ENTREPRENEURIAL ENVIRONMENT AS AN ANTECEDENT OF UNIVERSITY STUDENTS' ENTREPRENEURSHIP INTENTIONS

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ABSTRACT

The aim of the study was to develop a model for measuring entrepreneurship intentions among university students in the Faculty of Arts at the Tshwane University of Technology (TUT). The study investigated how the entrepreneurial environment affects the antecedents of entrepreneurial intention (attitude towards entrepreneurship, subjective norm, and perceived behavioural control). A sample of 150 final year students from the Faculty of Arts at TUT participated in this study. The data gathered were studied and analysed with the Structural Equation Modelling (SEM) method. The results provided evidence that subjective norm is an insignificant predictor of entrepreneurial intention compared to attitudes towards entrepreneurial behaviour and entrepreneurial self-efficacy. Perceived environment support was observed to directly relate to future Entrepreneurial Intentions and it mediates the relationship between Perceived University Environment, Perceived Entrepreneurial Abilities, and immediate Entrepreneurial Intentions. It is recommended that policymakers should consider the development of a coherent national policy framework that addresses entrepreneurship for the art/creative industries sector. Future research is recommended to fully evaluate the effectiveness of the impact that subject components in Entrepreneurship Education have on students' attitudes towards entrepreneurship, perceived entrepreneurial abilities, and Entrepreneurial Intentions.

Keywords: Arts and Creative Industries, Entrepreneurial Education, Entrepreneurial Environment, Entrepreneurial Intentions, University Support.

INTRODUCTION

Unemployment is a growing concern globally, but particularly in South Africa. The latest statistics in South Africa indicate that 43.2% of the country's working population (between 15 and 64 years of age) is unemployed. Of these, a clear majority (64.4%) are youths that include university graduates. Entrepreneurship is widely considered an important mechanism to drive sustainable economic growth through job creation, innovation and welfare effects (Schutte & Chauke, 2021; Van der Spuy, 2019). For example, the National Development Programme (NDP) in South Africa considers entrepreneurial development as the country's priority for socio-economic development (NDP, 2013).

These statistics also reveal that university graduates constituted a significant proportion of the unemployed in the first quarter of 2020, at 33.1%, an increase from 24.6% in the 4th quarter of 2019. Furthermore, it is critical to understand the impact of the education system crisis in South Africa and its impact on economic and entrepreneurial development (Bowmaker-Falconer & Herrington, 2020). The Global Entrepreneurship Monitor (GEM) notes that entrepreneurial activity in South Africa, although very low for a developing nation, has increased marginally over the last 10 years. However, in 2014, it dropped by a staggering 34% (from 10.6% to 7%) (Herrington et al., 2014).

The Global Entrepreneurship Monitor (GEM) presents that there has been a "*significant increase from 2017 (43.2%) to 60.4% in 2019 in the number of individuals who perceive that in South Africa there are good entrepreneurial opportunities*" (Bowmaker-Falconer & Herrington,

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2020). South Africa has a supportive entrepreneurial development structure, which should theoretically encourage entrepreneurial activity, but this is not the case as there are several barriers faced by entrepreneurs. The question of how to drive enterprise development and entrepreneurship is an urgent one (Msimango-Galawe & Hlatshwayo, 2021). Students theoretically learning about entrepreneurship, give the impression that they are ready for venturing into business, yet they do not have the practical skills to be involved in it. It becomes important to determine which factors influence the antecedents of actual entrepreneurial activity among students.

The body of knowledge in this area has consistently linked three immediate antecedents of entrepreneurial intention to entrepreneurial intention: attitude towards entrepreneurship, subjective norm, and perceived behavioural control (Ebewo et al., 2017a; Moriano et al., 2012, Ajzen, 1991; 2011; 2002; Engle et al., 2010). However, the body of existing knowledge is limited in testing the mediating effect of environmental factors on both the antecedents of entrepreneurial intention and entrepreneurial intention, particularly within the South African Arts and Creative Industries.

The primary purpose of this paper is to develop a model for measuring entrepreneurship intentions among art students at universities. Research in this paper measures two effects: entrepreneurial environment on Entrepreneurial Intentions of art students at university, and the mediating effects of the antecedents of entrepreneurial intention (Attitude towards entrepreneurship, subjective norm, and perceived behavioural control), using the Theory of Planned Behaviour (TPB), on entrepreneurial environment, of Ajzen (1991). The findings of this study have important implications, as they provide managers and stakeholders of Higher Education in South Africa with a framework on entrepreneurship development within the Cultural and Creative Industries.

RESEARCH PROBLEM, QUESTION, AND HYPOTHESES

Given the critical role of student entrepreneurship in attaining development goals in the context of ballooning unemployment, the research problem for the study is expressed as:

Despite the unique value that the Arts/Creative Industry possesses to stimulate job creation in South Africa, art graduates are still reluctant to consider entrepreneurship as a viable career option, even in an environment of high job scarcity (European Commission et al., 2010).

Research Question

To resolve the above-stated research problem, the research question is formulated as follows:

To what extent do the variables in the entrepreneurial environment, in the form of Perceived Environmental Support, Perceived University Environment, and Entrepreneurship Education, affect the antecedents of entrepreneurial intention (Attitude towards entrepreneurship, subjective norm and perceived behavioural control) and entrepreneurial intention?

