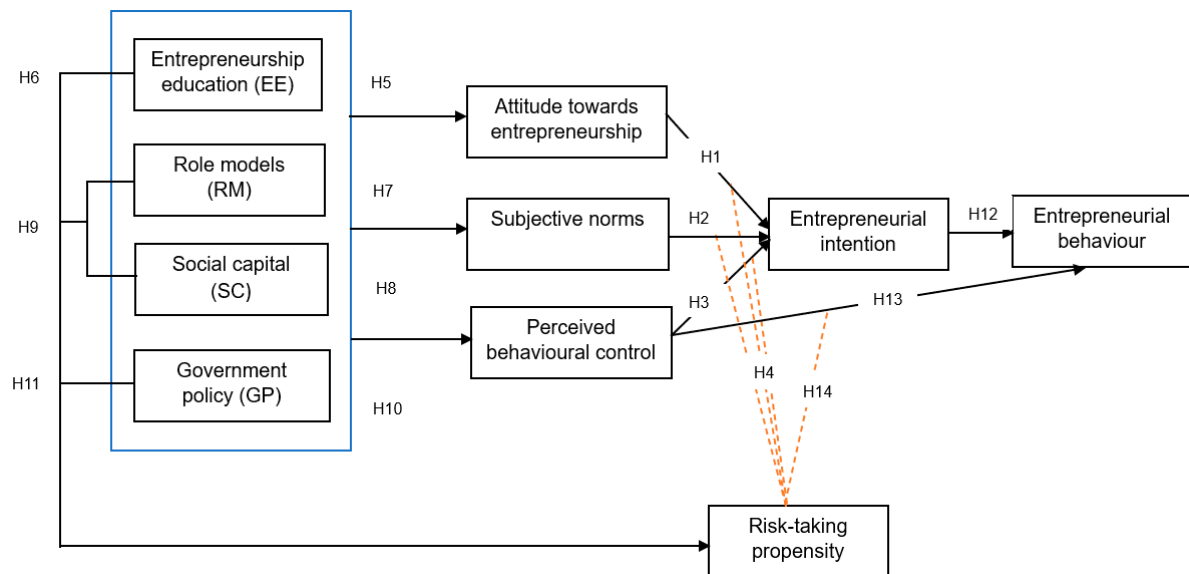


Figure 1. Proposed structural model. Source: Developed by the authors from Ajzen (1991).

3. Research Methodology

3.1. Sample and Procedure

The population for this study was limited to 435 entrepreneurs who were supported by the Department of Small Business Development (DSBD) and had more than two years of operational experience within the selected Gauteng metropolitan cities of Johannesburg, Ekurhuleni, and Tshwane. The researchers obtained assistance from the DSBD official to distribute the questionnaires by email to entrepreneurs on their database. The study was initially aimed at conducting a census of all 435 entrepreneurs; however, due to the unavailability of some participants, the researcher opted for a convenience sampling technique. As a result, a sample of 127 willing entrepreneurs was obtained. Out of the 127 respondents, 58% were aged between 35 and 44 years. Following this, 32% were in the 45 to 54 years age range, while 6% belonged to the 25 to 34 years category. Individuals aged between 55 and 64 years constituted 4% of the respondents. These findings underscore that most participants fell within the 35 to 44 years age bracket. The respondents were predominantly male, comprising 61%, while females accounted for 39% in terms of gender distribution.

Data collection occurred following the receipt of ethical clearance from the Tshwane University of Technology Research Ethics Committee and permission from the Department of Small Business Development (DSBD). A structured online self-administered questionnaire was employed to gather primary data pertinent to the research objectives. Due to the ongoing impact of the COVID-19 pandemic, the researcher considered this data collection method to be viable, secure, cost-effective, and convenient for the respondents. The respondents utilised a web browser and accessed the questionnaire through a hyperlink. The respondents received a briefing of the study's objectives and were invited to participate willingly by completing the questionnaire, with a guarantee of complete anonymity.

