



The effect of entrepreneurship education programmes on the mind-set of South African youth

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Declaration

I declare that the doctoral thesis that I hereby submit for the degree PhD Entrepreneurship at the University of Pretoria is my own work and that I have not submitted it for a degree at another university.

Sara Bux
September 2016



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Executive summary

South Africa is currently experiencing a youth unemployment crisis. Xavier, Kelley, Kew, Herrington and Vorderwulbecke (2012) suggest that of greater concern is the inability of South Africa's formal sector to create jobs at the required rate to address issues of poverty reduction and job creation. An unemployment analysis and a segmentation of the general unemployment statistics indicated this to be a specific problem for the 15-24 age cohort not in employment, education or training (NEETs). Moreover, it is concerning to note that one in 12 young people have given up looking for work (QLFS 3: 2015).

As South Africa is a developing nation, it has a high rate of unemployment, resulting in many discouraged young job seekers. This issue has triggered the South African government's efforts to transform the country's youth unemployment crisis through the promotion of entrepreneurship. The critical question, however, is: How does South Africa change the mind-sets of its youth to venture into start-up business rather than to remain job seekers?

This research will build on that perspective by examining the systematic effort of developing entrepreneurial mind-set through the promotion of entrepreneurship education. This research will posit that there is value to systematising entrepreneurship education within the FET band of basic education provision as a means to developing the entrepreneurial mind-set which could potentially result in a shift in South African youth's perceptions of career aspirations.

To answer the three main research questions and the five primary and thirty secondary research hypotheses, the research aimed at a primary and secondary objective. The primary aim of this study was to conduct an assessment of entrepreneurship education programmes on participants in the grades 10 to 12, in the normative age group of 15 to 18. The primary objective was to describe the participants' experience of the entrepreneurship education programme (moderated

by the programme duration) in the referred group in terms of their perceptions of self-efficacy, inner locus of control and need for achievement.

The secondary aim of this study was to conduct an assessment of entrepreneurship education programmes on participants in the grades 10 to 12, in the normative age group of 15 to 18. The secondary objective was to describe the participants' experience of the entrepreneurship education programmes in the referred group and the effect on their perceptions of self-efficacy, inner locus of control, need for achievement, entrepreneurial intentions and predictions of entrepreneurial activity.

The study adopted a quantitative approach and adopted the use of a Likert scale questionnaire. Of the 1 200 questionnaires distributed, 637 were usable for the short entrepreneurship education programme and 381 were usable for the long entrepreneurship education programme. The purposive sampling technique was adopted.

Confirmatory factor analysis (CFA) was used to test the goodness-to-fit and the hypotheses developed for the study. The proposed model was modified and led to a competing model. Structural equation modelling (SEM), using AMOS, was adopted to analyse the data. The research adopted descriptive statistics to describe the demographic profile of the participants. Inferential statistics were used as well.

The research provided findings and conclusions on the participants' profile, the comparison of the short and long programme entrepreneurship education programmes and an overview of the hypotheses testing. Support was found for four of the five primary hypotheses and twenty-eight of the thirty secondary hypotheses.

The findings and conclusions would have contributed to theory and knowledge about the entrepreneurial mind-set of South African youth and to the body of knowledge on entrepreneurship education in South African high schools. The research also proposed recommendations and suggestions for further research in exploration of entrepreneurship education, the entrepreneurial mind-set and entrepreneurial intention in South Africa.

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List of acronyms

EEP	Entrepreneurship Education Programme
EM	Entrepreneurial mind-set
SA	South Africa
FET	Further Education and Training
DBE	Department of Basic Education
QLFS	Quarterly Labour Force Survey
WEF	World Economic Forum
NEETs	Not in education, employment or training
IRMSA	Institute of Risk Management South Africa
GEM	Global Entrepreneurship Monitor
QAA	Quality Assurance Agency
JASA	Junior Achievement South Africa
NYA	National Youth Agency
NDS III	National Skills Development Strategy III
NGP	New Growth Plan
DTI	Department of Trade and Industry
IPAP	Industrial Policy Action Plan
NDP	National Development Plan
CFA	Confirmatory Factor Analysis
AMOS	Analysis of Moment Structure
SEM	Structural Equation Modelling
FET	Further Education and Training
GET	General Education and Training
DBE	Department of Basic Education
ASGiSA	Accelerated and new growth initiative South Africa

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Chapter 1: Introduction

1.1. Context to this study

South Africa is currently experiencing a youth unemployment crisis. Xavier, Kelley, Kew, Herrington and Vorderwulbecke (2012, 43) suggest that of greater concern is the inability of South Africa's formal sectors to create jobs at the required rate to address issues of poverty reduction and job creation. Malikane (2011, 67) describes the face of youth unemployment in South Africa as peculiar because it is characterised by a severe lack of access to basic services and he attributes much of South Africa's socio-economic problems to the fact that the country has not yet addressed its legacy of apartheid. He further suggests that although SA became a signatory of the Youth Charter in 2009, the country remains racist, sexist and class-based and has failed to confront patterns of ownership and control of the economy.

An unemployment analysis and a segmentation of the general unemployment statistics, as represented by Table 1 below, indicates that this is a specific problem for the 15 to 24 age cohort not in employment, education or training (NEETs). Moreover, it is concerning to note that one in 12 young people have given up looking for work (QLFS 3 2015). Research on the matter of unemployment or potential unemployment that South African youth in the in the 15-24 age cohort face included physical and psychological effects: the latter included increased hostility, depression, anxiety, stress, anger, fear, despair, loneliness and social isolation, and decreased self-esteem, life satisfaction, aspiration levels, concentration and personal identity (De Witte, Rothmann, & Jackson, 2012: 1).

South Africa is a developing nation with a high rate of unemployment and discouraged young job seekers. This issue has triggered the South African government's efforts to transform the country's youth unemployment crisis through the promotion of entrepreneurship. The critical question, however, is: How does South Africa change the mind-sets of its youth to venture into start-up business rather than to remain job seekers?

The importance of entrepreneurship has been recognised worldwide, including South Africa. The increasing interest in entrepreneurship in South Africa is seen as a possible solution for global competition, corporate downsizing, and the inability of the formal sector to create sufficient jobs

and to change the mind-set of its youth. This research topic focuses on a potential means by which to achieve a wide-scale mind-set shift with regard to South African youth. A full definition of the entrepreneurial mind-set in general and specifically for South African youth, will be discoursed in the study sub-section, Key words, concepts and definitions. This definition is aligned with the paradigm of the study which is discussed further in sub-section 4.3: that new mind-sets amongst South African youth could potentially lead to them venturing into start-up businesses rather than remaining job seekers.

A delimitation of the study is that it focused exclusively on South African youth who were taking a JASA entrepreneurship education programme. This is further discussed under the delimitations of the study in sub-section 1.10. A detailed discussion of the sample group and their characteristics is engaged in sub-section 4.5 of this study.