Research Hypotheses

To aid investigation of the stated research question, and based on the theoretical assumptions of the adopted conceptual model of entrepreneurial behaviour intentions, the following hypotheses are formulated:

H_1: *Students' attitude towards entrepreneurship as a career option mediates the relationship between:*

H_{1a}: *Perceived environment support and Entrepreneurial Intentions*

H_{1b}: *Perceived university environment and Entrepreneurial Intentions*

H_{1c}: *Entrepreneurship Education and Entrepreneurial Intentions*

H_2: *Students' Perceived Entrepreneurial Abilities mediate the relationship between:*

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H_{2a}: *Perceived environment support and Entrepreneurial Intentions*

H_{2b}: *Perceived University Environment and Entrepreneurial Intentions*

H_{2c}: *Entrepreneurship Education and Entrepreneurial Intentions*

H_3: *Students' subjective norm mediates the relationship between:*

H_{3a}: *Perceived environment support and Entrepreneurial Intentions*

H_{3b}: *Perceived University Environment and Entrepreneurial Intentions*

H_{3c}: *Entrepreneurship Education and Entrepreneurial Intentions*

LITERATURE REVIEW

Entrepreneurship

The word '*entrepreneurship*' has varying definitions, but common themes emerge (Byrd, 1987; Prokopenko & Pavlin, 1991; Petrin, 1994; Kalitanyi & Visser, 2010). The word '*entrepreneurship*' is derived from the French entreprendre, meaning to undertake, interpreted to mean to pursue opportunities, fulfill needs and wants through innovation (Hisrich et al., 2005). Entrepreneurship can be defined as "*the mind set and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management within a new or an existing organization*" (European Commission, 2003). The way in which entrepreneurs discharge these functions would often, although not exclusively, be through the creation of a new firm, as defined by Hart (2003) who sees entrepreneurship essentially as the "*process of starting and continuing to expand new businesses*".

Entrepreneurial Intentions

According to Vesalainen & Pihkala (1999), intention is defined as, "*a state of mind directing a person's attention toward a specific object or path in order to achieve something*." Rivis & Sheeran (2003) note that intentions summarize a person's motivation to act in a particular manner and they indicate how hard the person is willing to try and how much time and effort he or she is willing to devote to perform the behaviour. Entrepreneurial intention refers to the intention of an individual to start a new business (Engle et al., 2010) and it is a strong indicator of potential entrepreneurship (Malebana, 2014). Entrepreneurial intentions are aimed at either creating a new venture or creating new values in existing ventures (Bird, 1988). In addition, entrepreneurship intention is defined as the growing conscious state of mind that a person desires to start a new enterprise or create new core value in an existing organization (Remeikiene & Startiene, 2013; Obschonka et al., 2010).

Theories that predict Entrepreneurial Intentions, include the Theory of Planned Behaviour (TPB) (Ajzen, 1991); Theory of the Entrepreneurial Event (Shapero & Sokol, 1982); the model of implementing entrepreneurial ideas (Bird, 1988); and the Maximisation of Expected Utility model (Douglas & Shepherd, 2002). Across all these cognition-based theories, an individual's perceptions, or cognitions, serve as the primary explanatory mechanism for the formation of behavioural intentions. However, the Theory of Planned Behaviour (Ajzen, 1991) has proved to be a robust model of behavioural intention that accounts well for factors in decision-making. Unlike other models, the Theory of Planned Behaviour enables the understanding and prediction of entrepreneurial intention by considering not only personal, but also social factors such as Entrepreneurship Education and environmental factors (Sondari, 2014) which are utilized in this paper.

In the TPB, entrepreneurship is viewed as a planned behaviour (Sondari, 2014), which can be predicted by the intention to engage in entrepreneurial behaviour (Miller et al., 2009). Lortie &

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Castogiovanni (2015) note that entrepreneurship is an intentional process in which individuals cognitively plan to carry out the behaviours of opportunity recognition, venture creation, and venture development. Hence, forming an intention to develop an entrepreneurial career is the first step in the often-long process of venture creation (Gartner et al., 1994). The Theory of Planned Behaviour has emerged as an important framework for understanding, predicting, and changing human social behaviour. The Theory of Planned Behaviour outlines three key factors that influence an individual's intention to perform a given behaviour: attitude toward the behaviour, subjective norm, and perceived behavioural control.

The Theory of Planned Behaviour is an extension of the theory of reasoned action -TRA (Azjen & Fishbein, 1980), made necessary by the original model's limitations in dealing with behaviours of which people have incomplete volitional control. According to Southey (2011), the theory of reasoned action provided a model used in predicting the intention to perform behaviour based on an individual's attitude toward the behaviour and his/her subjective norm. Perceived behavioural control (PBC) was added to the theory of reasoned action to develop the theory of planned behaviour, to account for factors outside an individual's volitional control that may affect his/her intentions and behaviour (Ajzen, 1991). According to Ajzen (2002), perceived behavioural control was based on the idea that behavioural performance is determined by both motivation (intention) and ability (behavioural control) (Figure 1).