3.2. Measurement Instrument

A structured self-administered online questionnaire, adopted from prior studies that validated the Entrepreneurial Intention Questionnaires (EIQs) (Liñán and Chen 2009; Malebana 2012) was employed to gather data on attitudes towards entrepreneurship, subjective norms, perceived behavioural controls and entrepreneurial intentions. The questions regarding role models were adopted from Malebana (2012) and validated by

Mothibi (2018) as well as by Kusumawardani et al. (2020). The study used measures of social capital suggested by Liñán and Santos (2007), which were subsequently validated by Malebana (2012) and Doanh (2021). The questions on government policy were directly adopted from the GEM questionnaire developed by Herrington et al. (2017) without alteration. With minor alterations, the questions on risk-taking propensity were adapted from Karimi et al. (2017); Anwar and Saleem (2019); and Vogelsang (2015). A five-point Likert scale (1 = strongly disagree; 5 = strongly agree) was employed to gather data on role models, social capital, government policy, risk-taking propensity, entrepreneurial intention, and its antecedents. Nominal type questions (requiring yes or no responses) were employed to gather data concerning entrepreneurship education and entrepreneurial behaviour. Entrepreneurial behaviour was measured using a scale comprising items adapted from the measures developed by Kautonen et al. (2015) and Farooq (2018). The decision to adopt and utilise existing measures was driven by their validation in preceding research studies, thus increasing the reliability of the questionnaire.

4. Results

4.1. Assessment of the Measurement Model

To assess the measurement model, the study employed partial least squares structural equation modelling (PLS-SEM) with the assistance of SmartPLS4 software (version 4.0.8.3). The assessment of the measurement model is centred on examining factor loadings, Cronbach's alpha values, composite reliability, Average Variance Extracted, as well as convergent and discriminant validity. Factor loadings are deemed recommended if they attain a value of at least 0.7, indicating that the construct explains more than 50% of its own variance (Hair et al. 2020). This demonstrates a satisfactory level of reliability, though a loading of 0.5 is considered acceptable (Hair et al. 2020; Hair et al. 2019). As a result, the study removed items with a loading factor value of less than 0.5 from the model (for example, ATB2; PBC1,2,3; RM3; SC1,2; GP5,6,7; EB1–3,5,6,8–14). Entrepreneurial behaviour (EB) was initially tested using 14 items; however, due to loading factor issues (items with loadings less than 0.5), these items were removed from the model. Hence, only two items measuring EB were retained. As indicated in Table 1, the factor loadings exceeded the recommended threshold of 0.50, as suggested by Hair et al. (2020). Both Cronbach's alpha (α) and composite reliability (CR) scores were assessed to evaluate the internal consistency or reliability of the constructs. According to Sarstedt et al. (2017), reliability values ranging from 0.60 to 0.70 are regarded as indicative of satisfactory to good levels of reliability, while values of 0.80 or higher indicate very high consistency. The results in Table 1 indicate that both the Cronbach's alpha (α) and composite reliability (CR) values for the latent variable surpass the recommended threshold of 0.60. Cronbach's alpha (α) scores ranged from 0.701 to 0.925, and composite reliability (CR) values ranged from 0.724 to 0.94. These findings suggest that the survey questions effectively measured the intended constructs and produced reliable results suitable for statistical analysis.

Table 1. Factor loadings, reliability, and validity of construct.

	ATB	EB	EE	EI	GP	PBC	RM	RTP	SC	SN
Items										
Attitude towards entrepreneurship										
ATB1	0.567									
ATB3	0.516									
ATB4	0.936									
Entrepreneurial behaviour										
EB4		0.521								
EB7		0.917								

Table 1. *Cont.*[illegible]

Table 1. Cont.

	ATB	EB	EE	EI	GP	PBC	RM	RTP	SC	SN
Subjective norms										
SN1										0.672
SN2										0.693
SN3										0.758
Cronbach's Alpha	0.741	0.721	1.000	0.893	0.734	0.701	0.762	0.925	0.907	0.761
Composite Reliability	0.726	0.724	1.000	0.924	0.822	0.784	0.807	0.941	0.926	0.764
Average Variance Extracted (AVE)	0.501	0.556	1.000	0.713	0.539	0.552	0.678	0.678	0.611	0.502

Source. SmartPLS generated from the questionnaire data for this study.

