STUDENTS' ENTREPRENEURIAL INTENTIONS AT A UNIVERSITY OF TECHNOLOGY IN GAUTENG PROVINCE, SOUTH AFRICA

Letsoalo, ME, University of Limpopo
Rankhumise, EM, Tshwane University of Technology

ABSTRACT

Interest in entrepreneurship has developed tremendously over the years and this study was aimed at evaluating students' perspectives of entrepreneurial intentions at the Tshwane University of Technology. The sample for this study comprised of 279 (153 [54.84%] first year and 126 [45.16%] no first year) students. The data collected was analysed through Stata version 15. Rank-sum test results indicated that students who were in the first year and those who were not in the first year had significantly different perceptions of entrepreneurial intentions. While students brought their own experiences into the university lecture rooms; the time spent at university deepened their perspective of entrepreneurship. It emerged that students' exposure to entrepreneurship education had a positive effect on their entrepreneurial intentions. It is further found that as the students move further into the next level of study, positivity on entrepreneurship education is enhanced. It is recommended that the entrepreneurship education should incorporate activities that are real-life based and require problem-solving capabilities. It is further recommended to link course content of the entrepreneurship with entrepreneurial eco-system. Finally, business feasibility should be considered as a missing component in the entrepreneurship course content and this could provide a sense of prospects of the envisaged business venture.

Keywords: Unemployment Rates, Entrepreneurial Intentions, Job Creation, Innovation, Self-Efficacy.

INTRODUCTION

Official unemployment rates are on the rise in many developing countries that include South Africa (Statistics South Africa, 2019). The country has a very high unemployment rate, low economic growth and a dismal Total Entrepreneurial Activity (TEA)-these are real challenges and threats to the national economy; hence both the government and private businesses are attempting to address these challenges (Chimucheka, 2014).

Within the context of rising unemployment rates in a skill constrained economy, rising graduate unemployment is another worrisome factor. Among the cited reasons, emanating from the youth unemployment is the shortage of relevant skills that are in demand (Letsoalo & Rankhumise, 2020). Relevant skills can be taught to aspiring entrepreneurs at schools and tertiary institutions of learning that include universities. As noted in Ogundola (2016), "*Entrepreneurship education (EE) is a lifelong learning process, starting as early as elementary school and progressing through all levels of education, including university education experiences that will enable them to develop the insight needed to discover and create*

entrepreneurial opportunities and the expertise to successfully start and manage their businesses". There is an attempt to make South Africa's students and learners aware of EE from primary schools to universities. Learners are introduced to the concept of EE or the components of EE through the learning area called Economic and Management Sciences (EMS) at the primary school level. As elective subjects, learners may choose to register for a combination of Economics, Business Studies and Accounting at secondary school level. EE can thus be seen as a vehicle that can be used to deliver entrepreneurial knowledge, skills and abilities to the students to assist them in their future endeavours of becoming entrepreneurs (Othman & Othman, 2017). Scholars agree that entrepreneurship can be taught and learned through entrepreneurship education (Luiz & Mariotti, 2011; Nicolaides, 2011; Fatoki & Oni, 2014; Nchu, et al., 2015; Shange, 2019; Letsoalo & Rankhumise, 2020).

Entrepreneurship education intends to capacitate prospective and nascent entrepreneurs with knowledge and necessary skills to meet the need to accelerate economic development through generating new ideas and converting those ideas into viable and profitable ventures (Turker & Sonmez Selçuk, 2009). It focuses on the development of skills or attributes that enable the realisation of opportunity. It can be seen as "*Opportunity recognition, marshalling of resources in the presence of risk, and building a business venture*" (Kourilsky, 1995) and as "*a collection of formalised teachings that informs, trains, and educates anyone interested in business creation, or small business development*" (Ogundola, 2016). It, therefore, is critical for the universities to embrace EE in different programmes. By so doing, the students' knowledge and skills would broaden their knowledge insights and subsequently, self-efficacy might be enhanced (Jwara & Hoque, 2018).

Since both private and public sectors are unable to absorb the number of job seekers in South Africa, attention has been on entrepreneurship and new start-ups to contribute to economic growth and creating job prospects for the unemployed (Fatoki & Oni, 2014; Letsoalo & Rankhumise, 2020). As early as 2001, Davies (2001) has noted that South Africa's capacity to absorb a new labour force into the formal sector has fallen from about 62% to less than 4% in the past four decades. Co and Mitchell (2006) are of the view that active intervention in the form of entrepreneurship education is necessary if people, especially the youth are to escape the challenges that will come with unemployment. Rankhumise and Letsoalo (2019) argue that there is undoubtedly growing recognition of the pivotal role small and medium enterprises (SMEs) play in economic development and this is characterised by job creation as well as economic growth prospects. Furthermore, SMEs have the capabilities of addressing socio-economic challenges through the creation of job prospects for the society. Accordingly, they are regarded as the seabed for the development of large companies and are the lifeblood of commerce and industry at large (Wadesango & Mhaka, 2017). Arguably, as SMEs are well known for their contribution towards economic growth, job creation and social progression of society (Abdullahi & Sulaiman, 2015) entrepreneurship education becomes a critical factor that could stimulate start-ups, which will address the unemployment rates. Studies were conducted in this area. For example, Lekoko et al. (2012) examined the effectiveness of entrepreneurship aimed at raising students' awareness of self-employment as a career option and creating an enterprising culture amongst them. EE is regarded as a solution that encourages students to pursue entrepreneurship as a career choice (Othman & Othman, 2017). Therefore, the purpose of this study was to examine the extent to which EE influenced the EI of students at the Tshwane University of Technology.

