STUDENTS' ENTREPRENEURIAL INTENTIONS AT TWO SOUTH AFRICAN UNIVERSITIES

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ABSTRACT

This comparative, explanatory and cross-sectional quantitative study was aimed at evaluating students' perspectives of entrepreneurial intentions. The secondary data used comprised of 484 (205 [42.36%] Walter Sisulu University and 279 [57.64%] Tshwane University of Technology) students. The study reported that students at the two universities had similar perceptions of entrepreneurial intentions, and that students from Tshwane University of Technology are more likely to encourage other people to study entrepreneurship education than their Walter Sisulu University counterparts. This paper recommends that entrepreneurship education should be introduced to students at some early stages of their education life. Students' education that incorporates activities that are real-life based and demanding problem-solving skills such as technology of things (digital technology) may prove to be vital for exposing students to knowledge and useful skills in order for students to generate income and to create employment opportunities.

Keywords: Unemployment Rates, Entrepreneurship, Intentions, Job Creation, Industry 4.0.

INTRODUCTION

Notwithstanding the remarkable progress made on several fronts, unemployment is still one of the major challenges that South Africa faces post democracy. The results of the Quarterly Labour Force Survey (QLFS) for the second quarter of 2019 released by Statistics South Africa, indicate that the official unemployment rate increased by 1.4 percentage points to 29.0% compared to the first quarter of 2019 (Statistics South Africa, 2016). Among the most quoted reasons for youth unemployment is the shortage of relevant skills that are in demand. Studies affirm that entrepreneurship can be taught and learned through entrepreneurship education (Luiz & Mariotti, 2011; Nicolaides, 2011; Fatoki & Oni, 2014; Nchu et al., 2015; Ngwenya & Shange, 2019). Tucker & Selçuk (2009) posit that the entrepreneurship education should equip future entrepreneurs with the necessary skills to meet the need to accelerate economic development through generating new ideas and converting those ideas into viable and profitable ventures.

Given the failure of the private and public sectors to absorb the growing number of job seekers in South Africa, increasing attention has focused on entrepreneurship and new firm creation and their potential for contributing to economic growth and job creation (Fatoki & Oni, 2014). As highlighted by Rankhumise & Letsoalo (2019), there is growing recognition of the important role small and medium enterprises (SMEs) play in economic development. They are often described as efficient and prolific job creators, the seeds of big businesses and the fuel of national economic engines. If SMEs are known globally for their contribution towards economic growth, job creation and social progression of society (Abdullahi & Sulaiman, 2015) then entrepreneurship education remains relevant in the reduction of unemployment rates. A growing

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body of academic research has examined the effectiveness of entrepreneurship education with the aim of raising students' awareness of self-employment as a career option and creating an enterprising culture amongst them (Lekoko et al., 2012). In other words, entrepreneurship has captured the attention of both scholars and policy makers (during the last decades). The main reason of this concern is the growing need for entrepreneurs who accelerate economic development through generating new ideas and converting them into profitable ventures (Turker & Selçuk, 2009). In the quest to accelerate new ideas and converting them into viable ones, entrepreneurship education is regarded as a vehicle to produce competitive, creative and critical thinkers (Norsmah & Nur Zafira, 2018). A major premise guiding the expansion of entrepreneurship education is that entrepreneurship can be learnt and can develop students' entrepreneurial intentions (Pittaway & Cope, 2007) and subsequently inculcate the business start-ups. As a results of this notion, there is little understanding of how entrepreneurship education increases intent. This study will contribute new vistas in understanding the role of entrepreneurial education among students in developing intentions which will be of great interest to policymakers, researchers and university lecturers particularly those who are teaching entrepreneurship education.

LITERATURE REVIEW

Entrepreneurship Education

Entrepreneurship education plays a pivotal role in promoting entrepreneurial intentions (do Paço et al., 2015). Othman & Othman (2017) argue that entrepreneurship courses play essential role in expanding the economy and create job opportunities in countries. On the other hand, entrepreneurship education programmes focus on the development of entrepreneurial knowledge, capacity, skills, attitudes and trends that are important for the needs of the economy (Othman & Othman, 2017). Furthermore, entrepreneurship education is about the development of entrepreneurial insights, awareness and skills that are required to run a success entrepreneurial venture (Ozaralli & Rivenburgh, 2016; Tucker & Selcuk, 2009). What it means is that entrepreneurial education is regarded as an investment for acquiring knowledge about entrepreneurship. Other scholars such as Yurtkoru et al. (2014) explain that entrepreneurship education may change Theory of Planned Behaviour aspects in the course of education because it can positively affect attitudes and perceived behavioural control. Despite the course in entrepreneurship education, notably, this is far from reaching the desired maturity either in theory or practice (Salhi & Jemmali, 2018).