To uphold the measurement model's quality, the study assessed both the convergent and discriminant validity. According to [Sarstedt et al. \(2017\)](#), a minimum of 0.50 is necessary to establish satisfactory convergent validity for a concept. Convergent validity was confirmed through the examination of the Average Variance Extracted (AVE) across all items related to a specific construct, aiming to understand how well the construct accounts for the variance in its observed variables. The findings presented in Table 1 indicate that AVE values for all constructs exceeded the accepted threshold of 0.50, ranging from 0.501 to 0.713. These results suggest satisfactory convergent validity, demonstrating that the construct effectively converges to elucidate the variance within its items.

Following the recommendation proposed by [Hair et al. \(2019\)](#), the study employed both the Fornell and Larcker criterion and heterotrait–monotrait (HTMT) ratio of correlation to assess discriminant validity. Cross-loading factors were used for evaluating discriminant validity, as they unveil whether an indicator is primarily linked to its intended latent variable or if it exhibits a significant association with other variables ([Ab Hamid et al. 2017](#); [Hair et al. 2020](#); [Hair and Alamer 2022](#)). It is proposed that discriminant validity problems arise when HTMT values exceed 0.90 ([Sarstedt et al. 2017](#); [Hair and Alamer 2022](#)). The results in Table 2 show that the HTMT values are less than the recommended threshold value of 0.90, which confirms that the constructs have a high discriminant validity. Regarding the Fornell and Larcker criterion, for each construct, the square root of its Average Variance Extracted (AVE) should be greater than the correlations with other latent constructs ([Ab Hamid et al. 2017](#)). The results presented in Table 3 reveal that the diagonal values were greater than all correlations between the constructs, affirming the distinctive validity of each construct.

Table 2. Heterotrait–monotrait ratio (HTMT).

	ATB	EB	EE	EI	GP	PBC	RM	RTP	SC	SN	RTP x PBC	RTP x SN	RTP x ATB	RTP x EI
ATB														
EB	0.640													
EE	0.667	0.439												
EI	0.463	0.596	0.404											
GP	0.129	0.236	0.058	0.258										
PBC	0.838	0.731	0.613	0.701	0.196									
RM	0.220	0.402	0.087	0.278	0.232	0.240								
RTP	0.294	0.728	0.145	0.629	0.359	0.376	0.275							
SC	0.241	0.646	0.070	0.350	0.210	0.156	0.124	0.613						
SN	0.313	0.651	0.200	0.164	0.254	0.273	0.693	0.159	0.179					

Table 2. Cont.

	ATB	EB	EE	EI	GP	PBC	RM	RTP	SC	SN	RTP × PBC	RTP × SN	RTP × ATB	RTP × EI
RTP × PBC	0.118	0.348	0.012	0.524	0.184	0.134	0.161	0.598	0.431	0.137				
RTP × SN	0.050	0.460	0.012	0.115	0.102	0.156	0.021	0.067	0.153	0.154	0.172			
RTP × ATB	0.117	0.251	0.002	0.348	0.129	0.171	0.119	0.419	0.367	0.079	0.768	0.160		
RTP × EI	0.242	0.591	0.161	0.651	0.259	0.405	0.143	0.731	0.493	0.131	0.835	0.151	0.622	

Table 3. Fornell–Larcker criterion.

	ATB	EB	EE	EI	GP	PBC	RM	RTP	SC	SN
ATB	0.699									
EB	0.218	0.746								
EE	0.655	0.222	1.000							
EI	0.468	0.297	0.416	0.844						
GP	−0.007	−0.053	0.037	0.215	0.734					
PBC	0.696	0.297	0.578	0.566	0.087	0.743				
RM	0.115	0.089	0.056	0.189	−0.121	0.134	0.823			
RTP	0.222	0.366	0.129	0.562	0.336	0.260	0.172	0.853		
SC	0.082	0.339	−0.040	0.292	0.163	0.026	0.034	0.568	0.782	
SN	−0.159	0.136	−0.144	−0.048	−0.158	−0.067	0.378	−0.044	−0.037	0.709