ENTREPRENEURIAL INTENTIONS

Entrepreneurial intentions intend to undertake the successful entrepreneurs and affect individual behaviour (Ajzen, 1991; Odor et al., 2019). In social psychology literature, intentions have proved to be a strong predictor of planned individual behaviours, especially when the behaviour is rare, difficult to observe, or involves unpredictable time lags (Krueger Jr, N.F et al., 2000); entrepreneurship is a typical example of such planned and intentional behaviour (Krueger Jr & Brazeal, 1994). For example, starting a business is an intentional act. On a similar note, Linàn et al. (2010) reported that the behaviour would best be predicted by the entrepreneurial intentions. Entrepreneurship is a buzz word which is frequently used by many people and this has become a priority in the research agenda in many fronts since the concept was established in the early 1770s (Mokaya, et al., 2012; Letsoalo & Rankhumise, 2020).

Scholars in the area of entrepreneurship have provided many definitions for this concept by identifying what they believe makes entrepreneurship distinct from other forms of economics and management thought and behaviour. Among others, Fatoki and Oni (2014); Mokaya, et al. (2012) noted that the definition of entrepreneurship has been inconsistent due to its diverse nature. These authors argue that the definitions focused on a broad range of activities; for instance, the creation of organisations, the carrying out of new combinations, the exploration of new opportunities, the bearing of uncertainty and the bringing together of factors of production. Mokaya et al. (2012) define entrepreneurship as "*The individual motivation and willingness to take risk, create and sustain a growth-oriented and profit-making enterprise*". Kiggundy (2002) defines it as "*Willingness and ability of an individual to seek out investment opportunities and be able to establish and run an enterprise successfully based on identified opportunities*". Notably, it is about transforming ideas into commercial opportunities (Mudau & Kruger, 2014; Webb, Ireland, & Ketchen Jr, 2014). Bygrave and Hofer (1991) are of the view that the entrepreneurial process "*Involves all the functions, activities, and action associated with the perceiving of opportunities and the creation of organisations to pursue them*". Similarly, Williams (2011) and Onu (2013) defined entrepreneurship as a process whereby an individual intends to use their capabilities, efforts, intellect and resources to create their business ventures.

EE is fundamental for the development of entrepreneurial skills, attitudes and behaviours that form the basis for the economic growth of a country (Lekoko, et al., 2012). At tertiary institutions of learning such as universities; EE can have a positive influence on attitudes towards entrepreneurship, and in turn promote entrepreneurship as a useful and respectable career prospect for graduates (Galloway & Brown, 2002; Lekoko, et al., 2012). Therefore, entrepreneurship may be regarded as an important catalyst and useful technique to create jobs and job opportunities; and encourage self-employment among the youth (Mudau & Kruger, 2014). It follows that entrepreneurial activities are not only the incubators of technological innovation; they provide employment opportunity and increase competitiveness (Zahra, 1999). EE is critical vehicle of encouraging and stimulating entrepreneurship because it (i) creates a sense of independence and self-confidence to individuals, (ii) enables the recognition of alternative career options, (iii) broadens the individuals' horizons by enabling them to better perceive opportunities and (iv) provide knowledge and skills needed by individuals to use in developing business opportunities (Doğan, 2015).

Entrepreneurs, those that would create new start-ups and initiate or improved ways of doing things that result in a positive effect on the economy (Davis, 2002; Letsoalo & Rankhumise, 2020), are pioneers of free enterprises that build businesses using innovation and

creativity (Hewitt & Van der Bank, 2011). Innovation is the one business action that directly relates to economic growth (Soriano & Huarng, 2013). One of the ingredients to a successful business is the ability of the business owners or managers to develop new ideas that keep operations, products and services fresh. Associated with the improvement or creating something new; it is the evolution of convenience, efficiency and effectiveness (Brooks, 2013). The author further highlighted that nearly half of executives feel their businesses have become more risk-averse when considering new ideas. Many companies take a low-risk approach to innovation because they lack a prudent, disciplined approach for innovation - this can jeopardise results (ibid). Therefore, innovation can act as a catalyst that can make one's business grow and can help one to adapt in the marketplace (Sok, O'Cass, & Sok, 2013). The capacity to innovate has the potential to assist firms or businesses in the process of developing superior products to meet their customers' changing needs and demands (Rosenbusch, et al., 2011) which is a requirement to succeed in the marketplace (Rosenbusch, et al., 2011; Sok, et al., 2013). Furthermore, firms must also possess superior marketing capability to bring their products to the marketplace faster and serve the customers better than their competitors (O'Dwyer, et al., 2009; Sok, et al., 2013). Rosenbusch et al. (2011) reported that innovation-performance relationship is context-dependent. Factors such as the age of the firm, the type of innovation, and the cultural context affect the effect of innovation on business performance to a large extent (ibid).

