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Relationship between prior entrepreneurship exposure and entrepreneurial intention among secondary school learners in Gauteng, South Africa

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Abstract

The purpose of this study was to assess the influence of prior entrepreneurship exposure on entrepreneurial intention and its antecedents. Data were collected from 349 secondary school learners in Mamelodi, Gauteng province of South Africa using a cross-sectional survey. Data were analysed using SPSS by means of regression analysis and descriptive statistics. The results revealed that prior entrepreneurship exposure in the form of current business ownership, entrepreneurial role models in the family, among friends, and knowing other entrepreneurs have no significant effect on entrepreneurial intention and its antecedents. Prior start-up experience, knowledge of successful entrepreneurs, and entrepreneurship education had a significant positive relationship with entrepreneurial intention. Prior start-up experience and knowledge of successful entrepreneurs were positively related to attitude towards entrepreneurship and subjective norms. Knowledge of successful entrepreneurs and entrepreneurship education had a significant positive relationship with perceived behavioural control. Additionally, a significant positive relationship was found between entrepreneurship education and subjective norms.

Keywords: Entrepreneurial intention, Role models, Prior start-up experience, Entrepreneurship education, Theory of planned behaviour, Secondary school learners, High schools, Entrepreneurial family background

Introduction

The ever-increasing role of entrepreneurship as a mechanism for job creation and stimulator for economic growth is widely acknowledged (Hill et al., 2022). At the heart of entrepreneurship is entrepreneurs who bring innovations in the market (Fuentelsaz et al., 2018; Shi & Weber, 2021). Consequently, over many decades researchers have devoted their efforts towards uncovering the factors that influence entrepreneurial intention and entrepreneurial activity (Liñán & Fayolle, 2015). Equipped with knowledge about these factors and their role in shaping entrepreneurial intention, both entrepreneurship educators and policymakers would be able to design and implement interventions that

can create an enabling environment that enhances the entrepreneurial potential in the society (Krueger, 2017; Malebana, 2014). The decision to engage in the entrepreneurial process is considered to be deliberate, planned and intentional in nature (Krueger, 1993; Krueger et al., 2000). In recent years, researchers have shown that entrepreneurial intention is a reliable predictor of entrepreneurial behaviour (for example, Akter & Iqbal, 2022; Alam et al., 2019; Cui & Bell, 2022; Duong et al., 2022; Kautonen et al., 2015; Kong et al., 2020; Rauch & Hulsink, 2015). Evidence from the findings of these studies suggests that more entrepreneurial activity can be achieved by stimulating the formation of entrepreneurial intentions, as shown by the results of Calza et al. (2020). Consequently, research on entrepreneurial intention has gained popularity over the past three decades with the goal of shedding light on the foundations of entrepreneurial behaviour (Bird, 1988; Krueger et al., 2000; Liñán & Fayolle, 2015).

The view that entrepreneurship is a continuous learning process emphasises the importance of potential and existing entrepreneurs' prior entrepreneurship exposure in the development of abilities to create and manage new ventures (Politis, 2008). Prior entrepreneurship exposure contributes to the acquisition of entrepreneurial knowledge (Miralles et al., 2017), which plays a crucial role in distinguishing successful from unsuccessful entrepreneurs in identifying and exploiting opportunities as well as their ability to innovate (Shi & Weber, 2021). The acquired entrepreneurial knowledge assists entrepreneurs in selecting which markets to serve and how to serve them, and how to solve customers' problems (Shane, 2000). Individuals can be exposed to entrepreneurship through entrepreneurship education, role models, prior start-up experience, by working in a small enterprise or through their own current engagement in entrepreneurial activities (Botha, 2020; Galvão et al., 2018; Gird & Bagraim, 2008; Gulzar & Fayaz, 2021; Krueger, 1993; Malebana, 2012; Malebana & Zindiye, 2017; Muchabaiwa & Msimango-Galawe, 2021; Tarek, 2016; Zapkau et al., 2015). As forms of prior entrepreneurship exposure, entrepreneurship education, role models and direct business experience are vital in enhancing entrepreneurs' innovation capabilities (Efrata et al., 2021; Ucbasaran et al., 2008; van der Gaag, 2010; Wei et al., 2019). Prior research has shown that there is a positive association between entrepreneurship education, role models and direct business experience and entrepreneurial behaviour (Arenius & Minniti, 2005; Botha et al., 2021; Contín-Pilart et al., 2015; Cui & Bell, 2022; Davidsson & Honig, 2003; Dickson et al., 2008; Hopp & Sonderegger, 2015; Kong et al., 2020; Rauch & Hulsink, 2015).

Research evidence indicates that prior entrepreneurship exposure plays a vital role in the formation of entrepreneurial intention and also enhances entrepreneurial behaviour (Arenius & Minniti, 2005; Cieřlik & van Stel, 2017; Cui & Bell, 2022; Gulzar & Fayaz, 2021; Liñán & Fayolle, 2015; Lortie & Castrogiovanni, 2015; Uygun & Kasimoglu, 2013). Depending on the breadth and positiveness of their exposure to entrepreneurship, individuals can adopt favourable attitudes towards entrepreneurship and their perceived capability to engage in entrepreneurship could be enhanced (Krueger, 1993). In the same vein, individuals could perceive the social pressure to choose the entrepreneurial career option based on their prior exposure to entrepreneurship (Basu & Virick, 2008; Feder & Niřu-Antonie, 2017; Karimi et al., 2013; König, 2016; Liñán & Chen, 2009).