Entrepreneurship education is critical for developing entrepreneurial skills, attitudes and behaviours that form the basis for the economic growth of a country (Lekoko et al., 2012). Entrepreneurship extended its meanings beyond the area of for-profit businesses to include social entrepreneurship, political entrepreneurship, and knowledge entrepreneurship (Prodanov, 2018). Arguably, any form of skill set that does not embrace elements of digital technology is bound to find it hard to function properly in this ever changing and challenging world. Today there is a new revolutionary situation, which is reflected in the concept of *"Industry 4.0"* of which its basis is the concept of technology of things. Facing the fourth industrial revolution or Industry 4.0, institutions of higher learning or vocational education have/has to anticipate it from now on so that the workers are better prepared to face the challenges that are coined into this revolution (Setiawaty & Tjahjono, 2019). The transformational training and education for future should

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seek to respond to the how the process of transformation of the traditional model of education in the era of Revolution 4.0 would happen.

Azis et al. (2018) define entrepreneurship education as a *"structured course offered in higher education level, which contributes to the development of students' entrepreneurial attitudes, abilities, skills and enhance their intentions to launch new ventures"*. Entrepreneurship education at universities can have a positive influence in 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 is being accepted 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 also (Zahra, 1999). Entrepreneurship education and teaching programmes are influencing students' entrepreneurial intentions and behaviours (Fayolle & Gailly, 2004). Kalyoncuoğlu, et al. (2017) argue that entrepreneurship education has the ability to enhance individuals' determination and increases thoughts that assist in addressing possible challenges in attempt to establish a business venture.

It is anticipated that for students to undergo a formal entrepreneurial education, individuals would acquire knowledge and skills imperative to take up the challenge of setting own businesses. By having good business and sound entrepreneurial literacy, would give success to someone as regards to establishing and running a business (Winarno et al., 2019). Furthermore, entrepreneurial activities are significantly influenced by entrepreneurship education (Minai et al., 2018; Rankhumise, 2014). On the contrary Oosterbeek et al. (2010) found that graduate students who took entrepreneurship education in their various universities had low level of entrepreneurial intention. In other words, the exposure to entrepreneurship education had negative outcome of the students, viz, no influence on the entrepreneurial intentions. As a results of conflicting findings it is imperative to investigate whether entrepreneurship education has an influence on the students' entrepreneurial intentions.

Entrepreneurial Intentions

The concept of entrepreneurship has been around as long as man existed. Entrepreneurship is a common vocabulary to many people today, a topic that occupies a prominent position on the research agenda of scholars from variety of backgrounds and disciplines that include economics, sociology, political science, and psychology since the concept was established in early 1770s (Mokaya et al., 2012). Many authors and scholars have tried to provide a specific definition for entrepreneurship, identifying what they believe makes entrepreneurship distinct from other forms of economics and management thought and behaviour. Among others, Fatoki & Oni (2014) and Mokaya et al. (2012) noted that the literature has been inconsistent in the definition of entrepreneurship due to its diverse nature. They highlighted that the definitions emphasised a broad range of activities including 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's (2012) definition is that entrepreneurship is *"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".* Arguably,

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entrepreneurship is about changing ideas into commercial opportunities (Mudau & Kruger, 2014; Webb et al., 2014). On the other hand, Bygrave & Hofer (1991) highlighted 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".*