Table 1: Labour Force Characteristics of 15-24 age group relative to the national 15-64 age group for the period July to September 2015. (QLFS 3 2015)

	15-64 (Thousands)	15-24 (Thousands)
Population of working age 15-64 (34 489)	24 225	10 264
Labour Force	20 268	2 573
Employed	15 117	1 252
Unemployed	5 151	1 320
Not Economically Active	15 221	7 692
Unemployment Rate	25.4	51.3
Employment/Population Ratio Absorption	42.6	12.2
Labour Force Participation	57.1	25.1

Table 2: Unemployment and Not Economically Active Rate by age group for 15-64 for the period July to September 2015. (QLFS 3 2015)

15-24	74.9%
25-54	25.9%
55-64	55.3%

Bignotti (2013, 12) cites Matthias (2012, 10) in his suggestion that there is not only little consensus on the actual number of unemployed young people in South Africa, but also little consensus about the causes of youth unemployment in the country: ranging from the problem of a crisis in education where the public schooling system is seen as being too weak to provide a good foundation in education, to the high cost of labour and the South African economy being part of a

global structural capitalist economy that makes unemployment inevitable. His findings do, however, concur with the facts that general unemployment and specifically youth unemployment in South Africa is a problem and that the formal sector cannot create jobs at the required rate to address the problem.

In concurrence, QLFS 4 (2015) points to young person's having generally higher unemployment rates with the highest unemployment rates recorded among those aged 15 to 24 years and 25 to 34 years. The report goes on to suggest that schooling and educational attainment of the labour force is increasingly being recognised as a factor that enhances labour market flexibility and facilitates structural adjustment, as well as one that improves the adaptability of societies at large to the social, cultural and technological demands of the 21st century.

From an examination of Global Entrepreneurship Monitor reports from 2010 to 2015, a consistent finding emerges that suggests that a key contributor to the vulnerability of youth in South Africa and their job discouragement is the skills, knowledge and competencies they acquire at school, which render them inadequately skilled to find employment in the formal sector. In addition, the World Economic Forum Global Competitiveness Report ranked South Africa's quality of education poorly, specifically in enabling its youth to adapt to social, cultural, economic and technological changes. Table 3 reflects South Africa's education provision ranking.

Table 3: WEF Report (2013) showing SA's basic education ranking

Education Aspect	Ranking (out of 148 countries)
Quality of Maths and Science Education	148
Quality of Educational System	140
Quality of Primary Education	132
Primary Education Enrolment	115
Secondary Education Enrolment	55

Concurring with this view, Derek (2013, 20) suggests that the South African economy demands highly skilled labour due to capital deepening and technological advancements and an irrelevant secondary education, such as is the case in South Africa, is insufficient to guarantee employment. Derek's argument is reinforced by other research, which he cites (Lam, Leibbrandt & Mlatsheni 2008; Burns, Edwards & Pauw, 2010).

The current youth unemployment situation and the inability of the formal job sector to create jobs at the required rate have long since been noted. The National Planning Commission (2011) recognised this as a time bomb with the greatest risk to social stability in South Africa. It estimated that if a young person failed to get a job by the age of 24, he or she was almost never likely to get formal, full-time employment. Consequently, about 60 percent of an entire generation could live their lives without ever holding a formal job. Such high youth unemployment presents challenges for a developing economy like South Africa: financially the challenge is the cost of economic growth through reduced gross domestic product (GDP), reduced money generated through taxes and increased cost of social grants; non-financially, is cost of the loss of talent and skills; and politically the cost of potential social unrest.

The suggestion then that South Africa's youth need a mind-set shift from the traditional educational system that teaches young people to engage in wage employment after finishing their education becomes an important consideration for a potential solution to addressing the issue of youth unemployment. More specifically, this research suggests that South Africa needs to explore an educational system that creates awareness of alternative career choices and broadens the horizon of its youth, equipping them with cognitive tools and enabling them to perceive and develop opportunities. This option must gain immediacy with youth closest to school-leaving age – in this case, those in the Further Education and Training (FET) phase of basic education in South Africa, i.e. individuals in grades 10 to12, in the normative age group 15 to18.

1.2. Background to this research

Since attaining democracy in 1994, South Africa's economic growth trajectory has not absorbed labour at the required scale, and the lack of access to the labour market and wage income has driven up poverty and inequality (DBSA 2011: 6). It must be noted that this is not a uniquely South African context, as outlined below, however, South Africa does have a unique history that accounts for the uniqueness of its youth employment, their lack of access to the labour market and the consequent growing poverty and inequality.

'Youth account for about 40 per cent of the world population. Across the globe, young women and men are making an important contribution as citizens, productive workers, entrepreneurs, consumers, members of civil society and agents of change. Their energy and capacity for innovation are priceless resources that no country can afford to squander. Although they are a

national asset in every country, young people are also extremely vulnerable. They face high levels of economic and social uncertainty. All too often, their full potential is not realized because they have no access to productive and decent jobs.’ (ILO-UNESCO 2006: V)

By as early as 2009, South Africa uncovered its National Youth Policy, 2009-2014, noting its intent as:

‘The future of South Africa’s youth, and thus the future of the country as a whole, is intimately affected by that policy disposition. Therefore, government in partnership with different role players must ensure that all young people access the opportunities that enable them to grow, develop and prosper as fully engaged, responsive and productive citizens. At the same time, all these role players must support young people who, by virtue of their vulnerability and other constraints, find themselves relegated to the margins of society and are unable to benefit from the policy dispensations offered by our democracy. The development of the National Youth Policy 2009-2014 is based on the National Integrated Youth Development Strategy of the youth sector.’ (National Youth Policy 2009: 5)

While the National Youth Agency (NYA) defines youth as anyone until the 35-year age cohort in South Africa, this research will focus on the 15 to 18 age group with its very specific characteristics and needs in terms of the school-to-work transition. This research considers this a strategic group to target in order to change the pattern of low basic education retention and access to opportunities that enable this cohort to grow, develop and prosper as fully engaged, responsive and productive citizens; in particular, if the country’s youth unemployment pattern is to be changed.

From the statistics highlighted earlier, this research considers this age group the most vulnerable and at risk of becoming not in employment, education or training (NEETs). From the important link established between education and employability, and adopting the rationale that education and training enhances the reasoning powers of individuals and imparts skills, increased education opportunities are likely to increase the general responsiveness of this age group in South Africa, and will thereby improve their performance, perceptions and attitudes towards employment holistically. Further, whilst this research recognises that the age group 15 to 34 in South Africa is at risk of being NEETs, this research limits its focus to the 15 to 18 age group. The rationale for

this focused approach is to consider the point of entry: what can realistically and feasibly be done in the short to medium term to change their mind-sets.