In South Africa, the unemployment rate of those having Matric or National Senior Certificate is very high at 39.5% compared to the rate of graduates and those with other

forms of tertiary qualifications at 2.7% and 6.7%, respectively (Statistics South Africa, 2023). This means that those who leave schooling after passing Matric have limited opportunities for employment. Matric, commonly known as Grade 12 Certificate is a school leaving certificate in South Africa offered at the Further Education and Training phase and does not have a compulsory school age (Northern Cape Department of Education, 2023; Western Cape Education Department, 2003). As a measure of reducing the high unemployment rate among those who hold the Grade 12 Certificate, some researchers propose that entrepreneurship education should be offered in the early phases of schooling in order to prepare learners effectively for the entrepreneurial career (Liñán et al., 2011; Mkhathshwa, 2017). In line with this proposal, the Department of Basic Education in South Africa offers Business Studies curriculum to learners in the Further Education and Training phase from Grade 10 to 12 (Republic of South Africa, 2011). The main goal of this subject is to equip the learners with the knowledge and skills, attitudes and values that will enable them to be informed, productive, ethical and responsible participants in both the formal and informal sectors of the economy. Business studies teach learners about business principles, theory and practice for the creation of new ventures. Findings of Johansen (2018) indicate that entrepreneurship education can enhance perceived capability, skills and knowledge of starting a new venture among secondary school learners. Therefore, exposing secondary school learners to entrepreneurship education could help them learn to behave entrepreneurially (Haase & Lautenschläger, 2011; Kuratko, 2005).

The majority of previous research have either tested the effect of one variable of prior entrepreneurship exposure on entrepreneurial intention or some tested the impact of two or more variables on entrepreneurial intention (for example, Bignotti & le Roux, 2020; Carr & Sequeira, 2007; García-Rodríguez, et al., 2015; Gulzar & Fayaz, 2021; Muchabaiwa & Msimango-Galawe, 2021; Ni & Ye, 2012; Yang, 2017). Few studies, if any exist, tested the effect of all entrepreneurship exposure variables on entrepreneurial intention and its antecedents among secondary school learners and even university students. The findings of some studies have shown mixed results about the effect of prior entrepreneurship exposure variables (for example, Amofah & Saladrígues, 2022; Gird & Bagraim, 2008; Liñán & Chen, 2009; Mahlaole & Malebana, 2021; Mahmoud et al., 2020; Ndofirepi & Rambe, 2017; Tarek, 2016; Zapkau et al., 2015; Zhang et al., 2014). Additionally, there has been an increasing number of studies that investigate the factors shaping the formation of entrepreneurial intention of secondary school learners (for example, Aragon-Sanchez et al., 2017; Cardoso et al., 2018; do Paço et al., 2011; Marques et al., 2012; Mkhathshwa, 2017; Wibowo et al., 2018; Xu et al., 2016). However, none of these studies tested the impact of prior entrepreneurship exposure on entrepreneurial intention and its antecedents using entrepreneurship education, role models, and prior start-up experience collectively.

This study contributes to entrepreneurial intention research and advances the application of the theory of planned behaviour in several ways. First, the study offers an integrated view of the role of prior entrepreneurship exposure in the formation of entrepreneurial intention. Second, the study advances the entrepreneurial intention research about secondary school learners that is still emerging, especially on the application of the theory of planned behaviour by testing the effect of all variables of prior

entrepreneurship exposure. Third, the study offers insights on the role of prior entrepreneurship exposure in the formation of entrepreneurial intention from an emerging country context. While previous research has shown the importance of prior entrepreneurship exposure (Gulzar & Fayaz, 2021; Zapkau et al., 2015), it is unclear whether all role models, start-up experience and current business ownership, and entrepreneurship education equally influence entrepreneurial intention and its antecedents. The main goal of the study is to shed light on the forms of prior entrepreneurship exposure that have an effect on entrepreneurial intention and its antecedents.

In the light of the above, the purpose of this study is to determine whether secondary school learners who have had prior entrepreneurship exposure and have attended entrepreneurship education as a content of Business Studies have intentions of starting their own business. Therefore, using the theory of planned behaviour as a theoretical framework, this study investigates the effect of prior entrepreneurship exposure on entrepreneurial intention of secondary school learners in South Africa.

In the next sections, relevant literature is discussed first; followed by methodology adopted for this research; fourthly, the results are presented; and lastly, the paper concludes with a discussion of the findings, conclusions and implications of the findings.

Literature review

Theory of planned behaviour and its applicability in entrepreneurship

The theory of planned behaviour has become a popular framework among researchers to help understand why some people choose an entrepreneurial career while others do not. This theory has been widely applied to investigate the determinants of entrepreneurial intention (for example, Dankanda & Madurapperuma, 2017; Gird & Bagraim, 2008; Krueger et al., 2000; Liñán & Chen, 2009; Mahlaole & Malebana, 2021; Malebana, 2014; Mfazi & Elliot, 2022; Mothibi & Malebana, 2019; Nieuwenhuizen, 2016). More recently, there has been an emerging body of research which has found that entrepreneurial behaviour can indeed be predicted using the theory of planned behaviour (Akter & Iqbal, 2022; Doung et al., 2022; Kautonen et al., 2015).