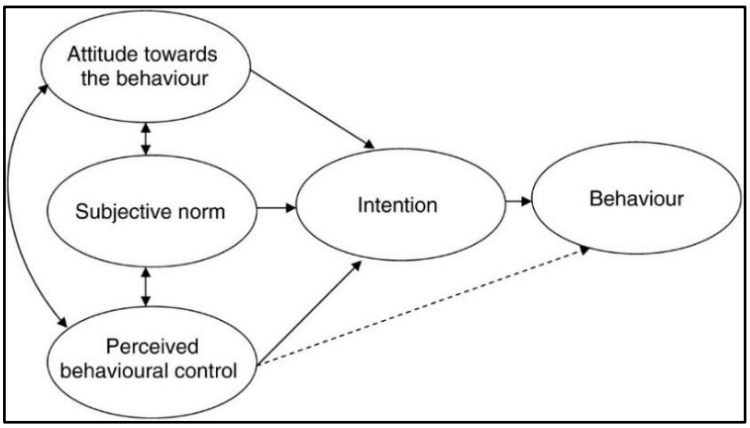

FIGURE 1
AJZEN'S THEORY OF PLANNED BEHAVIOUR

Entrepreneurial Environment

Some researchers have studied entrepreneurs' personalities and traits to distinguish them from that of others and have focused on how environmental factors affect new venture creation rates (Zgheib & Kowatly, 2011; Sadeghi et al., 2013; Hejase et al., 2014). In addition to personality traits, environmental factors impact on the Entrepreneurial Intentions of individuals (Sesen, 2013). Environmental factors are often viewed as '*gap fillers*' in the relationship between personality traits and Entrepreneurial Intentions. Since the impact of personality traits on Entrepreneurial Intentions is not linear, and the findings regarding the significance of the effects that those traits have on Entrepreneurial Intentions are often contradictory, many authors have discussed the impacts of certain environmental factors (Franco et al., 2010).

Krueger & Brazeal (1994) state that environmental factors, such as contextual element or contextual factors, affect entrepreneurial environment. These can have a stronger effect on entrepreneurial intention than on personality factors (Amos & Alex, 2014). However, Krueger et al. (2000) demonstrate that both effects are indirect as they have an effect through attitudes (desirability)

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or self-efficacy (feasibility). Fini et al. (2009) argue that external factors in the form of '*Perceived Environmental Support*' play a role in increasing entrepreneurial intention through perceived behaviour control and entrepreneurial self-efficacy.

In this paper, the external environmental factor is expressed in instrumental readiness that can directly or indirectly have an influence, through self-efficacy, on entrepreneurial intention. Fogel (2001) found that conducive entrepreneurial environment is an essential factor in the development of entrepreneurship. Environmental factors that affect the entrepreneurial intention include legal rules, government support measures, and procedures to start a new business (Stephen et al., 2005). Gnyawali & Fogel (1994) grouped these entrepreneurial environments into five broad categories: government policies and procedures, socio-economic conditions, entrepreneurial and business skills, financial assistance, and non-financial assistance. For this study, entrepreneurial environments are grouped as university environment, Entrepreneurship Education and Perceived Environmental Support.

Environmental supports are entrepreneurial activities that may also be explained by the influences of the surrounding business environment. These include government policies, characteristics of the local context (e.g., availability of logistic infrastructure, financial investors, and externalities) and more specifically, university support mechanisms that influence entrepreneurial activities (Morris & Lewis, 1995; Fini et al., 2009). Governments intervene with funding schemes, tax policies and other support mechanisms that are aimed at mitigating market inefficiencies and promoting entrepreneurship (Lerner, 2000; Lerner, 2004). Entrepreneurial support services, such as training opportunities, small loans, and business plan competition (Der Foo et al., 2005; Hejase et al., 2014), have been identified as leading factors in the support of entrepreneurship.

Research has found that significant environmental antecedents of Entrepreneurial Intentions include access to capital (Schwarz et al., 2009), knowledge of the potential business sector (Kristiansen & Indarti, 2004), social networks (Sequeira et al., 2007; Wilson et al., 2009), and the educational system (Packham et al., 2010). Similarly, Chowdhury (2007) indicates that in developing countries, additional factors, such as political instability, corruption, lack of infrastructure, education, and training, as well as a lack of financial support, pose severe challenges to entrepreneurial success. According to Naudé & Havenga (2004), the younger generation finds it extremely difficult to access existing support mechanisms. Supporting this claim, Azapo asserts that there is a lack of efficient support systems that are accessible to the younger entrepreneurs. Therefore, this study assumes that entrepreneurial environment (perceived environment support, perceived university environment and Entrepreneurship Education) has a direct relationship with entrepreneurial intention, and this study refers to the entrepreneurial environment as perceived environment support.

Conceptual Model

The conceptual model, presented in Figure 2, presents the constructs upon which the paper is based, and indicates the relationships between these constructs. Based on the reviewed literature, entrepreneurship intention in this study is the dependent variable, and attitude towards entrepreneurship, subjective norms and perceived entrepreneurial abilities are considered as mediating variables. Perceived environmental support, Entrepreneurship Education and Perceived University Environment are independent variables.

The variables of Entrepreneurship Education and Perceived University Environment are incorporated in the research model, adapted from Ajzen's (2011) Theory of Planned Behaviour, as these are important exogenous factors that directly influence students' inclination towards entrepreneurship (Ajzen, 1991). The research model assumes that whether students have participated in Entrepreneurship Education will reveal some clear differences among the other constructs.

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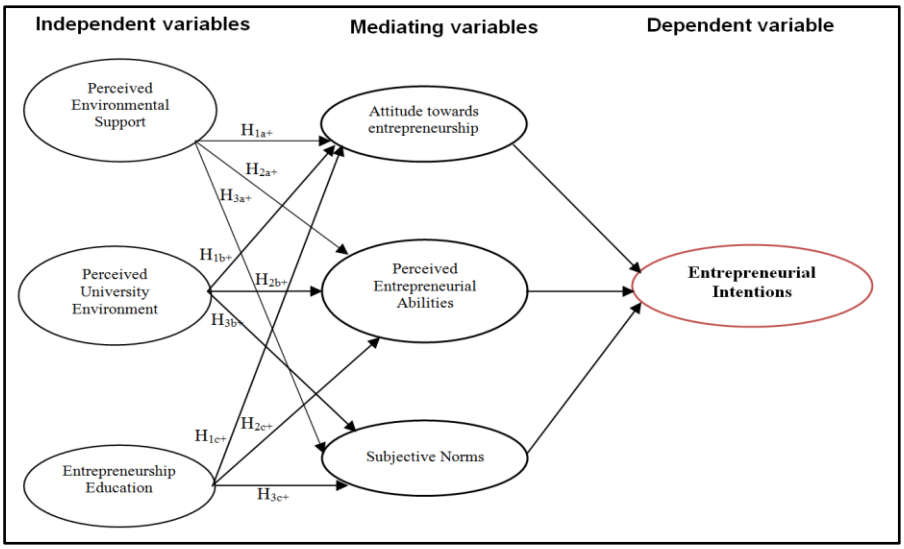