Historically, the situation of the youth education crisis – specifically black youth marginalisation through basic education provision – was already recognised in 1998 and South Africa's democratic government had inherited a Department of Basic Education (DBE) system that was 'fragmented, unco-ordinated, supply-driven, and insufficiently responsive to national priorities. Notably, that the country's education, management and skills levels continued to reflect Apartheid era patterns with inequitable distribution of skills was identified as a huge impediment to equitable growth. Noting the practice of an inequitable provision of basic education in South Africa was key to addressing the issue of normalising the Apartheid Era patterns. This would include addressing several issues: ill-prepared learners; an inferior schooling system; teachers with insufficient motivation and knowledge to transfer the skills required for the modern world of work; an economy that is not conducive to job creation; affirmative action; and other causes such as increased mechanisation by industry.' (Steenekamp, Van der Merwe & Athayde 2011: 2)

The Agence Française de Développement (2006) further augmented the insights around South Africa's inherited challenge of a dichotomous economy from the previous system of apartheid, underpinned by poor-quality education and training among the black population. The AFD recognised that that inequality continued to hamper the country's human development and, in turn, its growth potential. A notable AFD observation was that in contrast to the education system for white people, school for black people during apartheid was neither compulsory nor free. There were wide differences in the quality of the various education systems. Education for black people was mediocre and poorly resourced, while that for whites was generally good and well resourced. There was an unequal spend on education per white child and children of other race classifications. The consequence of all this was that many black adults still have a very low educational level or are illiterate (40.8%), whereas only 2.6% of whites are in the same situation.

Compounding the challenge in South Africa's education system as well as the inequality, was the need to address the issue of the quality of its basic education delivery to meet the demands of the new competitive environment ushered in by globalisation, specifically for new education and training demands – for example, the need for a highly skilled labour force able to employ new technologies and add value to goods and services through continuous innovation. Enterprises require entire labour forces that are sufficiently skilled to adapt rapidly to changes in product

markets and to cope with unforeseen circumstances (Black Economic Empowerment Commission 2001: 14).

The Black Economic Empowerment Commission further noted that when South Africa adopted basic education provision with the traditional classroom delivery method, it was neither conducive to the development of an enterprising spirit among young learners, nor did it impart the skills and values that young learners required to adopt a mind-set that would support their attitudes, perceptions and opportunities to become employable. Now, policy-makers in South Africa were facing two key issues in the provision of basic education: the unequal education and the relevance of and access to its basic education provision that would promote the right mind-sets amongst its recipients to shift from the mind-set of a job seeker to the mind-set of a job creator.

South Africa prioritised its effort and attention towards the matter of the attainment of equality in the provision of basic education. The National Skills Development Strategy III (NSDS III) was formulated to ensure increased access to training and skills development opportunities and to achieve the fundamental transformation of inequities linked to class, race, gender, age and disability in our society. The NSDS III focused on the development of socioeconomic programmes aimed at reducing poverty, creating jobs and boosting economic growth. The strategy aimed to develop vocational training schemes to help young job seekers and people in work acquire the skills they needed to both contribute to the development of the national economy and to do a job that would enable them not merely to survive, but also earn a decent living and evolve professionally. Whilst this was a key insight that could have created an impact on South Africa's turnaround of the quality of its basic education provision, the fact that South Africa currently has neither moved forward nor fast enough in terms of youth unemployment suggests that this issue continues to constrain the South African economy.

The National Treasury Annual Report (2011) suggested that addressing youth unemployment required both short- and long-term measures that encompassed increasing demand for labour, improving education and skills, and labour market interventions that improve the employability of young people. It further suggested policy options that were available to government focused mainly on the gap between productivity and real wages for young workers as an important constraint to job creation. It concluded that skills deficiencies contributed to that gap and that the provision of quality education and skills development should become a priority for government. Whilst government does prioritise the matter, and amidst other things does attempt to implement

education interventions to raise the quality of basic education, re-engage drop-outs with the education system and provide an environment that cultivates academic, technical and vocational skills, those interventions will take time to yield impact and will require monitoring and evaluation. Inherent to such education interventions, this research suggests that entrepreneurship education has a vital role to play.

Nzimande (NSDS III 2010, 2) stated that for South Africa to achieve high levels of economic growth and address our social challenges of poverty and inequality, we had to work together to invest in education, training and skills development to achieve our vision of a skilled and capable workforce to support an inclusive growth path. Inherent in that comment, was that South Africa would have to adopt transformative strategies to fast-track the inclusivity and growth of the youth. Nzimande's concerns are evidenced by recent national reporting that only half the South African children who start each year in Grade 1 make it to Grade 12, and nearly 60% of South African youth leave school with no formal educational qualification beyond Grade 9 (HRDC 2013: 18). While a very large number of children have access to basic education in South Africa, a significant proportion of these learners do not perform at a level sufficient to acquire basic skills necessary for the next phase of schooling. Meaningful access to education, then, as opposed to mere physical access, remains elusive for the majority (OECD 2008: 34).

UNICEF (2011) suggested that access to education of poor quality is tantamount to no education at all with there being little point in providing the opportunity for a child to enrol in school if the quality of the education is so poor that the child will not become literate or numerate, or will fail to acquire critical life skills and meaningful work. The report further suggested that quality education would provide the knowledge, values and skills that would form the foundation for life-long learning and professional success; ending generational cycles of poverty and providing the platform for sustainable development and meaningful work.

From the existing body of knowledge, it is known that the unemployment rate in any country, South Africa included, decreased with education – it being highest among those whose highest level of education is Grade 12 and below. Further, the absorption rate among those with tertiary education was 44.8 percentage points higher than among those whose level of education is below matric, and the gap in the labour force participation rate between these two groups was 40.5 percentage points (Quarterly Labour Force Survey, Quarter 2 2014: 20). Current education policy initiatives are closely tied in with the Accelerated and Shared Growth Initiative – South Africa

(AsgiSA) economic strategy. AsgiSA identified the current skills shortage as the single greatest impediment to economic growth, attributing this not only to the apartheid legacy, but also to the slowness of our education and skills development institutions to catch up with the current acceleration of economic growth (National Youth Policy 2009: 44).

Fourie (2012, 23) suggested that the impact of education on poverty, inequality and unemployment respectively may be dissimilar and complex. Education only appears to have a significant impact on (un)employment once working-age persons have a matric qualification or higher. Gender, race, age and generational aspects influence, in complex ways, the causal relationships surrounding issues such as vulnerability, job search, migration, grants and education. Further, there are indications of a correlation between unemployment and poverty where unemployment causes poverty, but in turn the condition of poverty contributes to unemployment and its persistence. Should such correlation hold true, then there exists the opportunity for policy makers to explore whether the facilitation of people's access to education and labour markets or to education will create the mind-set of what meaningful work entails.