According to the theory of planned behaviour, the intention of starting a new business can be predicted with high accuracy from attitudes towards the behaviour, subjective norms and perceived behavioural control (Ajzen, 2005, 2012). This theory suggests that individuals develop the intention to start a business when they evaluate the act and its associated outcomes favourably, have confidence in their own ability to succeed in doing so, and perceive that significant others in their close environment will approve and support their decision in starting a business. Therefore, the formation of entrepreneurial intention is more likely when individuals evaluate entrepreneurial behaviour and its outcomes favourably, perceive they have the ability to perform entrepreneurial tasks and will receive social approval for engaging in entrepreneurial behaviour.

Furthermore, over the past decade there has been attempts by researchers in various contexts to shed light on the factors influencing entrepreneurial intentions of secondary school learners using the theory of planned behaviour (for example, do Paço et al., 2011; Kenmegni & Mbonifor, 2021; Marques et al., 2012; Mothibi & Malebana, 2019; Xu et al., 2016). The findings of these researchers show that this theory can predict the variance of between 33.5% and 57% in entrepreneurial intention (do Paço et al., 2011; Kenmegni &

Mbonifor, 2021; Mothibi & Malebana, 2019). While Mothibi and Malebana (2019) and Aragon-Sanchez et al. (2017) report full support of the theory in terms of the three predictors, other studies found that entrepreneurial intention of secondary school learners is positively related to attitude towards entrepreneurship and perceived behavioural control but not with subjective norms (do Paço et al., 2011; Kenmegni & Mbonifor, 2021; Marques et al., 2012; Xu et al., 2016).

Entrepreneurship education

Research evidence indicates the positive association between entrepreneurship education and entrepreneurial activity or behaviour (Cui & Bell, 2022; Hernández-Sánchez et al., 2019; Rauch & Hulsink, 2015). Entrepreneurship education is also vital in the formation of entrepreneurial intention and leads to the creation of new ventures (Cui & Bell, 2022; Dickson et al., 2008). Through exposure to entrepreneurship education individuals can acquire entrepreneurial knowledge and skills and ultimately engage in self-employment (Galloway & Brown, 2002; Jones et al., 2017; Martin et al., 2013). Findings of prior research from different countries indicate the existence of a significant relationship between entrepreneurship education and entrepreneurial intention (Asghar et al., 2016; Edigbo et al., 2021; Mahlaole & Malebana, 2021; Muhammed et al., 2021; Ndofirepi, 2020; Utami, 2020; Zhang et al., 2014). However, there is also evidence indicating that entrepreneurship education has no significant effect on entrepreneurial intention (Adelaja & Minai, 2018; Egerová et al., 2017; Galvão et al., 2018; Mahmoud et al., 2020; Malebana & Zindiye, 2017; Muhammed et al., 2021; Ndofirepi & Rambe, 2017; Samiono et al., 2018), attitude towards entrepreneurship (König, 2016) and subjective norms (Mahlaole & Malebana, 2021) and perceived behavioural control (Abdullahi et al., 2021; Galvão et al., 2018). Furthermore, the findings of prior research show the varying effects of entrepreneurship education on the antecedents of entrepreneurial intention. In some studies entrepreneurship education positively influences all the three antecedents (Mbuya & Schachtebeck, 2016; Otache et al., 2021), while others report the positive effect on attitude and perceived behavioural control (Boubker et al., 2022; Lawan et al., 2021; Rauch & Hulsink, 2015). Other studies revealed that entrepreneurship education had a positive effect on the attitude towards entrepreneurship and subjective norms (Alharbi et al., 2018; Boldureanu et al., 2020; Dankanda & Madurapperuma, 2017; Fayolle et al., 2006).

The findings of Aragon-Sanchez et al. (2017) indicate that entrepreneurship education offered at secondary schools can positively influence subjective norms, entrepreneurial attitudes and perceived behavioural control among the learners. Only Yang (2017); Ni and Ye (2018) and Wibowo et al. (2018) reported the significant positive effect of entrepreneurship education on entrepreneurial intention, while Marques et al. (2012) could not find any significant relationship between entrepreneurship education and entrepreneurial intention.

Entrepreneurship education as a source of prior entrepreneurship exposure in public schools can enhance entrepreneurial intention and its antecedents by exposing learners to both actual and symbolic role models (Ajzen, 2012; Radu & Loué, 2008). Previous research suggests that using actual role models and successful and failure role models stories in entrepreneurship education could stimulate entrepreneurial intention and

influence its antecedents (Liu et al., 2019; Mueller, 2011; Nabi et al., 2018). Moreover, practice-oriented lectures involving learning by doing, observation and case studies contribute to entrepreneurial learning, and are vital for the development of entrepreneurial skills and know-how which enhance one's confidence to act entrepreneurially (Honig, 2004; Hou et al., 2022; Mueller, 2011; Nabi et al., 2018; Radu & Loué, 2008). Active and experiential teaching methods are vital in facilitating the formation of entrepreneurial intention (Tshehla et al., 2021) and have a positive effect on the antecedents of entrepreneurial intention (Padilla-Angulo et al., 2021; Yang et al., 2021). However, research that has been conducted in South Africa reveals the lack of practical knowledge in the Business Studies curriculum that is taught in public schools, and therefore does not contribute to the achievement of the goals of entrepreneurship education (Nchu, 2015; Ngcobo & Khumalo, 2022). Therefore, it is hypothesised that:

H_1 Entrepreneurship education as a form of prior entrepreneurship exposure is significantly related to entrepreneurial intention.