Entrepreneurial intention (EI) is defined as "*The intention to start a new business*" (Krueger Jr & Brazeal, 1994; de Janasz, et al., 2007; Letsoalo & Rankhumise, 2020). EIs are described by the Global Entrepreneurship Monitor (GEM) as the "*Percentage of 18 to 64-year-old population (individuals involved in any stage of entrepreneurial activity excluded) who intend to start a business within three years*" (Herrington, et al., 2017). Furthermore, a study conducted by Oinas-Kukkonen (2013) found that there is a sign of element of intention on behavioural outcomes, for instance, attention, belief and expectation. Notably, it can be stated that intention is such an important factor for any type of behaviour to occur. Krueger and Brazeal (1994) commented that "*Before there can be entrepreneurship, there must be the potential for entrepreneurship*". Webb et al. (2014) indicated that entrepreneurs often break the rules and redefine existing frameworks of understanding. Further, entrepreneurs deviate from existing product offerings and depart from societal norms and beliefs. Such departures are a means to create value in society and to bring forth ideas previously unimagined, but at times, entrepreneurs operate outside of society's laws and regulations when doing so (Webb, Tihanyi, Ireland, & Sirmon, 2009). For brevity-entrepreneurs are innovators. In their investigation of the effect of EE on EI among college students, Mahendra, et al. (2017) revealed that EI is indirectly affected by EE, meaning that students' entrepreneurial motivation and attitude are two important mediating variables.

THEORETICAL FRAMEWORK

The theory of planned behaviour (TPB) depicts that an individual's tendency to demonstrate a behaviour is affected by the individual's interest in showing behaviour and the ability to make decisions (Anjum, et al., 2019). Various studies revealed that TPB is the most dominant and popular conceptual framework for the study of human action, more especially an individual's intentions to engage in different activities (Ajzen, 2001). Ajzen (1991) explains that the central construct associated with the TPB is the individual's intention to perform a behaviour, for instance, the intention of becoming an entrepreneur upon completion of the EE course.

Studies have found the theory of reasoned action and its extension, TPB (Ajzen, 1991), to be very useful in predicting a wide range of behaviour (Sheppard, et al., 1988; Madden, et al., 1992). The theory of reasoned action is based on the proposition that an individual's behaviour is determined by the individual's behavioural intention to perform that behaviour, which provides the most accurate prediction of behaviour (Chang, 1998). Therefore, this study is underpinned by the TPB, summarised in Figure 1 (Ajzen, 1985). The theory was intended to explain all behaviours over which people can exert self-control. The key component to this model is behavioural intent; behavioural intentions are influenced by the attitude about the likelihood that the behaviour will have the expected outcome and the subjective evaluation of the risks and benefits of that outcome.

The TPB has been used successfully to predict and explain a wide range of health behaviours and intentions including smoking, drinking, health services utilisation, breastfeeding, and substance use, among others (Wambach, 1997; Sanne & Wiese, 2018). The TPB states that behavioural achievement depends on both motivation (intention) and ability (behavioural control). This study considered TPB to provide a useful framework to analyse how entrepreneurship education programme at Tshwane University of Technology might have influenced students' entrepreneurial intentions. The theory distinguishes between three types of beliefs; which are behavioural, normative, and control. It is comprised of six constructs; viz, attitudes, behavioural intention, socials norms, subjective norms, perceived behavioural control and perceived power, that collectively represent a person's actual control over the behaviour. Figure 1 attempts to make this explanation more explicit.

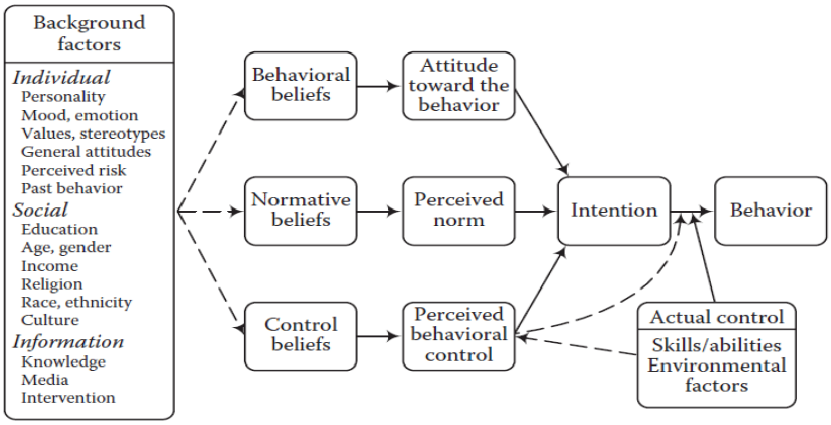

FIGURE 1
THEORY OF PLANNED BEHAVIOUR [ADOPTED FROM AJZEN (1991)

STUDY OBJECTIVES

The objective of this study was to examine the extent to which EE influenced the EI of students at the Tshwane University of Technology. To achieve this objective; the researchers formulated the (null) hypothesis that students in the two study arms, first-year students (FYS) and those who were not in first year (NFYS) had similar intentions. This hypothesis was tested against the alternative that the students in the two arms had differing intentions.