South Africa's New Growth Plan (NGP) set job creation as a dominant priority in the country, with the aim of reducing levels of unemployment by some ten percentage points by 2020. The NGP and the Department of Trade and Industry's (DTI) Industrial Policy Action Plan (IPAP) were incorporated into the South African Government's adoption of the National Development Plan (NDP) – its blueprint for South Africa's economic and socioeconomic development strategy. Of direct relevance to this study, one of the explicit aims of the NDP is poverty reduction by 2030 – to raise employment from the current 13 million in 2013 to 24 million in 2030, with the objective of building consensus amongst key stakeholders in the country to identify which obstacles exist to achieve such aims and what needs to be done to overcome those obstacles (The National Development Plan 2012: 22).

In tracing the history of South Africa's provision of basic education, this sub-section sought to demonstrate that the country had inherited two major problems related to the provision of basic education, namely the unequal access to education by race and the provision of quality education. The challenge of the provision of an unequal education has been and continues to be addressed, as evidenced in the literature cited above. Government's efforts and progress in this regard have become legislated and it is enshrined in the South African Constitution that access to basic education shall be free to all South Africans.

The provision of quality basic education, however, remains a concern. It has proven to have failed to address the issue of access to opportunities that enable South African youth to grow, develop and prosper as fully engaged, responsive and productive citizens – if the country’s youth unemployment is to be addressed. This research will therefore focus on the imperative for the need to describe the effect of entrepreneurship education programmes on the mind-set of South African youth.

1.3. Importance of the study

This research accepts and agrees with the view that entrepreneurship education has the potential to positively influence the development of an entrepreneurial mind-set and that the same would be true for South African youth. In this study, the researcher further suggests that in South Africa, the relationship between the two – entrepreneurship education and the development of the entrepreneurial mind-set – has been either assumed or contested, but not thoroughly described. This sub-section will present some of these existing views of entrepreneurship education and its potential to positively influence the development of the entrepreneurial mind-set and critically review those.

Steenekamp, Van der Merwe & Athayde (2011, 16) concur that few research results are available on young South African learners’ attitudes towards entrepreneurship and their future plans, and consequently more information is required for the development of suitable interventions to improve the employability of learners exiting school. On critical review, this research suggests that one area of study that requires further description within this phenomenon of study is the effect of entrepreneurship education on the mind-set of South African youth. The rationale for furthering such description is to understand better whether there exists such a correlation and how it will influence the future of South African youth to become more entrepreneurially-intent to start-up businesses upon leaving school.

The view of the National Treasury Report which was cited earlier in this research, is that the education system has immense potential, given its reach, to influence the development of an entrepreneurial mind-set amongst its learners. However, Bignotti (2013, 21) suggests there are currently a limited number of theories or frameworks depicting the antecedents of an entrepreneurial career choice amongst youth in South Africa. In this research accepting the views of the National Treasury Report and the gap as highlighted by Bignotti, this study identifies another reason for its importance. This study believes that if it is true that education has immense potential

to influence the development of the entrepreneurial mind-set amongst its learners, then there is need to describe the effect of entrepreneurship education on the mind-set of South African youth. The study also believes that such description should focus on those who are closest to school-leaving age and at the highest risk of unemployment in South Africa, namely the 15- to 18-year-old cohort, who will be the demographic of this research.

Urban (2016, 15) suggests that entrepreneurship is one of the most important tools that we have to solve the unemployment problem in South Africa, but to do this we need to create the right environment as well as an entrepreneurial mind-set for it to prosper. He further suggests that South Africa, which is lagging its neighbours like Angola and Mozambique in creating citizens with a true entrepreneurial spirit, needs to create a critical mass of quality high-growth entrepreneurs to help root out unemployment and to create jobs. The only way to do this is through good education and legitimising entrepreneurship as a field of research and study. The scholarly part is critical. Urban suggests that unless we have good education, we are never going to have a critical mass of entrepreneurs.

In reviewing Urban's view, this research would like to better understand and describe the correlation between education interventions and the development of entrepreneurial mind-sets amongst South African youth. If it is true, as Urban states that a critical mass of high-growth entrepreneurs will help root out unemployment and create jobs, then there is merit in researching the relationship along the continuum. This research, to describe the effect of entrepreneurship education on the mind-set of South African youth, is thus a starting point along that continuum. This study will aim to contribute to the description of the correlation between the development of the entrepreneurial mind-set and access to entrepreneurship education programmes.

The reality is that South African youth have limited access to entrepreneurship education. Maas & Herrington (2006, 45) focused on 'isolating the factors that were contributing to low rates of entrepreneurship in South Africa. One of the emergent factors was that potential entrepreneurs lacked the mind-set and skills to become true entrepreneurs and that more needed to be done at a policy level to boost individual beliefs and competencies. In accepting Maas & Herrington's view, which this research does, this research aims to show that such mind-sets can be developed through access to entrepreneurship education programmes.

Schools should be active partners in the process of building entrepreneurship as well as fostering entrepreneurs, starting with the discussion on entrepreneurship education (Sjovoll & Pedersen 2014: 2). In addition, Aslam, Awan & Khan (2012: 115) suggest that formal entrepreneurial education has an impact on students' inclination towards entrepreneurship as a career selection. Both these views, that schools are important agencies for entrepreneurship education and that formal entrepreneurship education can impact students' inclinations towards entrepreneurship as a career, have significance in the South African landscape.

This research accepts and agrees with both views and suggests in addition, that the content of entrepreneurship education, as offered to South African youth, must be relevant in noting the specific uniqueness of the South African entrepreneurship landscape and the country's historical legacy issues. A very specific entrepreneurial mind-set is required for South Africa's youth to consider entrepreneurship as a career as a possibility to growing South Africa's pool of entrepreneurs. Herein lies another reason that this research believes it is important to fully describe the effect of entrepreneurship education on the mind-set of South African youth. In addition, this research believes it is important to define the type of mind-set that youth in South Africa will need to catalyse change in current employment behavioural patterns.

Scholarly literature on entrepreneurial behaviour, attitudes and intentions is substantial. At the front of such research are the big five personality dimensions, that is: risk taking, need for achievement, need for autonomy, locus of control, and self-efficacy (Urban, 2004: 13).

Based on wide existing global research and country-level best practices, this research will accept the view that entrepreneurship education is antecedent to the development of the entrepreneurial mind-set and the view that the emergence of potential entrepreneurs in transitional economies depends on the entrepreneurial potential of the society, which is, in turn, largely a function of systematic efforts of developing entrepreneurs (Urban, 2004: 12).

This research will build on the applied perspective by examining the systematic effort of developing entrepreneurial mind-set through the promotion of entrepreneurship education. This research will posit that there is value to systematising entrepreneurship education within the Further Education and Training (FET) band of basic education provision as a means to developing

the entrepreneurial mind-set that could potentially signal a shift in South African youths' perceptions of career aspirations.