Entrepreneurs, those that would venture new and improved ways of doing things that result in a positive impact on the economy (Davis, 2002), are pioneers of free enterprises who build businesses, using innovation and creativity, from initial ideas into larger businesses (Hewitt & van der Bank, 2011). Innovation is the one business action that directly relates to economic growth (Soriano & Huarng, 2013). Entrepreneurial intention is defined as *"the intention to start a new business"* (Krueger Jr & Brazeal, 1994; de Janasz et al., 2007). Krueger Jr & Brazeal (1994) describe entrepreneurial intentions as a commitment to starting a new business venture. Intentions simply represent a future course of action which will be performed. Rankhumise (2014) explains that entrepreneurial intentions emanate from motivation and cognition, the latter referring to intellect, ability and skills. Entrepreneurial intention is defined as the state of mind directing a person's attention and action towards self-employment in contrast to getting employment (Bird, 1998). In other words, entrepreneurial intention is building self-efficacy on the students to have knowledge and skills to establish business venture. According to Herrington et al. (2017), entrepreneurial intentions 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".* Krueger Jr & Brazeal (1994) commented that *"before there can be entrepreneurship, there must be the potential for entrepreneurship".* Similarly, there must be an opportunity for entrepreneurship (Gird & Bagraim, 2008).

Webb et al. (2014) indicated that entrepreneurs often break the rules and redefine existing frameworks of understanding. They further indicated that 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 et al., 2009).

THEORETICAL FRAMEWORK

Predicting behaviour has been the major objective of psychological theories, and some of them have some good fit. Studies have found theory of reasoned action and its extension, theory of planned behaviour [TPB] (Ajzen, 1991), to be very useful in predicting a wide range of behaviour (Sheppard et al., 1988; Madden et al., 1992). 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 have the ability to 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

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behavioural achievement depends on both motivation (intention) and ability (behavioural control). It distinguishes between three types of beliefs; which are behavioural, normative, and control. It is comprised of six constructs that collectively represent a person's actual control over the behaviour. Those constructs are attitudes, behavioural intention, socials norms, subjective norms, perceived behavioural control and perceived power. Figure 1 attempt to make this explanation more explicit.

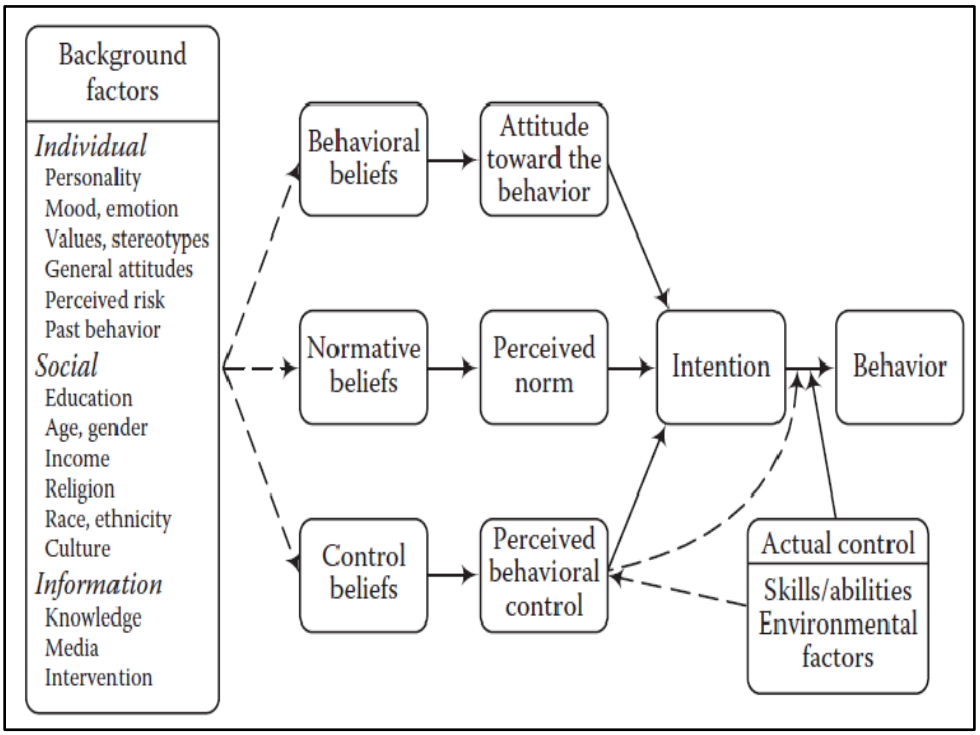

FIGURE 1
THEORY OF PLANNED BEHAVIOUR

STUDY OBJECTIVES

The objective of the study was to investigate the perception of students in the two universities who are enrolled in the entrepreneurship programmes about their intentions of entrepreneurship education. To achieve this objective; the researchers formulated the (null) hypothesis that students in the two universities, Tshwane University of Technology (TUT) and Walter Sisulu University (WSU) have similar intentions. This hypothesis was tested against the alternative that the students in the two institutions have differing intentions.