4.2. Assessment of the Structural Model

The first step in evaluating the structural model involved examining the coefficient of determination (R^2), a metric that assesses the model's explanatory power as proposed by Hair et al. (2020). The results in Figure 2 show that the cumulative effect of EE, RMs, GP, and SC on RTP is 0.435, suggesting that EE, RMs, GP, and SC accounted for 44% of the variation in RTP. Similarly, the cumulative effect of EE, RMs, GP, and SC on ATB, SNs, and PBC is 0.449, 0.183, and 0.352, respectively. These results suggest that EE, RMs, GP, and SC accounted for 45% of the variation in ATB, 18.3% of the variation in SNs, and 35.2% of the variation in PBC. Figure 2 further shows that the cumulative effect of ATB, SNs, and PBC on EIs is 0.570, suggesting that ATB, SNs, and PBC accounted for 57% of the variation in EIs. The cumulative effect of EIs, and PBC on EB is 0.185, suggesting that EIs and PBC accounted for 19% of the variation in EB.

4.2.1. Effect Size (f^2)

The study assessed the effect size (f^2) to determine the relative impact of specific exogenous latent variables on the endogenous latent variable by analysing changes in the R-squared value. According to Sarstedt et al. (2017), f^2 values of 0.02, 0.15, and 0.35 correspond to small, medium, and large effects, respectively, of an exogenous latent variable. Effect size values below 0.02 indicate no effect (Sarstedt et al. 2017). The results presented in Table 4 show that the exogenous latent variables had varying effects on the endogenous latent variable, ranging from no effect to small, medium, and large effects in some cases.

4.2.2. Predictive Relevance (Q^2)

The predictive accuracy of the structural model was assessed by calculating the Q^2 value in this study. When interpreting Q^2 , values greater than 0 are proposed to be meaningful, whereas values below 0 indicate a lack of predictive relevance (Farooq 2018; Hair et al. 2020). In other words, if the Q^2 value is larger than 0, it indicates that the structural

model's latent exogenous constructs have a predictive relevance for the latent endogenous constructs (Sarstedt et al. 2017). Q^2 values larger than 0.25 and 0.50 represent the medium and large predictive relevance of the PLS-SEM model (Hair et al. 2020). The results presented in Table 5 show that the Q^2 values ranged from 0.065 to 0.356, indicating that all the underlying endogenous latent constructs in this study had sufficient predictive relevance.