Current research on the outcomes of entrepreneurship education continues and at the same time, research is required to understand how to systemically deliver such education. Past research has also not provided rigour in its description of the effect of entrepreneurship education on the mind-set of South African youth, as well as the effect of that influence moderated by the duration of the entrepreneurship education programme on the development of an entrepreneurial mind-set. Given this situation, it is of theoretical and practical relevance to research and describe the effect of entrepreneurship education on the mind-set of South African youth.

1.4. Relevance of this study

This research is relevant, given the potential importance that entrepreneurship education could have in today's South African environment. The entrepreneurship programmes currently available in South Africa, lack a plan to systematise its application. The relevance of focusing on youth development, given that they are the single most influential group in a low-income community (De Berg & Eimer 2014: 176-177), is huge in the South African context, now more than ever.

According to the International Labor Organization (2009, 67), about 85.3 million young men and women were unemployed throughout the world in 2008. From the figures presented earlier, youth unemployment is generally higher in South Africa by comparison to most countries surveyed. According to the ILO Report (2009, 66), a generation without the hope of a stable job is a burden for the whole of society. The ILO report concluded that poor employment in the early stages of a young person's career can harm job prospects for life. Of significance was the conclusion that the economic investment of governments in education and training may be wasted if young people did not move into productive jobs that enabled them to pay taxes and support public services. Thus, this research recognises the relevance of investigating a means by which youth may access productive work through its description of the effect of entrepreneurship education on the mind-set of South African youth.

Numerous research streams examine the factors that drive entrepreneurial intentions and actions. There is extant global research that focuses on individual self-efficacy, the inner locus of control and the need for achievement and its positive relationship with behavioural intentions. This has

led this research to investigate the relative importance of self-efficacy, inner locus of control and the need for achievement (constructs that contribute to the development of the entrepreneurial mind-set) alongside other previously identified antecedents of entrepreneurial intention, such as education, age, gender, home and school location.

Many studies conducted outside and even within South Africa suggest that the entrepreneurial mind-set is antecedent to and a good predictor of entrepreneurial intention (see literature review to follow in Chapter 2) because it refers to cognitive evaluations of personal capabilities about the specific task of entrepreneurship. In this research, the view is that if the entrepreneurial mind-set is such an important construct in actual entrepreneurship activity, it is essential to understand not only what the entrepreneurial mind-set can predict, but also how the entrepreneurial mind-set can be developed.

Consistent with the belief that the development of the entrepreneurial mind-set can be influenced by experience, this research seeks to describe the effect of entrepreneurship education on the mind-set of South African youth; with specific reference to the combination of self-efficacy, inner locus of control and the need for achievement. In this research, the role of entrepreneurship education programmes in developing the entrepreneurial mind-set of youth across South Africa is examined. In addition, the influence on learners' intentions to pursue an entrepreneurial activity will be described. Finally, the role of the duration of the entrepreneurship education programme in moderating this relationship will be described. This is of interest and relevance given the South African youth employment crisis.

This research will describe the influence of two entrepreneurship education programmes, one short and one long, on the mind-set of South African youth. Furthermore, it notes and acts on the identified research gap in literature that South Africa has a unique history and very specific entrepreneurship challenges, as highlighted in the context of this research, and therefore seeks to investigate its specific hypotheses.

First, the JASA entrepreneurship education programmes (a detailed overview of the JASA short and long entrepreneurship education will follow in sub-section 3.7. The full programme overview may be accessed as Appendices 10 and 11) will be tested with respect to its influence on the development of the entrepreneurial mind-set as delineated in this research (a detailed definition

of the entrepreneurial mind-set as used in this research is accessible in sub-section 1.9); specifically self-efficacy, inner locus of control, the need for achievement, entrepreneurial intention and predictions for entrepreneurial activity, and this will add to the current discussion of the effect of entrepreneurship education, in the South African context. Whilst other studies were conducted where the Junior Achievement programme was examined (Bbhenkele & Ndedi, 2010, 14; North, 2002, 8), neither had specifically considered the age group and the mind-set constructs that this research aims to study.

Second, the influence of the duration of entrepreneurship education programmes will be analysed. This is of crucial importance for future considerations as the length of duration relates to time investment and resource utilisation. Duration of entrepreneurship education also has the potential to function as a moderator of influence and further develop academic understanding in the context of entrepreneurship education in South Africa.

Third, the link between entrepreneurship education, the development of an entrepreneurial mind-set, entrepreneurial intention and entrepreneurial activity will be analysed. Currently, this is a gap within the South African context where empirically, validation of the link between entrepreneurship education and the development of an entrepreneurial mind-set is wanting of more description.

From a theoretical perspective, this study will apply the theories of Planned Behaviour, Social Cognitive Theory, Social Learning, the Need for Achievement and Cognitive Learning Theory to support the link between entrepreneurial education programmes, the development of an entrepreneurial mind-set, entrepreneurial intentions and entrepreneurial activity. The latter two may be antecedent to new career aspirations for South Africa's youth.

However, to achieve the practical application mentioned above, this research hopes to prove a correlation between the development of entrepreneurial mind-sets through access to entrepreneurship education programmes. Consequently, and based on such correlation been proven, it hopes to make recommendations to education policy-makers that a new paradigm for education, with an entrepreneurial shift will contribute to the current South African education landscape. In addition, upon proving such correlation, the study hopes to raise awareness that to systematise entrepreneurship through education will require a long-term commitment and potential implications for the future approach.

Further, in assuming the study can prove a correlation between the development of entrepreneurial mind-sets through access to entrepreneurship education programmes, this research perceives new policy to support entrepreneurship, through the education system, as working along a continuum where Government can generate some quick wins now, and also start to put in place the foundations for a transformational shift in South Africa's entrepreneurial infrastructure over the long term.

To catalyse such a change process, it is necessary for this research to prove a correlation between the development of entrepreneurial mind-sets and access to entrepreneurship education programmes. It is also required that this research show the moderating influence of the duration of the entrepreneurship education on the development of the entrepreneurial mind-set. If the research is able to prove both cases, it will make some recommendations for academics, practitioners and government to drive stronger entrepreneurship through education in the short, medium and long terms.

1.5. Research problem

This research accepts that youth job growth will not come from interventions in the formal employment market sector alone. Macroeconomic and growth policies, with focus on entrepreneurship, should aim to contribute to:

- addressing skill mismatches (through reform of education and training policy for youth);
and
- promoting entrepreneurship at the systemic level of the school and beyond.

This research states the problem as follows: Too few South African youth are currently exposed to entrepreneurship education to develop an entrepreneurial mind-set. South Africa thus needs to enhance such exposure through the introduction of a systemic entrepreneurship education access point for all youth in the FET band of basic education, in Grades 10 to 12, at the normative age of 15 to 18, to achieve a general mind-set shift of its youth in the referred group.