ETHICAL REQUIREMNTSAND TEST FOR INTERNAL CONSISTENCY

Ethical clearance was granted by the Tshwane University of Technology Research Ethics committee (Clearance number: Ref#2018=04=005=Rankhumise EM et al). The purpose and the rights of the participants were explained to participants, *priori*, data collection. Participation in the study was voluntary; and anonymity and confidentiality of participants were assured to participants (Cohen, et al., 2013).

When items are used to form a scale or latent construct, they need to have internal consistency. The items should all measure the same construct. Therefore, they should be highly correlated with one another. Accordingly, a useful coefficient for assessing internal consistency is Cronbach's alpha (Bland & Altman, 1997). Therefore, Cronbach's alpha, with a 0.7 cut-off point (Lance, Butts, & Michels, 2006), was used to test for internal consistency. The instrument subtheme of interest was entrepreneurial intention (EI).

MATERIAL AND METHODS

This cross-sectional quantitative study (Creswell & Creswell, 2017) followed the ex-post-facto design (Struwig & Stead, 2001; Cohen, Manion, & Morrison, 2013). The study used secondary data that was collected using a structured questionnaire. Data management was carried out using a combination of Epi-Info Version 7 and Stata Release 15 (StataCorp, 2017). A visual-analogue-scaled item were used to measure students' EI (Struwig & Stead, 2001). The items used a scale of 0 (strongly disagree) to 10 (strongly agree) to indicate the opinion of the participant. Data analysis was performed using Stata Release 15. The Shapiro-Wilk test was used to test for normality of the data (Villasenor Alva & Estrada, 2009; Ghasemi & Zahediasl, 2012).

Descriptive statistics were presented as frequencies and percentages for categorical variables, and as percentiles and interquartile ranges for measured observations. The Wilcoxon-Mann-Whitney test (Bergmann, et al., 2000; Hart, 2001), which is a non-parametric analogue to the independent samples t-test, was used to test whether the observations of the samples FYS and NFYS were drawn from the same or identical population (Fagerland & Sandvik, 2009; Hart, 2001; De Winter & Dodou, 2010). In other words, The Wilcoxon-Mann-Whitney test was used to compare the perceptions of the study arms. The findings were declared significant if the observed p-value was less than 0.05.

RESU LTS AND INTERPRETATIONS

Test for Internal Consistency and Test for Normality

Internal consistency (reliability) is a measure of how well the items on a test measure the same construct or idea (Letsoalo & Rankhumise, 2020); that is, it is a method of reliability in which one judges how well the items on a test that are proposed to measure the same construct produce similar results. The EI construct consisted of six items, as presented in Table 1. The EI's items had Cronbach's α of 0.9119 which indicated that all items were reliably testing underlying latent construct. Table 1 details the results.

Table 1
TEST FOR INTERNAL CONSISTENCY

Item	Obs	Sign	Item-test correlation	Item-test correlation	Average interitem correlation	Alpha
I am ready to do anything to be an entrepreneur (e1)	259	+	0.8422	0.7659	0.6286	0.8943
My goal is to choose entrepreneurship as a career (e2)	259	+	0.8559	0.7852	0.6217	0.8815
I am optimistic to establish a business in the future (e3)	259	+	0.8464	0.7717	0.6265	0.8935
I will make an initiative to start and run my own business (e4)	259	+	0.8544	0.7831	0.6225	0.8918
Through this course, I know the necessary practical details to start a business (e5)	259	+	0.8289	0.7472	0.6352	0.8970
I keep encouraging other people to study entrepreneurship education (e6)	259	+	0.7715	0.6682	0.6635	0.9081
Test scale					0.6310	**0.9119**

Source: Letsoalo and Rankhumise (2020)

Normality tests are used to determine if a data set is well-modelled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. Therefore, the tests are a form of model selection. Parametric tests assume that the data follows a normal distribution or a Gaussian distribution; that is, it is assumed that the populations from which the samples are taken are normally distributed (Ghasemi & Zahediasl, 2012). The assumption of normality is especially critical when constructing reference intervals; For when this assumption does not hold, it is impossible to draw accurate and reliable conclusions about reality (ibid). The result, as presented in Table 2, indicates that the data were not normally distributed at 0.05 error rate.