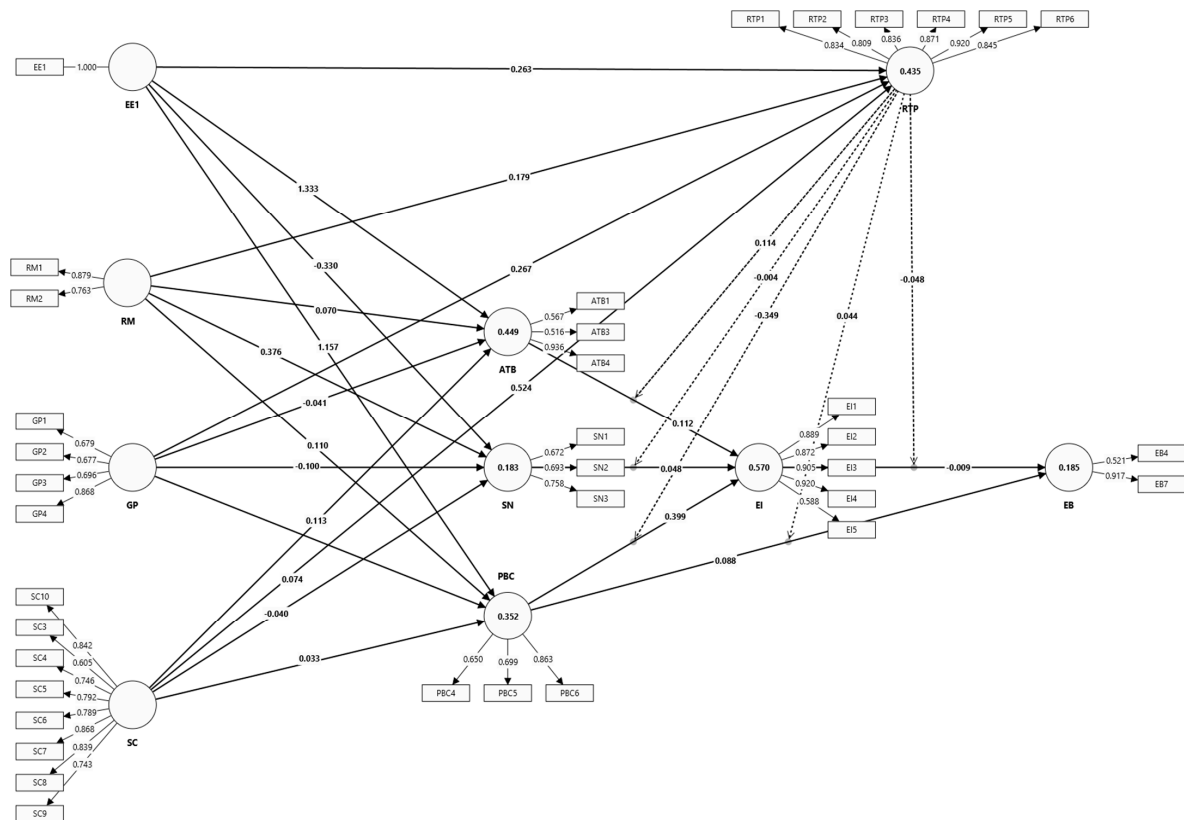


Figure 2. Structural model output.

Table 4. Effect size values.

	ATB	EB	EE	EI	GP	PBC	RM	RTP	SC	SN
ATB				0.014						
EB										
EE	0.778					0.499		0.030		0.032
EI		0.000								
GP	0.003					0.008		0.120		0.012
PBC		0.028		0.179						
RM	0.009					0.018		0.056		0.169
RTP		0.038		0.102						
SC	0.022					0.002		0.469		0.002
SN				0.005						
RTP x PBC		0.004		0.110						
RTP x SN				0.000						
RTP x ATB				0.017						
RTP x EI		0.009								

Source: Researcher's estimates based on survey data.

Table 5. Q² values.

	Q ² Predict	RMSE	MAE
ATB	0.201	0.904	0.865
EB	0.175	0.735	0.634
EIs	0.121	0.966	0.659
PBC	0.153	0.987	0.892
RTP	0.356	0.831	0.649
SNs	0.065	0.976	0.782

Source: Researcher's estimates based on survey data.

4.3. Assessment of Collinearity Issues

The study assessed the variance inflation factors (VIFs) to ascertain the presence of collinearity issues, as suggested by [Hair et al. \(2020\)](#). VIF values are expected to be below the threshold of 5.0. According to [Hair et al. \(2020\)](#), if VIF values are 3.0 or lower, the likelihood of collinearity is considered minimal. The VIF values observed in this study ranged from 1.000 to 4.699. These findings indicate the absence of collinearity issues that could have an adverse effect on the results.

4.4. Path Coefficients for Hypotheses Tests

The results in Table 6 reveal a statistically significant association between PBC ($\beta = 0.399$, $p < 0.000$) and EIs, while ATB and SNs showed non-significant associations with EIs. These results suggest that the intention to start additional businesses among entrepreneurs can be predicted based on their perceived capability, leading to acceptance of H3, while no support was found for H1 and H2.

Table 6. Hypothesis testing results.

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p Values	Significance Level
ATB -> EIs	0.112	0.118	0.084	1.334	0.182	Ns
EE -> ATB	1.333	1.334	0.116	11.482	0.000	***
EE -> PBC	1.157	1.163	0.133	8.734	0.000	***
EE -> RTP	0.263	0.251	0.136	1.928	0.054	Ns
EE -> SNs	−0.330	−0.333	0.177	1.867	0.062	Ns
EIs -> EB	−0.009	−0.009	0.065	0.145	0.884	Ns
GP -> ATB	−0.041	−0.031	0.076	0.541	0.588	Ns
GP -> PBC	0.074	0.081	0.081	0.910	0.363	Ns
GP -> RTP	0.267	0.265	0.063	4.212	0.000	***
GP -> SN	−0.100	−0.110	0.093	1.077	0.281	Ns
PBC -> EB	0.088	0.091	0.043	2.045	0.041	*
PBC -> EI	0.399	0.407	0.074	5.433	0.000	***
RM -> ATB	0.070	0.072	0.076	0.916	0.360	Ns
RM -> PBC	0.110	0.111	0.083	1.329	0.184	Ns
RM -> RTP	0.179	0.179	0.073	2.459	0.014	**

Table 6. Cont.