1.6. Research question

Arising from the research problem, the main questions this research asks are:

1. What will be the influence of short entrepreneurship education programmes on the mind-set of South African youth – with specific reference to self-efficacy, inner locus of control and need for achievement on their entrepreneurial intentions and as predictors of their entrepreneurial activity?
2. What will be the influence of long entrepreneurship education programmes on the mind-set of South African youth – with specific reference to self-efficacy, inner locus of control and need for achievement on their entrepreneurial intentions and as predictors of their entrepreneurial activity?
3. Will there be a difference on the mind-set development based on the duration of the entrepreneurship education programmes– with specific reference to self-efficacy, inner locus of control and need for achievement on their entrepreneurial intentions and as predictors of their entrepreneurial activity?

1.7. Research objectives

Supported by studies cited earlier, the mainstream view has traditionally documented a positive relationship between entrepreneurship education and entrepreneurial activity (Fourie, Urban, National Skills Development Strategy, Treasury National Annual Report). This research notes that there also exists research that found either a negative or negligible relationship between entrepreneurship education and entrepreneurial activity. This research adopts a delimitation to examine literature that documents a positive relationship between entrepreneurship education and entrepreneurial activity, in alignment with the research objective to describe the effect of entrepreneurship education programmes on the mind-set of South African youth. Sub-section 1.9, will provide definitional stances of this research of: youth, the entrepreneurial mind-set and other pertinent definitions.

In addition, this research seeks to describe the moderating influence of the length of the entrepreneurship education programme on the mind-set of South African youth. Two entrepreneurship education programmes offered by Junior Achievement South Africa (JASA) will be considered. The short programme lasts 16 weeks and the long programme lasts 32 weeks. The full overview of each programme: schedule, content and methodology may be accessed as Appendices 10 and 11.

Finally, the research seeks to describe what the effect of entrepreneurship education programmes will be on the mind-set of South African youth and their entrepreneurial intentions as predictors of entrepreneurial activity.

The primary aim of this study is to conduct an assessment of the effect of entrepreneurship education programmes on participants in Grades 10 to 12, in the normative age group of 15 to 18. The primary objective is to describe if the participants' experience of the entrepreneurship education programme (moderated by the programme duration) in the referred group led to their positive perceptions of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and predictions for entrepreneurial activity.

The secondary aim of this study is to conduct an assessment of the effect of entrepreneurship education programmes on participants in Grades 10 to 12, in the normative age group of 15 to 18. The secondary objective is to describe if the participants' experience of the entrepreneurship education programme in the referred group led to their positive perceptions of the factors relating to the constructs of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and predictions for entrepreneurial activity.

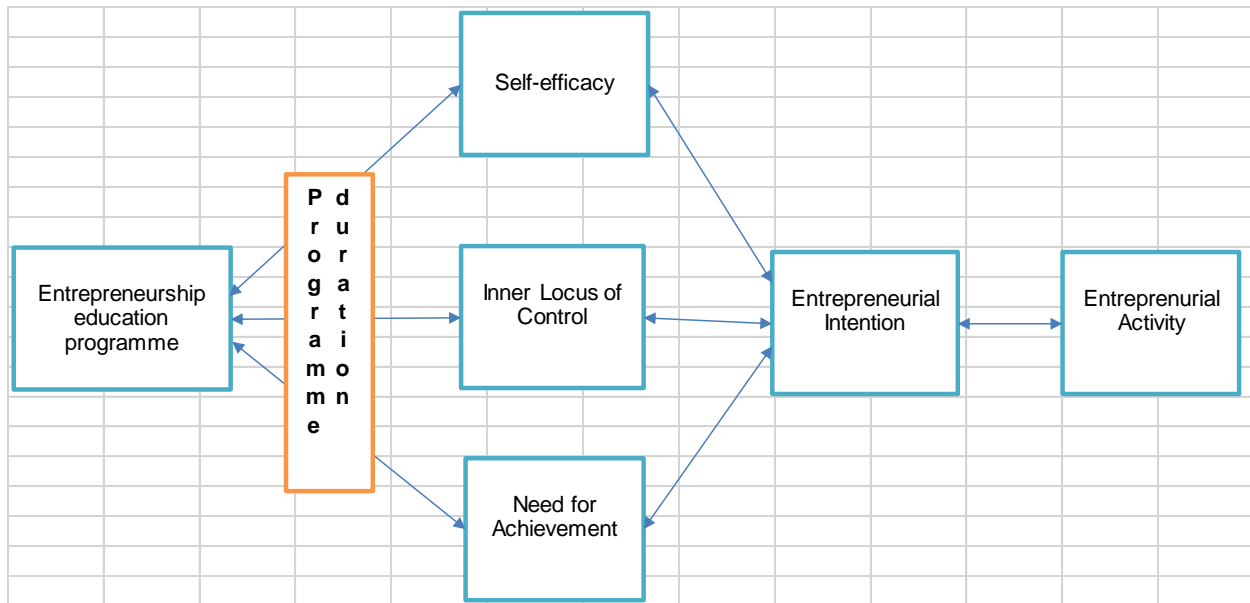
The general aim of this research is to conduct an assessment of entrepreneurship education programmes of two varying durations on participants in Grades 10 to 12, in the normative age group of 15 to 18, at the level of secondary school to describe what influence entrepreneurship education programmes will have on their mind-set development.

1.8. Research hypotheses

Figure 1 below represents the conceptual model for this research. It is conceptualised that access to an entrepreneurship education programme, will lead to the development of the entrepreneurial mind-set constructs: self-efficacy, inner locus of control and need for achievement. These in turn, will develop entrepreneurial intentions and will ideally, culminate in their entrepreneurial activity.

Arising from this conceptual model, hypotheses were developed. The hypotheses were categorised as primary and secondary hypotheses.

Figure 1: The conceptual model developed for this research relating to the primary objective



In aiming to describe the effect in accordance with the primary and secondary aims of this research, the researcher developed the following hypotheses. The following hypotheses relate to the primary objective.

H₁: Participants who have accessed the long entrepreneurship education programme (EEP) will demonstrate higher levels of self-efficacy than participants who accessed the short entrepreneurship education programme.

H₀: Participants who have accessed the short entrepreneurship education programme (EEP) will demonstrate equal levels of self-efficacy as participants who accessed the long entrepreneurship education programme.

H₂: Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of locus of control than participants who accessed the short entrepreneurship education programme.

H₀: Participants who have accessed the short entrepreneurship education programme will demonstrate equal levels of locus of control as participants who accessed the long entrepreneurship education programme.

H₃: Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of need for achievement than participants who accessed the short entrepreneurship education programme.

H₀: Participants who have accessed the short entrepreneurship education programme will demonstrate equal levels of need for achievement as participants who accessed the long entrepreneurship education programme.

H₄: Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of entrepreneurial intention than participants who accessed the short entrepreneurship education programme.

H₀: Participants who have accessed the short entrepreneurship education programme will demonstrate equal levels of entrepreneurial intention as participants who accessed the long entrepreneurship education programme.