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ETHICAL CONSIDERATIONS AND TEST FOR INTERNAL CONSISTENCY

Ethical approval was granted by the Tshwane University of Technology Research Ethics committee (Clearance number: Ref#2018=04=005=Rankhumise EM et al). Participation in this study was voluntary. Anonymity and confidentiality principles were assured to participants.

Cronbach's α, with a 0.7 cut-off point (Lance et al., 2006), was used to test for internal consistency. The instrument subtheme of interest was entrepreneurial intention (EI), with Cronbach's α 0.9061. Therefore, all items were reliably testing underlying latent construct. Table 1 presents all the details.

Table 1
TEST FOR INTERNAL CONSISTENCY

Item	Obs	Sign	Item-test correlation	Item-rest correlation	Average interitem correlation	Alpha
I am ready to do anything to be an entrepreneur (e1)	448	+	0.8279	0.7447	0.6152	0.8888
My goal is to choose entrepreneurship as a career (e2)	448	+	0.8363	0.7566	0.6110	0.8870
I am optimistic to establish a business in the future (e3)	448	+	0.8481	0.7733	0.6051	0.8846
I will make an initiative to start and run my own business (e4)	448	+	0.8535	0.7809	0.6025	0.8834
Through this course, I know the necessary practical details to start a business (e5)	448	+	0.8002	0.7062	0.6288	0.8944
I keep encouraging other people to study entrepreneurship education (e6)	448	+	0.7835	0.6833	0.6371	0.8977
Test scale					0.6166	0.9061

MATERIAL AND METHODS

This study followed a comparative cross-sectional quantitative design (Struwig & Stead, 2001). The study used secondary data, collected via a structured questionnaire, from the study that was aimed at evaluating university students' perceptions of entrepreneurial education in South Africa. Data management was accomplished using a combination of Epi-Info and Stata Release 15 (StataCorp, 2017). All items used to measure students' EI used visual analogue scales (Struwig & Stead, 2001). Thematic questions were labelled e1, e2, e3, e4, e5 and e6 (see Tables 1-6). Stata Release 15 was used for data analysis. Shapiro-Wilk test was used to test for normality of the data (Royston, 1983; Ghasemi & Zahediasl, 2012). Table 2 shows that the hypotheses that items are normally distributed are not accepted at 0.05 error rate. Therefore, there is sufficient evidence to conclude that the data are not normally distributed.

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Table 2
SHAPIRO-WILK TEST FOR NORMALITY

Items	Count	W	V	*z*	Prob > *z*
I am ready to do anything to be an entrepreneur (e1)	463	0.91011	28.217	8.001	<0.0001
My goal is to choose entrepreneurship as a career (e2)	457	0.91298	26.997	7.890	<0.0001
I am optimistic to establish a business in the future (e3)	461	0.88716	35.285	8.535	<0.0001
I will make an initiative to start and run my own business (e4)	460	0.87506	38.991	8.773	<0.0001
Through this course, I know the necessary practical details to start a business (e5)	461	0.87417	39.346	8.795	<0.0001
I keep encouraging other people to study entrepreneurship education (e6)	462	0.90097	31.025	8.227	<0.0001

Descriptive statistics were presented as frequencies and percentages for categorical variables and as percentiles and interquartile ranges for measured observations. Pearson's chi-square test was used to test for association between categorical variables, study level (years) and University (Agresti, 1996; Agresti, 2010; Letsoalo, 2017). The Wilcoxon-Mann-Whitney test, which is a non-parametric analogue to the independent samples t-test, was used to compare the medians of the two institutions (Fagerland & Sandvik, 2009; Hart, 2001; De Winter & Dodou, 2010). The interpretation of results was performed at 0.05 error rate. In other words, findings were declared significant if p-value < 0.05.