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p Values	Significance Level
RM _s -> SN _s	0.376	0.382	0.094	4.000	0.000	***
RTP -> EB	0.114	0.112	0.052	2.178	0.030	*
RTP -> EI	0.266	0.266	0.081	3.287	0.001	***
SC -> ATB	0.113	0.111	0.108	1.045	0.296	Ns
SC -> PBC	0.033	0.035	0.078	0.425	0.671	Ns
SC -> RTP	0.524	0.523	0.072	7.242	0.000	***
SC -> SN _s	−0.040	−0.038	0.092	0.432	0.666	Ns
SN _s -> EI _s	0.048	0.051	0.071	0.671	0.502	Ns
RTP x PBC -> EB	0.044	0.041	0.059	0.742	0.458	Ns
RTP x PBC -> EI	−0.349	−0.345	0.097	3.593	0.000	***
RTP x SN _s -> EI	−0.004	−0.022	0.082	0.045	0.964	Ns
RTP x ATB -> EI	0.114	0.087	0.103	1.115	0.265	Ns
RTP x EI _s -> EB	−0.048	−0.045	0.044	1.099	0.272	Ns

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Of the three antecedents of EIs, the results in Table 6 indicate a statistically significant negative moderating effect of RTP ($\beta = -0.349$, $p < 0.000$) on the relationship between PBC and EIs, while no significant moderation of RTP was found on the association between ATB and EIs and between SNs and EIs. These findings imply that the presence of RTP weakens the association between PBC and EIs. The findings provide partial support for H4.

The findings demonstrate that EE had a statistically significant effect on both ATB ($\beta = 1.333$, $p < 0.000$) and PBC ($\beta = 1.157$, $p < 0.000$), while SNs and RTP showed a non-significant association with EE. These findings suggest that exposure to EE increases the attractiveness of the entrepreneurial career options and the confidence of entrepreneurs in their capability to act entrepreneurially. The findings partially support H5. The study found that EE had no statistically significant association with RTP ($\beta = 0.263$, $p < 0.054$), and therefore H6 is rejected.

The results in Table 6 indicate that RM_s are significantly related to SN_s ($\beta = 0.376$, $p < 0.000$), whereas their association with ATB and PBC was non-significant. These findings imply that exposure to entrepreneurial role models strengthens the perceived social pressure to launch new businesses. The findings partially support H7.

The findings show that SC had a non-significant relationship with all three antecedents of EIs and, therefore, H8 is not supported. The study found that both RM_s ($\beta = 2.459$, $p < 0.014$) and SC ($\beta = 0.524$, $p < 0.000$) had a statistically significant association with RTP. These findings indicate that social capital and entrepreneurial role models can act as motivators and enhance entrepreneurs' propensity to take risks in starting new businesses. The findings support H9.

The findings show that GP had no significant effect on all the three antecedents of EIs, failing to support H10. However, the results revealed that GP had a statistically significant association with RTP ($\beta = 0.267$, $p < 0.000$). These findings indicate that, when individuals have positive perceptions about government policies, they become inspired and encouraged to engage in risk-taking behaviours. The findings support H11.

The results in Table 6 indicate no statistically significant association between EI_s ($\beta = -0.009$, $p < 0.884$) and EB, and therefore H12 is not supported.

The study discovered that PBC ($\beta = 0.088$, $p < 0.041$) had a significant positive effect on EB, implying that perceived capability has a positive influence on EB. Therefore, the

results support H13. The results show no statistically significant moderating effect of RTP ($\beta = 0.044$, $p < 0.458$) on the association between PBC and EB. This suggests that H14 is rejected. The findings in Table 6 further exhibit that RTP had a statistically significant association with both EIs ($\beta = 0.266$, $p < 0.001$) and EB ($\beta = 0.114$, $p < 0.034$). These results imply that high RTP increases the likelihood of having strong EIs and engagement in EB.