H₅: Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of predictions for entrepreneurial activity than participants who accessed the short entrepreneurship education programme.

H₀: Participants who have accessed the short entrepreneurship education programme will demonstrate equal levels of predictions for entrepreneurial activity as participants who accessed the long entrepreneurship education programme.

The following hypotheses relate to the secondary objective of the study.

H₆: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of self-efficacy.

H₀: Participants who accessed the short and long entrepreneurship education programme will demonstrate no positive perceptions of self-efficacy.

H₇: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of inner locus of control.

H₀: Participants who accessed the short and long entrepreneurship education programme will demonstrate no positive perceptions of inner locus of control.

H₈: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of need for achievement.

H₀: Participants who accessed the short and long entrepreneurship education programme will demonstrate no positive perceptions of need for achievement

H₉: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of entrepreneurial intention.

H₀: Participants who accessed the short and long entrepreneurship education programme will demonstrate no positive perceptions of entrepreneurial intention.

H₁₀: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of entrepreneurial activity.

H₀: Participants who accessed the short and long entrepreneurship education programme will demonstrate no positive perceptions of entrepreneurial activity.

The research will also formulate the following secondary hypotheses:

H₁₁: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of enabling anything (opportunities) to become an entrepreneur.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of doing anything (opportunities) to become an entrepreneur.

H₁₂: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of having acquired the required knowledge and skills to become an entrepreneur.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of positive perceptions of having acquired the required knowledge and skills to become an entrepreneur.

H₁₃: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of seeking further knowledge and skills through other entrepreneurship education if this programme did not fulfil the need.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of seeking further knowledge and skills through other entrepreneurship education if this programme did not fulfil the need.

H₁₄: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of self-confidence to succeed in the future.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of self-confidence to succeed in the future.

H₁₅: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of accurately evaluating their strengths and weaknesses.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of accurately evaluating their strengths and weaknesses.

H₁₆: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of all things, even failure, as an opportunity to improve.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of all things, even failure, as an opportunity to improve.

H₁₇: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of taking responsibility for both successes and failures.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of taking responsibility for both successes and failures.

H₁₈: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of life being influenced by things they do personally and not of those around them.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of life being influenced by things they do personally and not of those around them.

H₁₉: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of being a leader being mostly dependent on their potential.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of being a leader being mostly dependent on their potential.

H₂₀: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of looking for someone else to blame when targets are not met.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of looking for someone else to blame when targets are not met.

H₂₁: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of achieving what they set out to do is so because of their hard work.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of achieving what they set out to do is so because of their hard work.

H₂₂: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of overcoming fear of failure.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of overcoming fear of failure.

H₂₃: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of failure as a motivation.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of failure as a motivation.

H₂₄: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to succeed at all cost.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to succeed at all cost.

H₂₅: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of being on top and receiving credit.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of being on top and receiving credit.

H₂₆: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to succeed at being an entrepreneur to make profit and increase their status.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to succeed at being an entrepreneur to make profit and increase their status.

H₂₇: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of welcoming personal accountability.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of welcoming personal accountability.

H₂₈: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of setting challenging yet attainable goals for themselves.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of setting challenging yet attainable goals for themselves.

H₂₉: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions for receiving performance feedback.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions for receiving performance feedback.

H₃₀: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of taking calculated risks to accomplish their goals.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of taking calculated risks to accomplish their goals.

H₃₁: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to be an entrepreneur because they have the competencies to become one.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to be an entrepreneur because they have the competencies to become one.

H₃₂: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to be an entrepreneur because they have acquired the skills to become one.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to be an entrepreneur because they have acquired the skills to become one.

H₃₃: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to be an entrepreneur because they have the knowledge to become one.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to be an entrepreneur because they have the knowledge to become one.

H₃₄: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to be an entrepreneur because they have no other means to make an income.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to be an entrepreneur because they have no other means to make an income.

H₃₅: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to be an entrepreneur because they tend to spot opportunities to become one.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to be an entrepreneur because they tend to spot opportunities to become one.

H₃₆: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of starting their entrepreneurial venture within 5 years of leaving school.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of starting their entrepreneurial venture within 5 years of leaving school.

H₃₇: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to make a profit.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to make a profit.

H₃₈: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to take advantage of their skills and knowledge.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to take advantage of their skills and knowledge.

H₃₉: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to create employment.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to create employment.

H₄₀: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to grow the economy.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to grow the economy.

1.9. Key words, concepts and definitions

Entrepreneurship education: This focuses on the development and application of creative ideas and innovations and skills in the specific context of new business creation and/or starting up new businesses (Gibb 2005: 10). The details of how the JASA entrepreneurship education programmes fulfil this, is detailed in Chapter 3 sub-section 3.7 and the full programme overviews may be accessed as Appendices 10 and 11. For this study, entrepreneurship education will be defined as:

Short Entrepreneurship education programme which lasts 16 weeks:

(<http://www.jasa.org.za/MiniEnterpriseProgramme.pdf>):

Start-up of own (per group) mini company, including selecting the company name, electing managers, buying and selling shares, identifying a product or service through examination of their community needs, identification of solutions to meet those needs, conducting market research, sourcing suppliers and either developing or producing a product or service to meet the need, handling sales and marketing so that they can correctly sell and market their unique proposition and working with finances: including managing their company finances, auditing the company and share in the profits and/or losses and conducting company meetings.

Long Entrepreneurship education programme which lasts 32 weeks:

(<http://www.jasa.org.za/EntrepreneurshipAcademy.pdf>)

Within groups, individuals understand themselves through a personal discovery session that shows them what likes and dislikes are and what they are capable of achieving, they analyse and understand different communication patterns, start-up of own (per group) mini company, including selecting the company name, electing managers, buying and selling shares, identifying a product or service through examination of their community needs, identification of solutions to meet those needs, conducting market research, sourcing suppliers and either developing or producing a product or service to meet the need, handling sales and marketing so that they can correctly sell and market their unique proposition and working with finances: including managing their company finances, auditing the company and share in the profits and/or losses and conducting company meetings (more iterations).

South African youth: in South Africa, youth are classified as individuals below the age of 35. For this study, where the interest is in youth close to school leaving age, youth will be defined as 15-18 year olds.

Entrepreneurial mind-set (EM): Researchers have debated about exactly what is meant by the term (Table 4). This research will define the entrepreneurial mind-set by consideration of the many existing definitions, an understanding of the South African context especially its historical legacy, which was overviewed within this chapter in in sub-section 1.1 and define the entrepreneurial mind-set as: An entrepreneurial mind-set is one that incorporates self-efficacy, inner locus of control and the need for achievement. In addition, those who possess the entrepreneurial mind-set, will demonstrate the ability to think creatively, adaptively, demonstrate entrepreneurial knowledge, skills and an innovative practice of identifying and creating opportunities, and acting to manifest those opportunities in a productive way.