RESULTS AND INTERPRETATIONS

This section presents summary statistics (Triola, 2006) and inferential statistics (Feller, 2008), and their respective interpretations. Summary statistics or descriptive statistics describe what is going on in a population or dataset, while statistical inference is the process of using data analysis to deduce properties of an underlying probability distribution (Feller, 2008). It is the attempt to apply the conclusions that have been obtained from one experimental study to more general populations. Thus, inferential statistical analysis infers properties of a population.

Summary Statistics

There were 484 students who volunteered to take part in this study. The number of Tshwane University of Technology (TUT) students was marginally higher than that of the Walter Sisulu University (WSU) such that 279 [57.64%] and 205 [42.36%] were TUT and WSU students, respectively.

Table 3 presents the summary measures of items that measured students' intentions. Since the collected data were subjective in nature (as they were generated from the visual analogue scale) then median (or 50th percentile) was used as a measure of central tendency and interquartile range (IQR) was used as measure of variability. The TUT's IQRs were marginally

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higher than those for WSU. Therefore, the WSU observations were consistent. The two institutions had equal medians for all items except items e1, e5 and e6 where WSU had marginally higher scores (Table 3). The medians for the two institutions ranged between 8 and 9 scores. These indicate that the overall impressions were such that the students in the two institutions had positive entrepreneurial intentions.

Table 3
SUMMARY MEASURES BETWEEN THE TWO INSTITUTIONS

Institution	Item	25th Percentile	50th Percentile	75th Percentile	Interquartile range
Tshwane University of Technology	I am ready to do anything to be an entrepreneur (e1)	6	8.5	10	4
	My goal is to choose entrepreneurship as a career (e2)	6	8.5	10	4
	I am optimistic to establish a business in the future (e3)	7	9	10	3
	I will make an initiative to start and run my own business (e4)	7	9	10	3
	Through this course, I know the necessary practical details to start a business (e5)	7	8.5	10	3
	I keep encouraging other people to study entrepreneurship education (e6)	5.5	8	10	4.5
Walter Sisulu University	I am ready to do anything to be an entrepreneur (e1)	7.5	9	10	2.5
	My goal is to choose entrepreneurship as a career (e2)	7	8.5	9.5	2.5
	I am optimistic to establish a business in the future (e3)	7.5	9	9.5	2
	I will make an initiative to start and run my own business (e4)	7.5	9	9.5	2
	Through this course, I know the necessary practical details to start a business (e5)	7.5	9	10	2.5
	I keep encouraging other people to study entrepreneurship education (e6)	7	8.5	9.5	2.5

Table 4 presents detailed distribution of the participants according to year of study, as it also shows that ten students did not indicate their levels of study. Majority of the participants were in their first year of their studies. They were followed by those who were in the second year of studies.

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Table 4 DISTRIBUTION OF STUDENTS ACCORDING TO YEAR OF STUDY		
Level of study	Frequency	Per cent
First Year	292	60.33
Second Year	115	23.76
Third Year	53	10.95
Fourth Year	14	2.89
Missing	10	2.07
Total	**484**	**100.00**

Inferential Statistics

The hypothesis that the proportion of participants in the TUT to the proportion of those in WSU was similar in the levels of study was tested using the Pearson's chi-square test. Table 5 indicates that the proportion of students in the levels of study are different in the two universities ($p<0.001$). The two universities had significantly differing participants in the level of studies.

Table 5 TEST FOR ASSOCIATION BETWEEN UNIVERSITY AND LEVEL OF STUDY				
Level of Study (Year)	Tshwane University of Technology		Walter Sisulu University	
	Frequency	Per cent	Frequency	Per cent
One	153	52.40	139	47.60
Two	62	53.91	53	46.09
Three	50	94.34	3	5.66
Four	14	100.00	0	0.00
Total	**279**	**58.86**	**195**	**41.14**
Pearson's Chi-square (3)=43.5360; P<0.0001				

Table 6 presents the result of rank-sum tests between the two universities. It indicates that the students of TUT had marginally higher scores than their WSU counterparts in all items. However, the e6 difference between the two institutions is significant ($p=0.0413$). Therefore, the TUT students are more likely to encourage other people to study entrepreneurship education as compared to their counterparts at WSU.