5. Discussion of Findings

The purpose of this study was to determine the impact of EIs and PBC on EB among entrepreneurs in South Africa based on the TPB. The study tested the direct impact of munificent environment factors, including EE, SC, RMs, and GP, on the antecedents of EIs and RTP. Furthermore, the study tested the moderating effect of RTP on the relationship between the antecedents of EIs and EIs, between PBC and EB, and between EIs and EB. The findings revealed that EE was significantly associated with ATB and PBC but not with SNs. These results support previous studies which found that EE is significantly associated with ATB (Abdullahi et al. 2021; Lopez et al. 2021) and PBC (Lopez et al. 2021; Tsaknis et al. 2024). These findings suggest that exposure to EE generates positive attitudes towards entrepreneurship and makes individuals feel personally capable of executing entrepreneurial behaviour. However, the results contradict previous studies that reported a significant association between EE and SNs (Abdullahi et al. 2021; Lopez et al. 2021).

The findings indicate that RMs are significantly associated with SNs but not with ATB or PBC. These results corroborate those of Choukir et al. (2019); Kusumawardani et al. (2020); Palmer et al. (2019); and Fellnhöfer and Mueller (2018), who found a significant positive effect of RMs on SNs. These findings suggest that exposure to RMs can enhance perceived social pressure among individuals to engage in entrepreneurship. However, the results contradict previous studies that reported an insignificant association between RMs and SNs (Hoda et al. 2020) and those that found a significant effect of RMs on either ATB, PBC, or both (Choukir et al. 2019; Palmer et al. 2019; Malebana 2016a; Fellnhöfer and Mueller 2018). The findings of this study also showed that RMs were significantly associated with RTP, which concur with previous research that has found a positive relationship between RMs and RTP (Efrata et al. 2021). These findings suggest that exposure to RMs has a positive effect on individuals' risk-taking behaviour.

The findings further revealed that SC is not significantly associated with ATB, PBC, or SNs. These results contradict previous studies that reported a significant association between SC and the antecedents of EIs (Doanh 2021; Malebana 2016b; Vuković et al. 2017; Ha et al. 2020). This suggests that SC does not have a significant influence on entrepreneurs' ATB, PBC, or SNs. However, the findings showed that SC is significantly associated with RTP, supporting previous research that reported the significant positive impact of SC on RTP (Rodríguez-Gutiérrez et al. 2020). These findings indicate that access to SC facilitates risk-taking behaviour among entrepreneurs.

Regarding GP, the findings revealed that GP does not have a significant impact on ATB, PBC, or SNs. These results contradict those of Nowiński et al. (2020) and Salisu (2020), who found that GP has a positive effect on ATB and PBC. Additionally, the findings showed that GP is positively related to RTP, supporting previous research that reported a significant association between GP and RTP (Dewi et al. 2018; Siti et al. 2018). These findings suggest that entrepreneurs are more likely to take risks when they perceive that GP supports entrepreneurship.

The findings of this study revealed that, among the three antecedents, EIs are significantly associated with PBC. These results support previous studies that have found that EIs are significantly associated with PBC but not with ATB or SNs (Ezeh et al. 2019). These findings suggest that entrepreneurs' intentions to start new ventures in the future are influenced by their perceived capability to act entrepreneurially. However, the results are in contrast with earlier research that reported that EIs are significantly associated with ATB (Hong et al. 2020) and SNs (Amrouni and Azouaou 2024). These findings suggest that

entrepreneurs who believe in their capability to execute the entrepreneurial process are more likely to develop intentions to start new ventures in the future.

The findings of this study further revealed that PBC has a significant influence on EB while EIs have no effect. This could possibly suggest that EB, among the existing entrepreneurs in this study, depends on one's perceived capability rather than EIs. While these results support previous studies that have found a significant association between PBC and EB (Boubker 2024; Duong et al. 2022; Farooq 2018; Kautonen et al. 2015; Kibler et al. 2014; Nergui 2020; Kautonen et al. 2013; Tran et al. 2024), they also contradict these cited studies in terms of the insignificant relationship between EIs and EB. These findings imply that, among the entrepreneurs in this study, the perceived capability to act entrepreneurially increases the likelihood of future entrepreneurial behaviour.