H_{1a} Entrepreneurship education as a form of prior entrepreneurship exposure is significantly related to the antecedents of entrepreneurial intention.

Current business ownership and prior start-up experience

Individuals' attitudes derive from the beliefs in relation to the consequences of performing the behaviour (Ajzen, 2005). Through their own direct experiences, individuals can learn about both the positive and negative outcomes of performing the entrepreneurial behaviour, which can lead to favourable or unfavourable attitudes (Ajzen & Sheikh, 2013). In the same vein, realising positive outcomes from one's own actions could strengthen and even stimulate the intention to engage in the same behaviour (Cardoso et al., 2018; Naffziger et al., 1994). Prior start-up experience equips entrepreneurs with the knowledge to identify and exploit opportunities and combine resources uniquely in pursuit of such opportunities (Ucbasaran et al., 2008). Individuals with prior start-up experience are more likely to put more efforts in performing activities that lead to the creation of a new venture (Botha, 2020; Davidsson & Honig, 2003). Direct experience with entrepreneurial behaviour equips individuals with entrepreneurial knowledge, which impacts positively on attitude towards entrepreneurship, perceived behavioural control and subjective norms (Miralles et al., 2017). Having prior start-up experience significantly influences entrepreneurial intention (Bignotti & le Roux, 2020; Gird & Bagraim, 2008) and has a positive effect on the antecedents of entrepreneurial intention (Basu & Virick, 2008; Garcia-Rodriguez et al., 2015; König, 2016).

In a South African context, the effect of current business ownership status on entrepreneurial intention was found to be insignificant while prior start-up experience varied from negative to positive effect (Malebana, 2014; Malebana & Zindiye, 2017). In Poland, Cieślík and van Stel (2017) found that current business ownership status is positively related to entrepreneurial intention. Research findings in Saudi Arabia have shown that prior entrepreneurship experience had no significant relationship with entrepreneurial intention (Aloulou, 2017; Tarek, 2016).

Entrepreneurship involves the creation of both formal and informal enterprises. While formal enterprises are recorded and counted in the countries' gross domestic product, informal enterprises are neither registered, counted in official statistics, regulated nor protected by the state, and involve economic activities undertaken by individuals who take advantage of trading opportunities as and when they arise (Bowmaker-Falconer & Herrington, 2020; Global Entrepreneurship Research Association, 2020). Due to limited resources and experience, secondary school learners who have passion for entrepreneurship are more likely to engage in some form of informal trading. Therefore, the outcomes of these efforts could impact positively on the antecedents of entrepreneurial intention and stimulate entrepreneurial intention of these learners. Thus, it is hypothesised that:

H_2 Current business ownership status as a form of prior entrepreneurship exposure is significantly related to entrepreneurial intention.

H_{2a} Current business ownership status as a form of prior entrepreneurship exposure is significantly related to the antecedents of entrepreneurial intention.

H_3 Prior start-up experience as a form of prior entrepreneurship exposure is significantly related to entrepreneurial intention.

H_{3a} Prior start-up experience as a form of prior entrepreneurship exposure is significantly related to the antecedents of entrepreneurial intention.

Entrepreneurial role models

Role models play a vital role in the formation of entrepreneurial intention (Edigbo et al., 2021; Maziriri et al., 2019). Role models not only influence attitudes towards entrepreneurship, but also help build and strengthen individuals' confidence in their own skills, which lead to ultimate engagement in the entrepreneurial behaviour (Arenius & Minniti, 2005; Bandura, 1986; Contín-Pilart & Larraza-Kintana, 2015; Fellnhofner, 2017; Kong et al., 2020; Lafuente & Vaillant, 2013). Feder and Nițu-Antonie (2017) report that entrepreneurial role models have a positive influence on entrepreneurial intention and all its three antecedents, while König (2016) and Karimi et al. (2013) noted the positive relationship between role models, attitude towards entrepreneurship, perceived behavioural control and subjective norms. Perceptions concerning the attractiveness of entrepreneurship and the formation of entrepreneurial intention could be shaped negatively or positively by observing the outcomes resulting from the performance of the behaviour by others (Bandura, 1986; Cardoso et al., 2018; Liñán & Chen, 2009; Marques et al., 2012; Zhang et al., 2014). According to Ajzen (2012), exposure to actual or symbolic representations of the behaviour contributes to the formation of favourable or unfavourable attitudes.

Research findings on the effect of an entrepreneurial family background show mixed results. First, it has been found that an entrepreneurial family background has a positive influence on entrepreneurial intention and all its three TPB antecedents (Basu & Virick, 2008; Carr & Sequeira, 2007; Walter & Dohse, 2009). Second, some studies report that having parents who are self-employed positively influenced perceived behavioural

control only (Amofah & Saladrighes, 2022; Galvão et al., 2018). Third, some findings indicate that the effect of an entrepreneurial family background on entrepreneurial intention and its antecedents can be positive (Egerová et al., 2017), negative (Malebana, 2014; Zhang et al., 2014), non-significant (Gird & Bagraim, 2008; Malebana, 2016; Malebana & Zindiye, 2017; Tarek, 2016) or even vary among the antecedents (Feder & Nițu-Antonie, 2017; Palmer et al., 2021; Zapkau et al., 2015).