Table 2
SHAPIRO-WILK TEST FOR NORMALITY

Items	Observations	W	V	*z*	Prob > *z*
I am ready to do anything to be an entrepreneur (e1)	267	0.92227	14.938	6.311	< 0.001
My goal is to choose entrepreneurship as a career (e2)	263	0.92409	14.395	6.220	< 0.001
I am optimistic to establish a business in the future (e3)	265	0.88479	21.995	7.212	< 0.001
I will make an initiative to start and run my own business (e4)	263	0.87889	22.967	7.310	< 0.001
Through this course, I know the necessary practical details to start a business (e5)	264	0.89444	20.086	6.999	< 0.001
I keep encouraging other people to study entrepreneurship education (e6)	265	0.92728	13.884	6.138	< 0.001

Summary Statistics

A total of 279 (153 [54.84%] first-year and 126 [45.16%] no first-year) students volunteered to take part in this study. It follows that the number of first-year students (FYS) was marginally higher than that of students who were not first-year students (NFYS). Table 3 presents the detailed distribution of the participants according to the year of study.

Table 3
DISTRIBUTION OF STUDENTS ACCORDING TO YEAR OF STUDY

Level of study	Frequency	Percent
First Year	153	54.84
Second Year	62	22.22
Third Year	50	17.92
Fourth Year	14	5.02
Total	**279**	**100.00**

Table 4 depicts the summary measures of items that measured students' intentions. Median (or 50th percentile) was used as a measure of central tendency and interquartile range was used as a measure of variability. The FYS' interquartile ranges were marginally higher than those for NFYS. Therefore, the NFYS observations were consistent. NFYS groups' medians for all items were higher than those for the FYS group (Shows in Table 4). The medians for the FYS group and NFYS group ranged between 7 and 8, and 9 and 10, respectively. The analysis suggests that the overall sentiments of the students in the two study groups hold positive entrepreneurial intentions.

Table 4
SUMMARY MEASURES BETWEEN THE TWO GROUPS

Study Group	Item	25th Percentile	50th Percentile	75th Percentile	Interquartile range
First-Year Students	I am ready to do anything to be an entrepreneur (e1)	5.00	7.50	9.50	4.50
	My goal is to choose entrepreneurship as a career (e2)	5.00	7.00	9.00	4.00
	I am optimistic to establish a business in the future (e3)	5.50	8.00	10.00	4.50
	I will make an initiative to start and run my own business (e4)	5.50	8.50	10.00	4.50
	Through this course, I know the necessary practical details to start a business (e5)	5.50	7.50	9.50	4.00
	I keep encouraging other people to study entrepreneurship education (e6)	5.00	7.50	9.50	4.50
No First-Year Students	I am ready to do anything to be an entrepreneur (e1)	8.00	9.75	10.00	2.00
	My goal is to choose entrepreneurship as a career (e2)	8.00	10.00	10.00	2.00
	I am optimistic to establish a business in the future (e3)	8.50	10.00	10.00	1.50
	I will make an initiative to start and run my own business (e4)	8.00	10.00	10.00	2.00
	Through this course, I know the necessary practical details to start a business (e5)	8.00	9.50	10.00	2.00
	I keep encouraging other people to study entrepreneurship education (e6)	6.50	9.00	10.00	3.50

Presentation of Inferential Statistics

The hypothesis that the FYS and NFYS had similar perceptions of EIs was tested at 0.05 error rate. Table 5 presents the results of rank-sum tests between the two study groups. It indicates that NFYS had significantly higher scores than their FYS counterparts in all items.

Table 5
COMPARISON OF THE TWO GROUPS ON ENTREPRENEURIAL INTENTIONS

Entrepreneurial intention's items	Rank-Sum		P-value
	First Year	No First Year	
I am ready to do anything to be an entrepreneur (e1)	15675.50	20102.50	< 0.001
My goal is to choose entrepreneurship as a career (e2)	14451.00	20265.00	< 0.001
I am optimistic to establish a business in the future (e3)	15669.50	19575.50	< 0.001
I will make an initiative to start and run my own business (e4)	15813.00	18903.00	< 0.001
Through this course, I know the necessary practical details to start a business (e5)	15660.50	19319.50	< 0.001
I keep encouraging other people to study entrepreneurship education (e6)	17073.50	18175.50	< 0.001

DISCUSSION AND CONCLUSIONS

This study sought to determine whether FYS and NFYS had significantly differing perspectives of EI at the Tshwane University of Technology. The result revealed that NFYS differed significantly with FYS suggesting that university-effect on students EI increased as students further their studies. The finding that entrepreneurship course increased students' EI concurs with a number of studies, for instance, Ekpoh and Edet (2011) ascertained that EE influences the career intentions of tertiary school students. Similarly, Yusof et al. (2008) reported that EE taken by students across all the faculties in UNITAR had a positive effect on students' mindset. Further, Efi (2016) found that the embedment of EE in the curriculum (of Nigerian tertiary institutions) has instilled and revived entrepreneurial spirits of students thereby providing them with realistic career options and also teaching them self-sustenance, and self-reliance. Kolvereid and Moen (1997) found that students given structured training in entrepreneurship programme in the school exhibited a higher EI and were mostly inclined to initiate personal businesses. As in Kuttim et al. (2014); Kim-Sun et al. (2016), this study reported that participation in EE had a positive effect on students' entrepreneurial intentions. Importantly, EE enhances the development of entrepreneurial students' characters, including among others; the opportunity to experiencing and practicing real contextual learning for developing their entrepreneurial capabilities (Mahendra, et al., 2017).