The utility of these findings lies in their challenge to the traditional theoretical view that EIs directly lead to EB. The absence of a significant association between EIs and EB, particularly in the context of economic instability caused by the COVID-19 pandemic, suggests that external factors can disrupt the translation of intentions into actions. Even when intentions are strong, economic uncertainty and other external barriers may dampen EB. However, the positive influence of PBC on EB highlights the importance of perceived control, indicating that individuals who feel confident in their ability to navigate the entrepreneurial process and access the necessary resources are more likely to engage in EB. This underscores the need for interventions that could enhance PBC, such as improving access to various forms of entrepreneurial support that may include funding, technical advice, mentorship, and support networks, especially in environments like South Africa, where such support may be unevenly distributed. These insights are valuable for policy-makers in terms of guiding the refinements in their support programmes and designing policies that could effectively promote entrepreneurship.

5.1. Implications

The results of this study have implications for both policymakers and entrepreneurship educators and highlight the need for interventions that can facilitate the formation of EIs and translation of EIs into EB. First, entrepreneurship education that portrays the benefits of being self-employed and exposes students to successful entrepreneurial role models would generate positive attitudes towards entrepreneurship. Second, entrepreneurship educators should offer hands-on, practical sessions that are student-centred in order to cater for varying students' learning needs. Such learning sessions should be geared towards executing the entrepreneurial process to enhance PBC. Third, the learning environment should promote risk-taking behaviour by providing students with the opportunity to experiment with their ideas without fear of failure during entrepreneurship education sessions. The government should partner with higher education institutions and provide some funding to facilitate these experimentations. This will help to stimulate the risk-taking propensity that has been found to be significantly related to EIs and EB. Fourth, the fact that PBC is positively related to EIs and EB suggests that various interventions that can positively impact PBC should be designed and implemented. This suggests that favourable entrepreneurial policies and support programmes should be implemented. The availability of information about these entrepreneurial support programmes and how to obtain access to them should be improved. This will ultimately promote the risk-taking propensity among entrepreneurs. Entrepreneurship educators and government institutions that have been tasked with entrepreneurship development should facilitate the formation of business chambers and social networks that would help build entrepreneurs' social capital. The findings of this study suggest that access to social capital can increase the likelihood of taking risks among entrepreneurs. Therefore, the government should increase access to business incubators and innovation hubs and facilitate networking among entrepreneurs in these facilities. Furthermore, the results of the study show that EE, RMs, GP, and SC are vital elements for creating a munificent environment for entrepreneurs. While the

findings have shown that these factors play different roles, they can become enablers in entrepreneurship development.

5.2. Conclusions, Limitations and Areas for Further Research

Entrepreneurial activity is vital for a vibrant economy with low unemployment rates. Thus, there is a need to create a munificent environment that facilitates the emergence and growth of new ventures. Such an environment should have accessible entrepreneurial role models to share their successes and failures in their respective journeys. This will not only promote learning but will stimulate risk-taking behaviour among individuals to engage in entrepreneurship. Access to entrepreneurship education should be increased to equip potential and existing entrepreneurs with the necessary skills and competencies. Governments should develop and implement favourable policies that would help to reduce the red tapes that are faced by entrepreneurs that constrain economic growth.

Like many research endeavours, this research had its own constraints. These include utilising cross-sectional data, which confined the study to a specific timeframe, precluding the possibility of conducting a longitudinal analysis. Although the study found the existence of a significant positive association between PBC and EB, it did not track respondents over time to establish causality from the perceived capability to initiate a new venture to the ultimate engagement in the behaviour. The findings cannot be generalised to all existing entrepreneurs or SME owners in South Africa because the study conducted convenience sampling. Therefore, the findings are only applicable to SME owners in the Gauteng metropolitan cities of Ekurhuleni, Johannesburg, and Tshwane. The fact that there was no significant association between EIs and EB in this study suggests that the existence of this relationship, as reported in prior studies, could vary from one population to the other. Thus, future studies should contemplate undertaking comparable research in other metropolitan cities within South Africa and other countries to validate these results. There is a need for more studies to test the validity of the TPB among entrepreneurs in order to uncover the factors that influence EIs and EB.

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Informed Consent Statement: All the respondents completed the informed consent to participate in the study.

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