With regard to role models outside the family, Malebana (2016) found that knowing successful entrepreneurs in one's community do not have a significant relationship with entrepreneurial intention and all the three TPB antecedents. Additionally, having a friend who is an entrepreneur only had a significant relationship with perceived behavioural control and subjective norms while knowing other people who are entrepreneurs was positively related to entrepreneurial intention, attitude towards entrepreneurship, and subjective norms (Malebana, 2016). The findings of Malebana and Zindiye (2017) show that having friends and knowing someone who is an entrepreneur have a significant positive relationship with entrepreneurial intention. Yang (2017) found that role models impact positively on entrepreneurial intention of high school learners. Based on the foregoing review of the literature, the following hypotheses are proposed:

H_4 Entrepreneurial role models as a form of prior entrepreneurship exposure is significantly related to entrepreneurial intention.

H_{4a} Entrepreneurial role models as a form of prior entrepreneurship exposure is significantly related to the antecedents of entrepreneurial intention.

Figure 1 illustrates the hypothesised relationships.

Methodology

Population and sampling

Using a quantitative cross-sectional survey approach, the study involved a population of 2210 Grade 12 learners from 17 public schools in Mamelodi in the Gauteng province of South Africa. Grade 12 learners are final year students at the Further Education

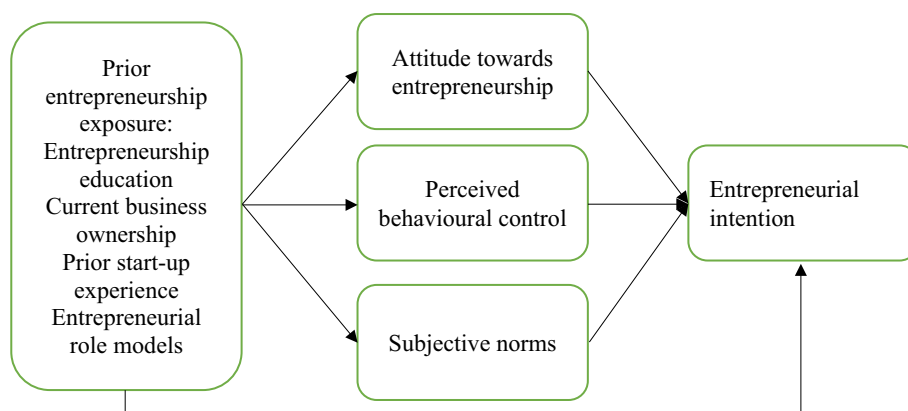


Fig. 1 Conceptual model depicting hypothesised relationships

and Training phase in South African public schools who are engaged in studies that will result in obtaining a Grade 12 certificate/school leaving certificate (Northern Cape Department of Education, 2023; Western Cape Education Department, 2003). The study sought to conduct a census in which all learners from the 17 schools could participate. However, due to permission not being granted in some schools, a convenience sample of 349 learners from 11 secondary schools, who were willing to participate, completed the questionnaire for the study.

Data collection and measures

Data were collected by means of a structured self-administered questionnaire, which was designed using measures from previous entrepreneurial intention studies (Liñán & Chen, 2009; Malebana, 2012). In line with the theory of planned behaviour, the dependent variable was entrepreneurial intention. As discussed in the literature, entrepreneurial intention is predicted by the independent variables: attitude towards entrepreneurship, perceived behavioural control and subjective norms (Ajzen, 2005, 2012). A five-point Likert scale was used to collect data on entrepreneurial intention, attitude towards entrepreneurship, perceived behavioural control and subjective norms (1=strongly disagree; 5=strongly agree). Prior entrepreneurship exposure in this study comprised entrepreneurship education (having done Business Studies as a subject), having entrepreneurial role models (in the family, friends, knowing someone who is an entrepreneur and successful entrepreneurs), current business ownership status and prior start-up experience. The four variables of prior entrepreneurship exposure were measured as categorical variables (Yes or No). Measures for entrepreneurship education, entrepreneurial role models, current business ownership status and prior start-up experience were adopted from Malebana (2012). To allow for testing the hypothesised relationships, all variables of prior entrepreneurship exposure were independent variables while entrepreneurial intention, attitude towards entrepreneurship, perceived behavioural control and subjective norms were dependent variables. Nominal type questions were used to obtain data relating to demographic characteristics (1 = Male, 2 = Female, 3 = Other). Data were collected after the study was granted ethical clearance by the Tshwane University of Technology Research Ethics Committee and the Gauteng Department of Education.

Data analysis and results

The Statistical Package for Social Sciences (SPSS) Version 28 was used for analysing the data. Data relating to the sample characteristics were analysed using descriptive statistics. The relationships between entrepreneurial intention, the antecedents of entrepreneurial intention and independent variable, prior entrepreneurship exposure was tested by means of hierarchical multiple regression. Reliability and validity of the measuring instrument were tested using Cronbach's alpha and exploratory factor analysis, respectively. Cronbach's alpha values ranged from 0.622 for attitude towards entrepreneurship, 0.625 for entrepreneurial intention, 0.641 for perceived behavioural control and 0.668 for subjective norms, indicating a moderately reliable scale as suggested by Hair et al. (2016).

Exploratory factor analysis results revealed the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy of 0.880. Since this value was greater than 0.70 the data supported

factor analysis (Hair et al., 2014), and indicated that one or more variables were predicted by other variables. The data had a significant value of $p < 0.0001$ (Chi-square = 2072.305, $df = 171$, $p = 0.000$) for Bartlett's test of sphericity, suggesting some significant correlations among variables and appropriateness of factor analysis.