FIGURE 2
CONCEPTUAL MODEL AND HYPOTHESIZED RELATIONSHIPS

The constructs derived from the Theory of Planned Behaviour have been proven to explain an important part of the variance in a wide variety of behaviour, and they have become standard incorporations in most recent Entrepreneurial Intentions frameworks (Sondari, 2014). Also, since individuals do not exist and do not act in isolation, they also take environmental conditions into account in their decision-making processes, it is proper to understand entrepreneurial intention in this context (Schwarz et al., 2009).

RESEARCH METHODOLOGY

Research Design and Sampling

The nature of the study is descriptive and cross-sectional. It seeks to provide insights into the relationship between entrepreneurial environment and students' entrepreneurship intentions and perceptions. Cross-sectional design was chosen for this study for its success in previous studies in the discourse on entrepreneurship. Simple random sampling was utilized to collect data from final year students studying in the Faculty of Arts at the Tshwane University of Technology South Africa. Simple random sampling was judged as suitable for this work as a representative group is easy to find, classification errors are removed, it is financially reasonable and takes less time. 150 final year students in the Faculty of Arts at the Tshwane University of Technology participated in this research. They were a good fit for the study as they have gone through the entrepreneurial syllabus at the university in the last years and could better provide data for the research. These students were leaving the university soon and would either decide to start their own enterprise or be employed by a corporation; hence this study was pertinent to them. A study of university students is appropriate to reconsider policies that favor students, and for public decision-makers who develop support programmes for entrepreneurship (Nieuwenhuizen & Swanepoel, 2015).

Data Collection

The data collection instrument was constructed from the adapted Theory of Planned Behaviour that was used to investigate the mediating effects of the antecedents of entrepreneurship intention on entrepreneurial environment and entrepreneurship intention. The proposed conceptual model highlights seven main variables of entrepreneurship intention: Attitude towards entrepreneurship, Subjective Norms, Perceived Entrepreneurial Abilities, Perceived Environmental

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Support, Entrepreneurship Education and Perceived University Environment, operationalized by entrepreneurship intention. Scales developed in previous studies were adapted to suit the respective conditions in South Africa. The questionnaire comprised two parts: the respondents' demographics and measurement scales sections. A 5-level Likert scale and structured questions were used.

Data Analysis

Data from the questionnaires were captured on a spreadsheet and analyzed using the Statistical Product and Service Solutions (SPSS) version 21 (IBM product since, 2009) (Hejase & Hejase, 2013) and STATA v.13. Both descriptive and several multivariate techniques were used. The analysis was conducted in several stages using correlational analysis, independent t-tests, multiple regression analysis, repeated-measures, and Structural Equation Modelling (SEM) methods. Cronbach's alpha was used to measure the reliability of the multi-item scales of the questionnaire. Except for entrepreneurship intention, whose reliability score was below 0.7, all remaining scales were observed to have very high measures of reliability, exceeding 0.7. According to Hejase & Hejase (2013), an alpha value of 0.8 or above is regarded as highly acceptable for assuming homogeneity of items, while an alpha value that is greater than 0.7 is considered appropriate even though this value could be as low as 0.6 for exploratory research (Table 1). However, due to the concern about Cronbach's alpha being less than 0.6, further investigation into the cause is carried out. In fact, Taber (2018) quoting Van Griethuijsen et al. (2015), found that their use of an overall Cronbach's alpha of 0.446, the justification on continuing with their analysis using the data collected in these administrations, by arguing that "*slightly increasing the number of items would lead to acceptable values for Cronbach's alpha*" (Van Griethuijsen et al., 2015). The aforementioned Cronbach's alpha is still lower than this research alpha of 0.550 and 0.567. Finally, Chehimi et al. (2019) contend that Cronbach's alpha values falling in the range 0.5-0.6, 0.7-0.8 and 0.8-0.9 are labelled "*Fair*". "*Good*" and "*Very Good*", respectively (Burns & Burns, 2008; Hejase & Hejase, 2013) indicate "*a very good strength of association and proves that the selection of the questions is suitable for the questionnaire purpose*."

Table 1
CRONBACH'S ALPHA FOR THE SUB-SCALES

Variable	Cronbach's Alpha	No of Items
Attitude towards entrepreneurship (ATE)	0.768	3
Subjective Norms (SNorm)	0.735	4
Perceived Entrepreneurial Abilities (PEAbilities)	0.92	16
Immediate Entrepreneurship Intention (Intent_I)	0.55	4
Future Entrepreneurship Intention (Intent_F)	0.567	2
Entrepreneurship Education (EEdu)	0.899	5
Perceived Environmental Support (PESup)	0.808	5
Perceived University Environment (PUniE)	0.735	7

RESULTS

Demographics Characteristics of the Sample

The total sample size is 150 respondents. This population is broken down into: Department of Performing Arts 30 (20%), Drama and Film 37 (24.7%), Entertainment Technology 10 (6.7%), Fashion Design 18 (12%), Applied Fine Arts 23 (15.3%), and Visual Communication 32 (21.3%).

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Male respondents are 52% (78) and 48% (72) are femalea. Most respondents (88%) are below 25 years, 10% are 26-35 years and 2% are older than 36 years. Only 93 (62%) respondents indicated they participated in Entrepreneurship Education-related subjects.