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Table 6
COMPARISON OF THE TWO INSTITUTIONS ON ENTREPRENEURIAL INTENTIONS

Entrepreneurial intention's items	Rank-Sum		P-value
	Tshwane University of Technology	Walter Sisulu University	
I am ready to do anything to be an entrepreneur (e1)	59539	47877	0.0838
My goal is to choose entrepreneurship as a career (e2)	60687.5	43965.5	0.7368
I am optimistic to establish a business in the future (e3)	63653.5	42837.5	0.0776
I will make an initiative to start and run my own business (e4)	62738.5	43291.5	0.1240
Through this course, I know the necessary practical details to start a business (e5)	59373	47118	0.2473
I keep encouraging other people to study entrepreneurship education (e6)	58481.5	48471.5	0.0413**

***Significant at 0.05 error rate*

DISCUSSION AND CONCLUSIONS

The study sought to investigate the perceptions of students in the two universities who are enrolled in the entrepreneurship programmes about their intentions of entrepreneurship education. The results of this study came from the two universities that had significantly different distributions of students according to the levels of study. From the analysis, it emerged that the students from the two universities had a positive entrepreneurial intentions. These findings are pleasing as one major purpose of entrepreneurship education is to develop the entrepreneurial intentions. As result of the positivity demonstrated by the surveyed students, entrepreneurship education plays an important role in nurturing student inclinations toward pursuing entrepreneurship as a career.

As observed in Mokaya et al. (2012), there are many definitions of entrepreneurship as there are many efforts to define it, and none of them considered in isolation gives a complete explanation to its meaning; rather they are complimentary. Entrepreneurs should be committed to what they are doing and care about it. Once they have a passion for what they do, they stand a good chance of succeeding in their business. Business operations are characterised by turbulence and as such, entrepreneurs should have self-confidence that they will succeed, irrespective of the challenges that they may face.

It is of great importance for SME owners to have self-efficacy in the running of their businesses. They need to be conversant with risks that are associated with their businesses. For them to understand these risks, they may need to conduct some preliminary investigation to understand the environment under which the business is to perform. Therefore, it may prove to be beneficial to aspiring entrepreneurs to be exposed to entrepreneurship education at early

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stage; for it is thought that early exposure has an influence on learners' attitude towards entrepreneurship. In other words, student education that incorporates activities that are real-life based and that demand problem-solving skills may prove to be vital for exposing students to knowledge and useful skills in order for them to generate income and to create employment opportunities. It is notable that TUT students are more likely to encourage other people to study entrepreneurship education as compared to their counterparts of WSU.

Future studies should focus on examining the effectiveness of entrepreneurship courses that cover the generation of business ideas and entrepreneurial opportunities course content that include technology of things. Offering such a course would benefit policy makers, institutions of higher learning and lecturers on how the students perceived entrepreneurship education and those stakeholders would be able to develop policies and learning materials that are tailor-made for the students' needs and the demands of the business-world. It would further assist the students to generate authentic business ideas after the completion of their university studies. As entrepreneurial intention develops overtime, it turns to be difficult to evaluate the association between entrepreneurial intention and the actual establishment of the business ventures. In this regard, a longitudinal study becomes an option to get a comprehensive tracking of the students who attended the entrepreneurship education programmes to verify whether the intention formation process had occurred or not.

LIMITATIONS OF THE STUDY

Data collection for this study was performed once per institution. Therefore, the opinions of those potential participants who were not present during data collection could not be included in the study's database. Perhaps those omitted students could have presented different perspective on the survey. Extrapolation or generalisation of this study's results can only be applicable to situations like those of the two institutions.

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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.

Agresti, A. (1996). *An introduction to categorical data analysis* . New York: John Wiley & Sons.

Agresti, A. (2010). *Analysis of ordinal categorical data* (2nd ed., Vol. 656). New Jersey : John Wiley & Sons.

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.

Azis, M., Haerudddin, M., & Azis, F. (2018). Entrepreneurship education and career intention: The perks of being a woman student. *Journal of Entrepreneurship Education, 21*(1), 1-10.

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

Bird, B. (1998). Implementing entrepreneurial ideas. The case for intention. *Academy of Management Review, 13*(3), 442-453.

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.