Moreover, tests for linearity and multicollinearity were conducted to prevent violations of the assumptions of linear regression. The Durbin–Watson statistics was used to test the assumption of independence of errors and had scores ranging from 1.790 to 2.086, which were falling within the acceptable range of between 1 and 3. The variance inflation factors (VIF) which ranged from 1.016 to 1.168 indicated no violations of multicollinearity assumptions (Field, 2013). Furthermore, tolerance values ranged from 0.856 to 0.984, all above the suggested 0.2 and showing that multicollinearity assumptions were not violated.

Demographic profile of the respondents

A total of 349 Grade 12 learners from 11 secondary high schools in Mamelodi completed the entrepreneurial intention questionnaire as indicated in Table 1. From the 349 respondents, females accounted for 59%, while males accounted for 41%. In terms of

Table 1 Demographic characteristics of respondents

Variables	Description	Frequency	Percentage (%)
Gender	Male	143	41
	Female	206	59
	Total	349	100
Age	13–16 years	3	0.9
	17–21 years	343	98.2
	22 years and above	3	0.9
	Total	349	100
Entrepreneurship education	Yes	142	40.7
	No	207	59.3
	Total	349	100
Current business ownership status	Yes	45	12.9
	No	304	87.1
	Total	349	100
Family members run a business	Yes	146	42
	No	202	58
	Total	348	100
Friends run a business	Yes	99	28.4
	No	250	71.6
	Total	349	100
Knows someone who is an entrepreneur	Yes	248	71.1
	No	101	28.9
	Total	349	100
Prior start-up experience	Yes	150	43.1
	No	198	56.9
	Total	348	100
Knows successful entrepreneurs in the community	Yes	186	46.7
	No	163	53.3
	Total	349	100

age, the respondents between the ages of 17 and 21 accounted for 98.2%, those between the ages of 13 and 16 accounted for 0.9%, while those who were aged 22 and above also accounted for 0.9%. About 40.7% of the respondents had exposure to entrepreneurship education in the form of Business Studies. In terms of prior entrepreneurship exposure, about 12.9% were running their own business, 42% were from an entrepreneurial family background, 28.4% had friends who were running businesses, about 71.1% knew someone who is an entrepreneur, and 43.1% had tried to start a business before, while 46.7% knew a successful entrepreneur in the community.

Regression analysis results

Regression analysis results in Table 2 (Model 1) indicate that prior entrepreneurship exposure explained 11.2% of the variance in entrepreneurial intention. The results indicate that knowledge of successful entrepreneurs in the community, prior start-up experience and entrepreneurship education were significantly positively related to entrepreneurial intention. Knowledge of successful entrepreneurs in the community displayed the strongest effect on entrepreneurial intention, followed by prior start-up experience and entrepreneurship education. Prior entrepreneurship exposure variables such as current business ownership status, having family members and friends who are running businesses, and knowledge of someone who is an entrepreneur did not have a

Table 2 Hierarchical regression analysis models

	Entrepreneurial intention		Attitude towards entrepreneurship	Perceived behavioural control	Subjective norms
	Model 1	Model 2	Model 3	Model 4	Model 5
Independent variables					
Current business ownership status	0.078	0.024	0.053	0.089	0.059
Family members run a business	0.024	− 0.028	0.030	0.085	0.094
Friends run a business	0.052	0.032	0.027	− 0.004	0.081
Knows someone who is an entrepreneur	0.045	0.018	0.061	0.036	− 0.008
Prior start-up experience	0.139*	0.060	0.155**	0.039	0.138**
Knows successful entrepreneurs	0.178**	0.032	0.164**	0.175**	0.258***
Entrepreneurship education	0.122*	− 0.027	0.061	0.344***	0.104*
Attitude towards entrepreneurship		0.281***			
Perceived behavioural control		0.334***			
Subjective norms		0.161**			
Multiple R	0.335	0.631	0.306	0.439	0.400
R-square (R ²)	0.112	0.398	0.094	0.193	0.160
Δ Adjusted R ²	0.094	0.380	0.075	0.176	0.143
Δ F-ratio	6.121	22.247	5.001	11.561	9.241
Significance of F	0.000***	0.000***	0.000***	0.000***	0.000***

* p < 0.05, ** p < 0.01, *** p < 0.001

statistically significant relationship with entrepreneurial intention. Since entrepreneurship education and prior start-up experience as forms of prior entrepreneurship exposure were significantly related to entrepreneurial intention, H_1 and H_3 are supported. The results did not provide support for H_2 and therefore it was rejected. Regarding entrepreneurial role models, the results partially support H_4 because only knowledge of successful entrepreneurs was significant while others were not.

In Model 2, the results reveal that the addition of the antecedents of entrepreneurial intention increased the percentage of the variance in entrepreneurial intention from 11.2% to 39.8%. The results indicate that perceived behavioural control, attitude towards entrepreneurship and subjective norms were significantly positively related to entrepreneurial intention. While the results fully support the theory of planned behaviour, the effect of prior entrepreneurship exposure on entrepreneurial intention diminished. The results show that perceived behavioural control had a stronger influence on entrepreneurial intention, followed by attitude towards entrepreneurship and subjective norms.