Although this clearly indicates that the university is trying to foster entrepreneurship among its students, 38% of respondents did not consider any of their subjects as entrepreneurial education. This is the data from the experience of students attending subjects they consider to be entrepreneurship-related: 20.7% Arts Administration, Producing 13.3%, Textile Design Practice 9.3%, Business Studies 7.3%, Communication 8%, and Professional Practice 3.3%. Additionally, the demographics and sample used in this work are the same demographics and sample which formed part of a doctoral thesis and have been published in a separate work (Ebewo et al., 2017a). However, the data are used uniquely in this current paper.

Tests of the Conceptual Model

The conceptual model (Figure 2) contains the research hypotheses derived from the assumptions of the antecedents of Entrepreneurial Intentions – the independent variables (Perceived Environmental Support, Perceived University Environment and Entrepreneurship Education), mediating variables (Attitude towards entrepreneurship, Perceived Entrepreneurial Abilities, Subjective Norms) and the dependent variables (Entrepreneurial Intentions).

The model fit was evaluated by Chi-square and Normed X^2/df value, coupled with other model fit indices like Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) (Ebewo et al., 2017b). The recommended cut-off value for the fit indices was based on recommendations from previous works (Hair et al., 2010; Hu & Bentler, 1999). In this study, a good model fit is shown with a value greater than 0.90 for CFI and TLI, and a value of less than 0.08 for RMSEA. However, a case of a relatively (fair) fit between the hypothesised model and observed data is placed at a cut-off value close to 0.95 for TLI, CFI, and a cut-off value close to 0.06 for RMSEA (Hu & Bentler, 1999; Hair et al., 2010).

The initial conceptual model (Table 2) (CFI=0.697, TLI=0.241, RMSEA=0.189, Chi-Square: 202.225, CD (R^2): 0.407) did not produce an acceptable model fit. This was reworked and a suitable model fit was developed. A total of ten indicators were eliminated based on modification indices. The improvement on the former model was done with a conservative strategy (a pattern which ensures that error terms are not covaried). Furthermore, the freeing of cross-loadings was also not allowed since the existence of significant cross-loading indicated a lack of construct validity (Hair et al., 2010).

Table 2
STRUCTURAL EQUATION MODEL: CONCEPTUAL MODEL

		Coef.	OIM Std. Err.	Z	P>|z|
Structural ATE <-					
	PESup	0.1087533	0.0514832	2.11	0.035
	PUniE	-0.0473803	0.0581885	-0.81	0.415
	EEdu	0.1905627	0.0527715	3.61	0
	_cons	7.360036	1.094403	6.73	0
PEAbilities <-					
	PESup	0.457144	0.190608	2.4	0.016
	PUniE	0.2189549	0.2155768	1.02	0.31
	EEdu	0.8141812	0.1932964	4.21	0
	_cons	38.60713	4.009554	9.63	0
SNorm <-					

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	PESup	0.0525588	0.0568043	0.93	0.355
	PUniE	0.0022143	0.0641524	0.03	0.972
	EEdu	0.2245511	0.0568885	3.95	0
	_cons	11.11908	1.194816	9.31	0
Intent_F <-					
	ATE	0.1996966	0.0748536	2.67	0.008
	PEAbilities	0.0448899	0.0193874	2.32	0.021
	SNorm	-0.0157818	0.0656776	-0.24	0.81
	_cons	2.369453	1.17032	2.02	0.043
Intent_I <-					
	ATE	0.1939431	0.0966301	2.01	0.045
	PEAbilities	0.1297878	0.0250276	5.19	0
	SNorm	-0.0364825	0.0847846	-0.43	0.667
	_cons	4.995384	1.510792	3.31	0.001
LR test of model vs. saturated: $chi^2(10) = 63.78$, $Prob>chi^2=0.0000$					

Fit statistic	Value	Description
Likelihood ratio		
chi^2_ms(10)	63.775	model vs. Saturated
$p>chi^2$	0	
chi^2_bs(25)	202.225	baseline *vs.* saturated
$p>chi^2$	0	
Population error		
RMSEA	0.189	Root mean squared error of approximation
90% CI, lower bound	0.147	
upper bound	0.235	
pclose	0	Probability RMSEA <= 0.05
Information criteria		
AIC	6097.147	Akaike's information criterion
BIC	6199.509	Bayesian information criterion
Baseline comparison		
CFI	0.697	Comparative fit index
TLI	0.241	Tucker-Lewis index
Size of residuals		
CD	0.407	Coefficient of determination

The revised conceptual model (Table 3) is an improvement on Table 2, especially regarding accounting for covariations (Figure 3). The chi-square test is a good example to see how advanced Table 3 is to Table 2; the reported fit indices also showcase this improvement. The revised model resulted in Chi-Square: 239.314, $p<0.05$. With TLI of 1.019, RMSEA=0.000 and CD (R^2): 0.497. The CFI was 1.000. This shows that the entire data covariation could be recreated by employing the hypothesised model.