Davis, S.M. (2002). Social entrepreneurship: Towards an entrepreneurial culture for social and economic development. Retrieved 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.

do Paço, A., João Matos Ferreira, J., Raposo, M., & Dinis, A. (2015). Entrepreneurial intentions: Is education enough? *International Entrepreneurship Management Journal*, 57-75.

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.

Fayolle, A., & Gailly, B. (2004). Using the theory of planned behaviour to assess entrepreneurship teaching programs: A first experimentation. Napoli: University of Napoli .

Feller, W. (2008). *An introduction to probability theory and its applications* (Vol. 2). New Jersey : John Wiley & Sons.

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. *BMJ, 323*(7309), 391-393.

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

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

Kalyoncuoğlu, S., Aydıntan, B., & Göksel, A. (2017). The effect of entrepreneurship education on entrepreneurial intention: An experimental study on undergraduate business students. *Journal of Management Research, 9*(3), 72-91.

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.

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

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. (2017). Learners' perceptions on factors that affect their overall performances in mathematics. *Gender and Behaviour, 15*(3), 9502-9523.

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.

Minai, M., Raza, S., Hashim, N., & Zain, A. (2018). Linking entrepreneurial education with form performance through entrepreneurial competencies:A proposed conceptual framework. *Journal of Entrepreneurship Education, 21*(4), 1-9.

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

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.

Ngwenya, J., & 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.

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

Norsmah, O., & Nur Zafira, A. (2018). Public university students' entepreneurship interest and their career in Malaysia. *International Journal of Pure And Applied Mathematics, 119*(15), 2041-2046.

Oosterbeek, H., Praag, M., & Ijsselstein. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review, 54*(3), 442-454.

Othman, N., & Othman, S. (2017). The perceptions of public university students of entrepreneurship education in Malaysia. *International Business Management, 11*(4), 865-873.

Ozaralli, N., & Rivenburgh, N. (2016). Entrepreneurial intervention: Antecedents to entrepreneurial behaviour in the U.S.A and Turkey. *Journal of Entrepreneurship Research, 6*(3), 1-32.

Pittaway, L., & Cope, J. (2007). Entrepreneurship education a Systematic Review of the Evidence . *International Small Business Journal, 25*(5), 479-510.

Prodanov, H. (2018). Social enterpreneurship and digital technologies. *Economic Alternatives, 1*(1), 123-138.

Rankhumise, E.M. (2014). Entrepreneurial intentions among students: A case of Tshwane University of Technology, South Africa. *Problems and Perspectives in Management, 12*(2), 105-111.

Rankhumise, E.M., & Letsoalo, M.E. (2019). Owners' perspective of factors. *International Journal of Entrepreneurship, 23*(3), 1-17.

Royston, J.P. (1983). Some techniques for assessing multivarate normality based on the Shapiro-Wilk W. *Journal of the Royal Statistical Society: Series C (Applied Statistics), 32*(2), 121-133.

Salhi, B., & Jemmali, M. (2018). Entrepreneurship intention scoring . *Journal of Entrepreneurship Education, 21*(1), 1-16.

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.

Setiawaty, T., & Tjahjono, G. (2019). Smart innovation vocational high school: preparing graduates skilled and ready to work. In: *5th UPI International Conference on Technical and Vocational Education and Training (ICTVET 2018).* Atlantis Press.

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.

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, College Station, TX: StataCorp LLC.

Statistics South Africa. (2016). *Quarterly Labour Force Survey (QLFS)–Q2:2019*. Retrieved from http://www.statssa.gov.za/?p=12370

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

Triola, M.F. (2006). *Elementary statistics.* Reading, MA: Pearson/Addison-Wesley.

Tucker, D., & Selcuk, S. (2009). Which factors affect entrepreneurial intention of university students. *Journal of European Industrial Training, 33*, 142-159.

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.

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

Winarno, A., Rahayu, W., Wijijayanti, T., & Agustina, Y. (2019). The failure of entrepreneurship education of vaocatioinal high school students and college students: persepctive of evaluation instrument of learning results. *Journal of Entrepreneurship Education, 22*(1), 1-16.

Yurtkoru, E., Kuscu, Z., & Doganany, A. (2014). Exploring the antecedents of entrepreneurial intention on Turkish university students. *Procedia-Social and Behavioural Sciences, 150*, 841-850.

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

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