Models 3, 4, and 5 tested the effect of prior entrepreneurship exposure on the antecedents of entrepreneurial intention. The results in Model 3 reveal that only prior start-up experience and knowledge of successful entrepreneurs in the community were significantly positively related to attitude towards entrepreneurship and explained 9.4% of the variance in the attitude towards entrepreneurship. Entrepreneurship education, current business ownership status, having family members and friends who are running businesses, and knowledge of someone who is an entrepreneur did not have a statistically significant relationship with the attitude towards entrepreneurship.

The results in Model 4 indicate that prior entrepreneurship exposure accounted for 19.3% of the variance in perceived behavioural control. Entrepreneurship education and knowledge of successful entrepreneurs in the community had a significant positive effect on perceived behavioural control. No significant relationship was found between perceived behavioural control and prior entrepreneurship exposure variables such as current business ownership status, prior start-up experience, having family members and friends who are running businesses, and knowledge of someone who is an entrepreneur.

Furthermore, findings in Model 5 show the existence of a significant positive relationship between prior entrepreneurship exposure and subjective norms. Prior entrepreneurship exposure accounted for 16% of the variance in subjective norms. Entrepreneurship education together with prior start-up experience and knowledge of successful entrepreneurs in the community were significantly positively related to subjective norms. Current business ownership status, entrepreneurial family background, having friends who run a business, and knowing someone who is an entrepreneur were not significantly related to subjective norms.

With regard to the effect of prior entrepreneurship exposure on the antecedents of entrepreneurial intention as per stated hypotheses, the results in Table 2, Models 3, 4 and 5 show that entrepreneurship education had a significant relationship with perceived behavioural control and subjective norms but not with attitude towards entrepreneurship. Entrepreneurship education exerted a greater effect on perceived behavioural control than subjective norms, indicating that it enhanced the perceived capability for starting a business. Thus, H_{1a} was partially supported. Since current business ownership status did not have a significant relationship with the antecedents of entrepreneurial

intention, H_{2a} could not be supported. Findings revealed that prior start-up experience was significantly related to two of the antecedents of entrepreneurial intention, namely attitude towards entrepreneurship and subjective norms. Therefore, H_{3a} is partially supported. In terms of entrepreneurial role models, only knowledge of successful entrepreneurs had a positive effect on all the three antecedents of entrepreneurial intention, with the greatest influence observed on subjective norms. Thus, the results partially support H_{4a} .

Discussion

This study investigated the influence of prior entrepreneurship exposure on entrepreneurial intention and its antecedents. The results revealed that not all forms of prior entrepreneurship exposure matter in the formation of entrepreneurial intention or impact the antecedents of entrepreneurial intention equally.

The findings indicate that current business ownership status, entrepreneurial family background, having friends who run businesses, and knowing someone who is an entrepreneur have no effect on entrepreneurial intention and its antecedents. The findings support those of prior studies which report non-significant relationship between entrepreneurial family background and entrepreneurial intention (Gird & Bagraim, 2008; Malebana & Zindiye, 2017; Tarek, 2016), and subjective norms and perceived behavioural control (Zapkau et al., 2015). These findings contradict those of previous research which reported significant relationships between these forms of prior entrepreneurship exposure and entrepreneurial intention (Cieřlik & van Stel, 2017; Egerová et al., 2017; Malebana, 2016; Malebana & Zindiye, 2017; Yang, 2017) or its antecedents (Amofah & Saladrighes, 2022; Basu & Virick, 2008; Carr & Sequeira, 2007; Galvão et al., 2018; Palmer et al., 2021; Walter & Dohse, 2009).

In contrast, a significant positive effect on entrepreneurial intention was observed when prior start-up experience, knowledge of successful entrepreneurs, and entrepreneurship education were tested. Prior start-up experience and knowledge of successful entrepreneurs were significantly positively related to attitude towards entrepreneurship while entrepreneurship education had no effect. Knowledge of successful entrepreneurs and entrepreneurship education had a significant positive relationship with perceived behavioural control, with entrepreneurship education having the greatest effect. No significant relationship was found between prior start-up experience and perceived behavioural control. Prior start-up experience, knowledge of successful entrepreneurs, and entrepreneurship education were significantly positively related to subjective norms, with knowledge of successful entrepreneurs having the greatest effect. Overall, the results indicate the importance of successful entrepreneurs, prior start-up experience and entrepreneurship education in the formation of entrepreneurial intention among the younger generation. Exposure to successful entrepreneurs and entrepreneurship education that highlights the successes of these entrepreneurs could help to inspire the younger generation to pursue the entrepreneurial career. While successful entrepreneurs impact more positively on learning and entrepreneurial intention, entrepreneurs who have experienced failure contribute meaningfully to entrepreneurial learning (Liu et al., 2019; Rae & Carswell, 2001).