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Table 3
STRUCTURAL EQUATION MODEL: REVISED CONCEPTUAL MODEL

		Coef.	OIM Std. Err.	Z	P>|z|
Structural ATE <-					
	PEAbilities	0.1010054	0.0194732	5.19	0
	SNorm	0.2171069	0.0694128	3.13	0.002
	_cons	1.876233	1.26735	1.48	0.139
PEAbilities <-					
	PESup	0.4718977	0.1568834	3.01	0.003
	SNorm	1.195213	0.2570082	4.65	0
	EEdu	0.6402408	0.1957623	3.27	0.001
	_cons	25.73529	4.795758	5.37	0
PESup <-					
	PUniE	0.5539517	0.073933	7.49	0
	_cons	6.62382	1.174287	5.64	0
Intent_F <-					
	ATE	0.2531943	0.0644334	3.93	0
	PESup	0.0747832	0.0365947	2.04	0.041
	_cons	3.233971	0.8595154	3.76	0
Intent_I <-					
	ATE	0.1836547	0.093683	1.96	0.05
	PEAbilities	0.1265418	0.0238783	5.3	0
	_cons	4.735343	1.385511	3.42	0.001
LR test of model vs. saturated: $chi^2(15)=12.51$, Prob>chi^2 = 0.6399					

Fit statistic		Value	Description
Likelihood ratio			
	chi^2_ms(15)	12.512	model vs. Saturated
	p>chi^2	0.64	
	chi^2_bs(25)	239.314	baseline vs. Saturated
	p>chi^2	0	
Population error			
	RMSEA	0	Root mean squared error of approximation
	90% CI, lower bound	0	
	upper bound	0.065	
	pclose	0.882	Probability RMSEA ≤ 0.05
Information criteria			
	AIC	6035.883	Akaike's information criterion
	BIC	6123.192	Bayesian information criterion
Baseline comparison			
	CFI	1	Comparative fit index
	TLI	1.019	Tucker-Lewis index
Size of residuals			
	CD	0.496	Coefficient of determination

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Figure 3 illustrates the revised conceptual model:

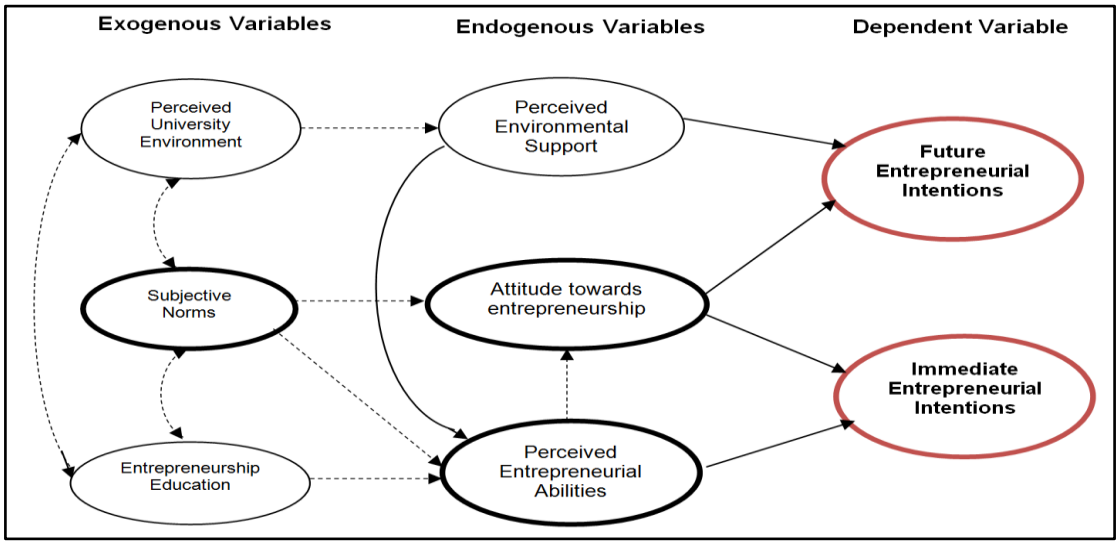

FIGURE 3
REVISED CONCEPTUAL MODEL

Tests of Mediating Effects of Variables on Entrepreneurial Intentions

The overall objective of the study was to investigate the mediating effects of the antecedents of entrepreneurship intention on entrepreneurial environment and entrepreneurship intention in South Africa. While this could easily be achieved by means of traditional regression analysis, such an approach fails to explain why and how the variables are related. To achieve the latter, mediation analysis (MacKinnon, 1994) was used.

For Immediate Intention, complete and partial mediated effects were observed between all independent and only two AEI variables. For instance, Table 3 shows that the composite variable of Perceived Entrepreneurial Abilities had a direct high statistically significant effect on the dependent variable [coefficient=0.130; (p=0.000)]. Additionally, its relationship with Perceived Environmental Support and Entrepreneurship Education was also highly statistically significant at $p<0.016$ and $p<0.000$, respectively. Attitude towards entrepreneurship has a direct statistically significant effect on the dependent variable [coefficient=0.194; (p=0.045)]. Its relationship with Entrepreneurship Education was also highly statistically significant ($p<0.000$) and against Perceived Environmental Support was also significant ($p<0.035$).

However, it was also observed that some mediation tests failed at the various stages of mediation analysis. For instance, because Subjective Norms yielded non-significant results (p=0.667) when regressed on the immediate entrepreneurial intention, it therefore failed at Step 1. Likewise, the relationship between Attitude towards entrepreneurship and Perceived Entrepreneurial Abilities with Perceived University Environment, yielded non-significant results ($p<0.415$ and $p<0.310$, respectively). Notwithstanding this, AEI (Attitude towards entrepreneurship and Perceived Entrepreneurial Abilities) was observed to mediate the relationship between independent variables (Perceived Environmental Support and Entrepreneurship Education) and Immediate Entrepreneurial Intention.

Similarly, complete and partial mediated effects were observed between all independent and only two AEI variables for Future Intentions, as Attitude towards entrepreneurship had a direct high statistically significant effect on the dependent variable [coefficient=0.20; (p=0.008) and Perceived Entrepreneurial Abilities [coefficient=0.045; (p=0.021)]. With statistically non-significant results (p=0.810) when regressed on the Future Entrepreneurial Intention, Subjective Norms yet again failed

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at Step 1. Following Table 3 above, AEI (Attitude towards entrepreneurship and Perceived Entrepreneurial Abilities) was observed to mediate the relationship between all three independent variables (Perceived Environmental Support, Perceived University Environment and Entrepreneurship Education) and Future Entrepreneurial Intention. Thus, AEI, as a mediator, allowed for meaningful investigation of relationships between independent and dependent variables.