Another important observation from the study result is that participants in the study had positive EIs. As in Maresh et al. (2016); firstly-EE strengthens students' positive attitudes towards EI. Secondly, the level of students' reliance on social reference groups drops which allows them to make decisions on the EI. Third EE assists students to develop the skills and competencies to take advantage of entrepreneurial opportunities as they arise. The assertion is that EE can strengthen students' attitudes positively towards EI and to enable them to take

advantage of the opportunities. All these practices have the potential of developing self-efficacy among students EI. Notably, it could be concluded that NFYS and FYS differed significantly indicating that the university-effect on student EI increased as students' level of studies increased.

Although several studies were on this locus, this study revealed that there is a positive relation between entrepreneurship courses and the intention to start businesses, particularly among the NFYS group. Most of the students had more desire of becoming entrepreneurs upon completion of their studies. These findings provided interesting vistas in terms of the integration of the pre-dispositions of students who participate in the entrepreneurial training or class with the view to identify a priori, those who are most likely to benefit from such a training intervention concerning their previous experience as well as the initial intention. To ensure the success of entrepreneurship education, it is imperative to link course content of the entrepreneurship with entrepreneurial eco-system. Finally, business feasibility seems to be a missing component in the entrepreneurship course content, therefore, it is suggested that this should form part of the course content or/and curriculum for entrepreneurship education.

LIMITATIONS OF THE STUDY

The study used a quantitative bivariate method of data analysis; future research may consider using a mixed-methods design to get more insight from both students and lecturers. Also, future research may consider the use of multivariable data analysis to account for more variability in the outcome of interest (EI).

ACKNOWLEDGEMENTS

The authors are grateful to Ms Maite Makgoba for data encoding and data management. Special appreciation goes to Mamosana Letsoalo for her input during the development of this article.

REFERENCES

Abdullahi, I.I., & Sulaiman, C. (2015). The determinants of small and medium-sized enterprises performance in Nigeria. *Advances in Economics and Business, 3*(5), 184-189.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl, & J. Beckmann, *Action control: From cognition to behavior* (pp. 11 - 39). Berlin, Heidelber, New York: Springer-Verlag.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.

Ajzen, I. (2001). Attitudes. *52*, 27-58.

Anjum, T., Ramzani, S., & Nazar, N. (2019). Antecedents of entrepreneurial intentions: A study of business students from universities of Pakistan. *International Journal of Business and Psychology, 1*(2), 72-88.

Bergmann, R., Ludbrook, J., & Spooren, W.P. (2000). Different outcomes of the Wilcoxon-Mann-Whitney test from different statistics packages. *The American Statistician, 54*(1), 72 - 77.

Bland, J.M., & Altman, D.G. (1997). Statistics notes: Cronbach's alpha. *British Medical Journal, 314*(7080), 572.

Brooks, C. (2013). *Businesses take cautious approach to innovation*. Retrieved April 11, 2020, from https://www.businessnewsdaily.com/4476-businesses-cautious-about-innovation.html

Bygrave, W.D., & Hofer, C.W. (1991). Theorizing about entrepreneurship. *Entrepreneurship Theory and Practice, 16*(2), 13-22.

Chang, M.K. (1998). Predicting unethical behavior: a comparison of the theory of reasoned action and the theory of planned behavior. *Journal of Business Ethics, 17*(16), 1825-1834.

Chimucheka, T. (2014). Entrepreneurship education in South Africa. *Mediterranean Journal of Social Sciences, 5*(2), 403-416.

Co, M.J., & Mitchell, B. (2006). Entrepreneurship in South Africa: A nationwide Survey. *Education and Training, 48*(5), 348-359.

Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education* (6th ed.). New York: Routledge.

Creswell, J., & Creswell, J. (2017). *Research design: Qualitative, Quantitative and Mixed methods.* London : Sage.

Davies, T.A. (2001). Enhancing competitiveness in the manufacturing sector: Key opportunities provided by interfirm clustering. *Competitiveness Review, 11*(2), 4-6.

Davis, S.M. (2002). Social entrepreneurship: Towards an entrepreneurial culture for social and economic development. Retrieved September 7, 2019, from SSRN 978868

de Janasz, S.C., de Pillis, E., & Reardon, K.K. (2007). The influence of personality traits and persuasive messages on entrepreneurial intention. *Career Development International, 12*(4), 382-396.

De Winter, J.C., & Dodou, D. (2010). Five-point Likert items: t test versus Mann-Whitney-Wilcoxon. *Practical Assessment, Research & Evaluation, 15*(11), 1-12.

Doğan, E. (2015). The effect of entrepreneurship education on entrepreneurial intentions of university students in Turkey. *Ekonometri ve Instatistik Say1, 23*, 79-93.

Efi, A.E. (2016). The role of higher institutions in promoting entrepreneurship and small business in developing nations: The Nigerian experience. *International Journal for Innovation Education and Research, 2*(9), 15-22.