The findings corroborate those of previous research which has found that prior start-experience is positively related to entrepreneurial intention (Bignotti & le Roux, 2020; Gird & Bagraim, 2008; Malebana & Zindiye, 2017), and attitude towards entrepreneurship (Basu & Virick, 2008; Garcia-Rodriguez et al., 2015) and subjective norms (König, 2016; Miralles et al., 2017). However, these results contradict the findings of Malebana (2016) on the effect of knowledge of successful entrepreneurs which was insignificant for both entrepreneurial intention and its antecedents. In terms of entrepreneurship education, the results corroborate the findings of prior research on the relationship between entrepreneurship education and entrepreneurial intention (Cui & Bell, 2022; Hou et al., 2022; Ni & Ye, 2012; Rauch & Hulsink, 2015; Utami, 2020; Wibowo et al., 2018; Xu et al., 2016; Yang, 2017), and attitude towards entrepreneurship and subjective norms (Abdullahi et al., 2021; Aragon-Sanchez et al., 2017; Dankanda & Madurapperuma, 2017; Muhammed et al., 2021). The results however, contradict previous research that has found a positive relationship between entrepreneurship education and perceived behavioural control (Boubker et al., 2022; Lawan et al., 2021; Mahlaole & Malebana, 2021; Otache et al., 2021; Rauch & Hulsink, 2015; Xu et al., 2016), and where the relationship between entrepreneurial intention and entrepreneurship education was insignificant (Adelaja & Minai, 2018; Egerová et al., 2017; Galvão et al., 2018; Lawan et al., 2021; Mahmoud et al., 2020; Malebana & Zindiye, 2017; Muhammed et al., 2021; Ndofirepi & Rambe, 2017; Samiono et al., 2018).

Additionally, in line with Ajzen's (2005, 2012) propositions, the effects of prior entrepreneurship exposure diminished when the theoretical predictors of intention were added in the model for predicting entrepreneurial intention. These findings suggest that the relationship between the different forms of prior entrepreneurship exposure and entrepreneurial intention can only exist in the absence of attitude towards entrepreneurship, perceived behavioural control and subjective norms as predictors. This means that the real effects of prior entrepreneurship exposure on entrepreneurial intention can only be determined with certainty when such effects are tested in combination with the theoretical antecedents of intention. The contribution of this study lies in showing that using single measures of prior entrepreneurship exposure could be misleading, as the findings indicate that not all forms of prior entrepreneurship exposure have a significant relationship with entrepreneurial intention and its antecedents.

Implications

The findings of this study have both theoretical and practical implications. Theoretically, studies that test the effects of prior entrepreneurship exposure would need to include all measures for the different forms of prior entrepreneurship exposure. That would help shed a better understanding on the real effects of prior entrepreneurship exposure on entrepreneurial intention. Testing such effects with the inclusion of the theoretical predictors of intention would help advance the theory of planned behaviour. This is vital as very few studies on secondary school learners from the reviewed studies have tested the effects of prior entrepreneurship exposure. Among those few, they only tested the direct effects of prior entrepreneurship exposure on entrepreneurial intention and in most cases have used single measures of prior entrepreneurship exposure.

On the practical side, it is evident from the findings that entrepreneurship education can be a tool for maximising exposure to entrepreneurship. First, there is a need to increase exposure of learners to entrepreneurship education in public schools to help stimulate entrepreneurial intention and impact positively on the antecedents of entrepreneurial intention. Secondly, identifying successful entrepreneurs in communities and inviting them to the classrooms as guest speakers is vital for the formation of entrepreneurial intention and to influence the antecedents of entrepreneurial intention. Third, entrepreneurship educators should adopt hands-on, practice-oriented teaching methods which provide learners with the opportunity to experiment with entrepreneurship. Lastly, government institutions responsible for entrepreneurship development and support should provide some kind of seed funding for schools to finance experiential or start-up projects for learners.

Limitations and directions for future research

The limitations of this study include its cross-sectional nature, which prevented tracking whether there is a link between prior entrepreneurship exposure, entrepreneurial intention and entrepreneurial behaviour. The study was conducted in Gauteng, the more urbanised province and economic hub of South Africa, and therefore the findings cannot be generalised to rural provinces and those least urbanised. Due to limited studies that tested the effect of prior entrepreneurship exposure on entrepreneurial intention among secondary school learners, there is a need for more studies of this nature in different countries and in other provinces of South Africa. Similar research is required based on student samples in higher education institutions which tests the effects of all forms of prior entrepreneurship exposure instead of relying solely on single measures.

Conclusion

The goal of this study was to test the effects of different forms of prior entrepreneurship exposure on entrepreneurial intention and its antecedents. The results revealed that contrary to the findings of prior research, not all forms prior entrepreneurship exposure impact the formation of entrepreneurial intention. Knowledge of successful entrepreneurs, prior start-up experience and entrepreneurship education have a significant positive influence on entrepreneurial intention and its antecedents. These findings, however, portray a different picture on the effects of entrepreneurial role models, as it is evident that not all role models have a positive effect on entrepreneurial intention and its antecedents. Having family members and friends who run a business had no effect on entrepreneurial intention and its antecedents. Similarly, current business ownership status played no significant role. These findings suggest that entrepreneurial intention research could benefit from testing the effects of multiple sources of prior entrepreneurship exposure instead of using single measures. Overall, while the findings of the current study confirm the importance of entrepreneurship education, they indicate that entrepreneurship educators should create opportunities for students to interact with successful entrepreneurial role models. In addition, entrepreneurship educators should make entrepreneurship education more experiential and allow students to experiment with their ideas.

Abbreviations

TPB	Theory of planned behaviour
SPSS	Statistical Package for Social Sciences
KMO	Kaiser–Meyer–Olkin
VIF	Variance inflation factors

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Author contributions

MNH conceptualised the study, collected the data and wrote part of the literature review. MMJ wrote the introduction, part of the literature review, methodology, results, discussion and conclusion and implications, limitations and future research.

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Availability of data and materials

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Declarations**Competing interests**

The authors declare that they have no competing interests.

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