Mediation tests results indicate that Attitude towards entrepreneurship and Perceived Entrepreneurial Abilities, were observed to mediate the relationship between three independent variables (Perceived Environmental Support, Subjective Norm and Entrepreneurship Education) with Immediate Entrepreneurial Intention. Similarly, Attitude towards entrepreneurship and Perceived Environmental Support were observed to mediate the relationship between four independent variables (perceived entrepreneurial abilities, Perceived University Environment, subjective norm, and Entrepreneurship Education) and future entrepreneurial intention.

DISCUSSION

Given that Antecedents of Entrepreneurship Intention (AEI) mediates between entrepreneurial intention and the antecedent predictors, it implies that AEI has a positive relationship ($p < 0.05$) with the former of the mediation test. The latter findings are consistent with previous studies, which found AEI to be a reliable driver of students' entrepreneurial intention (Engle et al., 2010). Hence, this provides further reassurance that its inclusion in the conceptual model was worthwhile. Consequently, AEI as a mediator, allowed for meaningful investigation of relationships between independent and dependent variables.

The structural model output in Tables 2 & 3, as well as the results of tests of mediation, indicate that Hypotheses 1 and 2 are generally supported. Attitude towards entrepreneurship as a career option and Perceived Entrepreneurial Abilities of students both influence Entrepreneurial Intentions positively (that is immediate and future intentions). Except for Perceived University Environment where Attitude towards entrepreneurship and Perceived Entrepreneurial Abilities yielded non-significant results ($p<0.415$ and $p<0.310$, respectively), both Hypotheses 1 and 2 can be accepted at a $0.000\leq p<0.035$ statistical significance level. These findings correspond with past research (Movahedi & Fathi, 2011). Furthermore, attitude mediates the relationship between entrepreneurial self-efficacy and intentions, which was also found in the study by Izquierdo & Buelens (2011).

This confirms that attitudes can be viewed as the steppingstone to Entrepreneurial Intentions. To increase the level of entrepreneurial initiative among students, it is necessary to increase positive attitudes towards entrepreneurship. Research has shown that an individual's behaviour is highly influenced by a confidence in their ability to perform the necessary behaviour to be successful (Swann et al., 2007). The study results correspond to past empirical studies (Chen et al., 1998; Zhao et al., 2005) that individuals with high entrepreneurial self-efficacy are more likely to be entrepreneurs than those with low entrepreneurial self-efficacy. Therefore, the perceptions of students as to whether they intend to start a business are greatly influenced by whether they think they have the necessary capability to do so (Herrington et al., 2014).

Subjective Norms yielded non-significant results ($p=0.667$; $p=0.810$) when regressed on the immediate entrepreneurial intention and future entrepreneurial intention, respectively. There is no direct relationship between Subjective Norms and Entrepreneurial Intention, which corresponds to findings in past research (Krueger et al., 2000). However, other studies that found a significant impact of Subjective Norms on intentions (Engle et al., 2010; Kolvereid, 1996) propose that one explanation could be differences in the measurement of Subjective Norms across studies. Notwithstanding, the revised model suggests that Attitude towards entrepreneurship and Perceived Entrepreneurial Abilities mediates the relationship between Subjective Norms and entrepreneurial intention. Therefore, based on the evidence from the data analysis with regards to Subjective Norms,

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Hypothesis 3: 'Students' subjective norm positively mediates the relationship between, Perceived Environment Support, Perceived University Environment, Entrepreneurship Education and Entrepreneurial Intentions', is rejected.

The research question seeks to measure the effects of entrepreneurial environment on art students' Entrepreneurial Intentions. Overall, results observed in this study confirmed that Attitude towards entrepreneurship and Perceived Entrepreneurial Abilities are indeed an important determinant for entrepreneurial intention. Upon the revision of the structural model (above) the following were observed:

1. Environment support affects Entrepreneurial Intention as it gives meaning to University Environment and Entrepreneurship Abilities. It is concluded that the increased belief in environment support factors, such as favourable government policies and procedures (regulatory requirements and labour laws), entrepreneurial and business skills programmes, financial assistance, and non-financial assistance, would positively influence and increase art students' entrepreneurial intention.
2. University environment has a great effect on entrepreneurial intention, thus increase in perceived environment support might influence students to be entrepreneurs. Enterprise education should be compulsory.
3. Enterprise education develops students' entrepreneurship abilities and thus high entrepreneurial intention, with students who will be business developers in the changing business environment (Herrington et al., 2014; Volkmann et al., 2015). Participation in Entrepreneurship Education indirectly influences students since they learn how to identify opportunities and how to start up a business.

Theoretical Implications

It is interesting to note that Subjective Norms have no direct relationship with entrepreneurial intention. However, the revised model suggests that Attitude towards entrepreneurship and Perceived Entrepreneurial Abilities mediate the relationship between Subjective Norms and entrepreneurial intention. Furthermore, the research notes the difference observed between students' immediate entrepreneurial intention (within 12 months after graduation) and future entrepreneurial intention (5 ≤ years <10 after graduation). In addition, this study contributes to the literature of the Theory of Planned Behaviour, by concluding that perceived environment support should be included as an important variable and predictor of Entrepreneurial Intentions. Lastly, participation in Entrepreneurship Education (which is correlated with university environment) positively influences students' immediate intentions to become an entrepreneur by increasing their entrepreneurial abilities (self-efficacy).