Ekpoh, U.I., & Edet, A.O. (2011). Entrepreneurship education and career intentions of tertiary education students in Akwa Ibom and Cross River States. *Nigeria. International Education Studies, 4*(1), 172 - 178.

Fagerland, M.W., & Sandvik, L. (2009). The Wilcoxon-Mann-Whitney test under scrutiny. *Statistics in Medicine, 28*(10), 1487-1497.

Fatoki, O., & Oni, O. (2014). Students' Perception of the effectiveness of Entrepreneurship education at a South African University. *Mediterranean Journal of Social Sciences, 5*(20), 585 - 591.

Galloway, L., & Brown, W. (2002). Entrepreneurship education at university: a driver in the creation of high growth firms? *Education+ Training, 44*(8/9), 398 - 405.

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International Journal of Endocrinology and Metabolism, 10*(2), 486-489.

Gird, A., & Bagraim, J. J. (2008). The theory of planned behaviour as predictor of entrepreneurial intent amongst final-year university students. *South African Journal of Psychology, 38*(4), 711-724.

Hart, A. (2001). Mann-Whitney test is not just a test of medians: Differences in spread can be important. *British Medical Journal, 323*(7309), 391-393.

Herrington, M., Kew, P., & Mwanga, A. (2017). *South Africa report: Can small businesses survive in South Africa.*

Hewitt, M., & van der Bank, J. (2011). Entrepreneurship defined. In M. Hewitt, & C. van Aardt, *Entrepreneurship and new venture management* (4th ed., pp. 3-14). Cape Town: Oxford University Press Southern Africa.

Jwara, N., & Hoque, M. (2018). Entrepreneurial intentions among university students: a case of Durban University of Technology. *Academy of Entrepreneurship Journal*, *24*(3) 1-19.

Kiggundy, M. (2002). Entrepreneurs and entrepreneurship in Africa: What is known and what needs to be done. *Journal of Developmental Entrepreneurship, 7*(3), 239-258.

Kim-Sun, N., Ahmad, A.R., & Ibrahim, N.N. (2016). Theory of planned behavior: Undergraduates' entrepreneurial motivation and entrepreneurship career intention at a public university. *Journal of Entrepreneurship: Research & Practice*, 1-14.

Kolvereid, L., & Moen, Ø. (1997). Entrepreneurship among business graduates: Does a major in entrepreneurship make a difference?. *Journal of European Industrial Training, 21*(4), 154-160.

Kourilsky, M. (1995). Entrepreneur education: Opportunity in search of curriculum. *Business Education Forum*, 1-18.

Krueger Jr, N.F., & Brazeal, D.V. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship Theory and Practice, 18*(3), 91-104.

Krueger Jr, N.F., Reilly, M.D., & Carsrud, A.L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5 - 6), 411-432.

Kuttim, M., Kallaste, M., Venesaar, U., & Kiis, A. (2014). Entrepreneurship Education at University Level and Students Entreprenerial Intentions. *Journal Procedia-Social and Behavioral Sciences, 110*, 658-668.

Lance, C.E., Butts, M.M., & Michels, L.C. (2006). The sources of four commonly reported cutoff criteria: What did they really say? *Organizational Research Methods, 9*(2), 202-220.

Lekoko, M., Rankhumise, E.M., & Ras, P. (2012). The effectiveness of entrepreneurship education: What matters most? *African Journal of Business Management, 6*(51), 12023-12032.

Letsoalo, M. E., & Rankhumise, E. M. (2020). Students' entrepreneurial intentions at two South African universities. *Journal of Entrepreneurship Education, 23*(1), 1-17.

Linàn, F., Rodriguez-Cohard, J., & Rueda-Cantuche, J. (2010). Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship and Management Journal, 11*(20), 66 -75.

Luiz, J., & Mariotti, M. (2011). Entrepreneurship in an emerging and culturally diverse economy: A South African survey of perceptions. *South African Journal of Economic and Management Sciences, 14*(1), 47-65.

Madden, T. J., Ellen, P.S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and Social Psychology Bulletin, 18*(1), 3-9.

Mahendra, A.M., Djatmika, E.T., & Hermawan, A. (2017). The effect of entrepreneurship education on entrepreneurial intention mediated by motivation and attitude among management students, State University of Malang, Indonesia. *International Education Studies, 10*(9), 61-69.

Maresch, D., Harms, R., Kailer, N., & Wimmer-Wurm, B. (2016). The impact of entrepreneurship education on the entrepreneurial intention of students in science and engineering versus business studies university programs. *Technological Forecasting & Social Change*, 172-177.

Mokaya, S.O., Namusonge, M., & Sikalieh, D. (2012). The concept of entrepreneurship; in pursuit of a universally acceptable definition. *International Journal of Arts and Commerce, 1*(6), 128-135.

Mudau, F.N., & Kruger, J.W. (2014). Students perception on the entrepreneurship curriculum at the University of South Africa's Department of Agriculture and Animal Health. *Journal of Human Ecology, 46*(1), 91-101.

Nchu, R.M., Tengeh, R.K., & Hassan, S. (2015). High school learners' perception of the efficacy of entrepreneurship education: The case of selected high schools in the Western Cape, South Africa. *The Scientific Journal for Theory and Practice of Socio-Economic Development, 4*(8), 507-526.

Nicolaides, A. (2011). Entrepreneurship-the role of higher education in South Africa. *Educational Research, 2*(4), 1043 -1050.

O'Dwyer, M., Gilmore, A., & Carson, D. (2009). Innovative marketing in SMEs. *European Journal of Marketing, 43*, 46 - 61.

Odor, H., Martins-Emesom, J., & Bakwuye, C. (2019). Entrepreneurship education and entrepreneurial intetion among students of Delta State Polytechnic, Ogwashi Uku, Delta State of Nigeria. *European Journal of Business and Management, 11*(20), 66-75.

Ogundola, P.I. (2016). Relevance of entrepreneurial studies as perceived by vocational education undergraduate students in Nigeria. *British Journal of Education, 4*(12), 13 - 24.

Oinas-Kukkonen, H. (2013). A foundation for the study of bevhiour change support systems. *Personal and Unbiquitous Computing, 17*(6), 1223-1235.

Onu, A. (2013). Stimulating entrepreneurship in educational institutions in Nigeria. *European Scientific Journal, 9*(25), 38-49.

Othman, N., & Othman, S. (2017). The perceptions of public university students of entrepreneurship education in Malayisia. *International Business Management*, 865-873.

Rankhumise, E.M., & Letsoalo, M.E. (2019). Owners perspective of factors associated with performance of small, medium and micro enterprises. *International Journal of Entrepreneurship, 23*(3).

Rosenbusch, N., Brinckmann, J., & Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing, 26*(4), 441 - 457.

Sanne, P.N., & Wiese, M. (2018). The theory of planned behaviour and user engagement applied to Facebook advertising. *South African Journal of Information Management, 20*(1), 1-10.

Shange, L.N. (2019). Learners' views on the entrepreneurial activities engaged in during practical work in consumer studies. *Journal of Consumer Sciences, 47*, 1-12.

Sheppard, B.H., Hartwick, J., & Warshaw, P.R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research, 15*(3), 325 - 343.

Sok, P., O'Cass, A., & Sok, K.M. (2013). Achieving superior SME performance: Overarching role of marketing, innovation, and learning capabilities. *Australasian Marketing Journal (AMJ), 21*(3), 161 - 167.

Soriano, D.R., & Huarng, K.H. (2013). Innovation and entrepreneurship in knowledge industries. *Journal of Business Research, 66* (10), 1964 - 1969.

StataCorp. (2017). Stata Statistical Software: Release 15. College Station, TX: StataCorp LLC.

Statistics South Africa. (2019). *Quarterly Labour Force Survey (QLFS)–Q2:2019*. Retrieved September 06, 2019, from http://www.statssa.gov.za/?p=12370

Struwig, F., & Stead, G. (2001). *Planning, designing and reporting research.* Cape Town: Pearson Education South Africa.

Turker, D., & Sonmez Selçuk, S. (2009). Which factors affect entrepreneurial intention of university students? *Journal of European Industrial Training, 33*(2), 142-159.

Villasenor Alva, J.A., & Estrada, E.G. (2009). A generalization of Shapiro-Wilk's test for multivariate normality. *Communications in Statistics - Theory and Methods, 38*(11), 1870 - 1883.

Wadesango, N., & Mhaka, C. (2017). The effectiveness of enterprise risk management and internal audit function on quality of financial reporting in universities. *Journal of Economics and Behavioral Studies, 9*(4), 230 - 241.

Wale-Oshinowo, B., Raimi, L., Olarewaju, A., & Mbah, S. (2018). Entrepreneurship education and student entrepreneurial mindset: A study of students in federal government tertiary institutions in Lagos, Nigeria. *Unilag Journal of Humanities, 6*(1), 194-214.

Wambach, K.A. (1997). Breastfeeding intention and outcome: A test of the theory of planned behavior. *Research in Nursing & Health, 20*(1), 51 - 59.

Webb, J.W., Ireland, R. D., & Ketchen Jr, D. J. (2014). Toward a greater understanding of entrepreneurship and strategy in the informal economy. *Strategic Entrepreneurship Journal, 8*(1), 1-15.

Webb, J.W., Tihanyi, L., Ireland, R.D., & Sirmon, D.G. (2009). You say illegal, I say legitimate: Entrepreneurship in the informal economy. *Academy of Management Review, 34*(3), 492-510.

Williams, E. (2011). *The global entrepreneur: how to create maximum personal wealth in the new global economic era.* Bloomington : iUniverse.

Yusof, M., Sandhu, M.S., & Jain, K.K. (2008). Entrepreneurial Inclination of University Students: A case study of students at Tun Abdul Razak University (UNITAR). *UNITAR e-Journal, 4*(1), 1-14.

Zahra, S.A. (1999). The changing rules of global competitiveness in the 21st century. *Academy of Management Perspectives, 13*(1), 36 - 42.