Managerial Implications

Practical implications for educators

Enterprise education should be made more practical than theoretical for students to know what the entrepreneurship process is like and learn to develop their ventures through sustainable strategies. The school curriculum should include a project or practice-based learning process, rather than theory, to make learning relevant to a range of applications. This will develop venture creation skills.

Practical implications for Tshwane University of Technology

It is recommended that Tshwane University of Technology should consider implementing school programmes that raise awareness for entrepreneurship, as well as redesigning their curriculum to stimulate a conducive environment for developing positive entrepreneurial attitudes and abilities. Students' training in management, finance and marketing competencies is essential.

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Furthermore, if all students are to be given the opportunity to develop a basic level of entrepreneurial skills, a fresh approach is needed to deliver the competencies and attitudes needed within the Faculty of Arts programme. This links directly to and builds upon the entrepreneurial content and gets students to think creatively about the applications of their talents. By assimilating entrepreneurial ways of thinking throughout programmes, students can 'switch on' to entrepreneurship and become more readily able to recognize the usefulness of existing extracurricular support, entrepreneurship, and business subjects. The key advantage is that all students benefit from developing individual capacity, regardless of their initial level of interest in entrepreneurship.

The university through its Arts Incubator should proactively drive the promotion of entrepreneurial concepts within the university community. As a unit that incorporates real-life business training with theory, the Arts Incubator should establish a venture accelerator programme by providing seed funding, enterprise challenges and entrepreneurship mentorship that proactively support students' entrepreneurial activity. The Incubator should become a catalyst for entrepreneurship development within the Arts, Culture and Creative Industries, by providing access to infrastructure, rehearsal spaces, recording studios, workshops, and shared office space, as well as the launching of Arts and Culture start-ups. The Incubator should simplify the access to government assistance in accessing credit, training, business advisory services and business support services.

Practical implications for policymakers

Policymakers need to understand that government initiatives will affect business formations only if these initiatives affect attitudes and entrepreneurial abilities which could motivate students to start enterprises. This study found that environmental conditions are one of the main factors that is strengthening or weakening intentions of prospective entrepreneurs. It is important to develop conducive environments for entrepreneurship to promote entrepreneurial intention. An environment perceived to be more supportive, will increase entrepreneurial self-efficacy, because individuals assess their entrepreneurial capacities about perceived resources, opportunities, and obstacles existing in the environment. The agencies that play a major role in promoting entrepreneurship must recognize the need to provide entrepreneurship development support to the Arts and Cultural Sector. Students embarking on an entrepreneurial career path should have greater access to government financial support throughout their study. Private sector investment initiatives in entrepreneurial education should also be bolstered, and in this regard, the government should provide incentives to the private sector enterprises that support quality entrepreneurial programmes.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The research is limited to an exploration of Arts and Creative Industries (Faculty of Arts) students in the Tshwane University of Technology (TUT). Consequently, findings and results may not necessarily be generalizable to the effects of entrepreneurial environment on students' entrepreneurship intention outside of TUT. The study was based on cross-sectional data and represents a snapshot of the present students' views, which limits the ability to determine causal effects between the variables. Additionally, this study focused on the prediction of Entrepreneurial Intentions and not the realization of these intentions (starting a new business). Future research is recommended to fully evaluate the effectiveness of subject components of Entrepreneurship Education in relation to their impact on students' Attitude towards entrepreneurship, Perceived Entrepreneurial Abilities and Entrepreneurial Intentions. Lastly, further studies should also incorporate personal norms as an additional predictor to enhance the normative component of Entrepreneurial Intention. This is to assess whether an individual's motivation is integrated into his/her cognitive structure (e.g., core self) or whether an individual is motivated by external reasons

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(e.g., social influence), as this is expected to provide a more comprehensive understanding of the impacts of motivational factors on Entrepreneurial Intentions.

CONCLUSION

The objective of the study was to investigate and attempt to answer the following question: To what extent do the variables in the entrepreneurial environment, in the form of Perceived Environmental Support, Perceived University Environment, and Entrepreneurship Education, affect the antecedents of entrepreneurial intention (Attitude towards entrepreneurship, subjective norm and perceived behavioural control) and Entrepreneurial Intention? Evidence collected produced some interesting findings. Firstly, entrepreneurial environment (perceived environment support) directly affects future Entrepreneurial Intentions, and it also mediates the relationship between Perceived University Environment, Perceived Entrepreneurial Abilities, and immediate Entrepreneurial Intentions. In addition, Perceived University Environment was found to indirectly impact Entrepreneurial Intentions through entrepreneurial environment. Participation in Entrepreneurship Education (which is correlated with university environment) was also observed to positively influence students' immediate intentions to become an entrepreneur by increasing their entrepreneurial abilities (self-efficacy). Subjective norm was observed to be an insignificant predictor of entrepreneurial intention. Finally, a notable difference was observed with entrepreneurial intention, categorizing as immediate entrepreneurial intention (within 12 months after graduation) and future entrepreneurial intention ($5 \leq$ years<10 after graduation).

Based on these results, it is recommended that: (a) Investment is required in entrepreneurship curriculum innovation. Applied Entrepreneurship and Business Management embedded curricula should be developed in partnership with industry; (b) Policymakers should consider the development of a coherent national policy framework that addresses entrepreneurship for the arts/creative industries sector. This would create the enabling environment for the evolution of Higher Education Institutions from merely teaching, learning, and researching, to becoming drivers for creative entrepreneurship; (c) Investment should take place in creative infrastructure to create incentives for the development of the sector. The Higher Education Innovation Fund, as an investment tool for the art/creative industries sector, should be developed. Art Incubator programmes should bring coherence to the fragmented landscape of support and build on the activities and expertise of different agencies, institutions, and initiatives.

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