The researcher believes that for South African youth, given the peculiar landscape of the country (immature entrepreneurial eco-system and apartheid legacy issues), the constructs of self-efficacy, inner locus of control and need for achievement are critical constructs for youth to successfully navigate the possibility of entrepreneurship as a career.

Some of the sources this research considered when arriving at its definitional stance of the entrepreneurial mind-set are reflected in Table 4 below. Consideration of the definition across the years was an important exercise so that as the researcher defined the entrepreneurial mind-set in the South African context, it did not lose the fundamentals of the entrepreneurial mind-set.

Table 4: Definition of the entrepreneurial mind-set

Definition	Source	Date
The entrepreneur (with an entrepreneurial mind-set) is a (dynamic) actor who has the ability and drive to carry out innovations, characterised as a new source of raw material, a new method of production, a new product, a new market and/or a new organisational principle, with the will to change.	Schumpeter, J.A.	1965

Seeks opportunities Uses great discipline Pursues the best opportunities Focuses on adaptive execution Engages everyone's energy	McGrath and MacMillan	2000
The ability to rapidly sense, act, and mobilise, even under uncertain conditions	Ireland, Hitt, Sirmon	2003
The entrepreneurial mind-set is to be dynamic, flexible, and self-regulating in one's cognitions given dynamic and uncertain task environments.	Baron, A. B	2010

Inner locus of control: Rotter (1966, 10) defined this dimension as people with an internal locus of control who believe that the responsibility for whether or not they get reinforced ultimately lies within themselves. They reflect independent decision making, the ability to resolve their problems and take personal responsibility for their successes or failures.

Need for achievement: McClelland (1958, 8) defined this dimension as success in competition with some standard of excellence demonstrated by setting and striving for high target levels and putting in much effort to reach them.

Self-efficacy: Bandura (1997, 2) defined this dimension as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives and demonstrated by belief in their own ability, that is, self-confidence to control their own success, which does not depend on others, a high degree of endurance and the ability to continue wilfully, in spite of setbacks or objections.

Entrepreneurial intentions (Amoros & Bosma 2013: 24): 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 to five years. This definition is more appropriate on a nation-level. For this study which seeks to understand the entrepreneurial mindset of South African youth at an individual-level, the more conceptual, individual-level definition by Kautonen, van Gelderen &

Fink (2015: 2) has greater applicability and was considered. They define entrepreneurial intentions as individuals who plan to start a business within the next 12 months.

After critical engagement, this study will define entrepreneurial intentions as the percentage of Grades 10-12 individuals who have taken the JASA entrepreneurship education programme, who intend to start a business within 12 months to five years. This would allow for those individuals who are closest to school leaving as well as those who are furthest away from school leaving.

As cited earlier in this chapter, the South African environment is not highly supportive of entrepreneurial activity. This research hypothesises that increased perceptions of skills and an entrepreneurial mind-set will influence perceptions of entrepreneurial intention and entrepreneurial activity. Also, more positive perceptions of entrepreneurial skill will influence more positive perceptions of entrepreneurial intentions. In this research, therefore, a primary objective is to test whether perceived positive perceptions of self-efficacy, inner locus of control and need for achievement will have a significant influence on entrepreneurial intention and entrepreneurial activity.

Entrepreneurial activity (Amoros & Bosma 2013: 24): Percentage of those involved in Total Entrepreneurial Activity (TEA) who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income.

For this research, the definition of entrepreneurial activity will be refined and defined as the percentage of Grades 10-12 individuals who have taken the JASA entrepreneurship education programme, who perceive themselves starting a business within 12 months to five years, for reasons aligned to either driven by having no other option for work, being opportunity-driven, seeing the opportunity to be independent, increasing their income or a combination of these reasons.

For this research, the following definitions will be adopted from QLFS 5 2015:

Employed persons are those aged 15 to 64 years who, during the reference week, did any work for at least one hour, or had a job or business but were not at work (temporarily absent).

Employment-to-population ratio (labour absorption rate) is the proportion of the working-age population that is employed.

The **labour force** comprises all persons who are employed, plus all persons who are unemployed.

Labour force participation rate is the proportion of the working-age population that is either employed or unemployed.

Not economically active: Persons aged 15 to 64 years who are neither employed nor unemployed in the reference week.

Unemployed persons are those (aged 15 to 64 years) who were not employed in the reference week; **and** actively looked for work or tried to start a business in the four weeks preceding the survey interview; **and** were available for work, i.e. would have been able to start work or a business in the reference week; **or** had not actively looked for work in the past four weeks but had a job or business to start at a definite date in the future and were available.

Unemployment rate is the proportion of the labour force that is unemployed.

The **working-age population** comprises all persons aged 15 to 64 years.

Not in education or training: comprises all persons aged 15 to 64 who were not in a formal education or training programme.

1.10. Delimitations of the research

Delimitations in a study describe the scope and the parameters within which the study will be conducted (Tichapondwa 2013: 22). The delimitations of this study were:

- Participants had to be taking a JASA entrepreneurship education programme
- Literature reviewed had to correspond with the research paradigm that entrepreneurship education would influence the development of the entrepreneurial mind-set.
- Literature reviewed would include all releases up to May 2016.
- the sample size of between 300 to 700 participants per entrepreneurship education programme;
- the composition of the sample to represent 15- to 18-year-olds, male and female and from rural and urban schools;
- the extent of the geographical area to cover with regard to education districts/circuits/provinces throughout South Africa;

- the timeframe of the study to enable the effective completion of all processes relevant to the study; and
- the decision to conduct a cross-sectional study as opposed to a longitudinal study.

The researcher documents these delimitations for future research and researchers to incorporate or improve on in the study of this phenomenon.

1.11. Research structure

This chapter served to provide the context of, background to, importance, relevance and the significance of this research. It identified the research problem, the research question and the general and specific objectives and the research hypotheses. It has provided a definition of the key words for this research. It will conclude with an overview of the rest of the research.

Chapter 2 will focus on a Literature Review to expand on the international and national debates, dialogue and academic discourse and empirical evidence to connect to the existing body of knowledge previously researched on the significance of entrepreneurship as a possible solution to youth unemployment. The researcher found this a necessary chapter given that South Africa has an immature entrepreneurship eco-system and that South Africa has a unique legacy issue of apartheid.

Chapter 3 will focus on theoretical perspectives that this research will adopt to validate its assertions and to add robustness to the significance of this research. For this research, the Theory of Planned Behaviour (Ajzen 1991: 22) will be cited. Planned Behaviour Theory suggests that entrepreneurial behaviour (EB) is a construct of entrepreneurial intentions and demonstrated as: Attitudes = Motivation = Intentions = Behaviour (entrepreneurial activity). Using this theory, it follows that an entrepreneurial mind-set can be motivated by the antecedents and exposure to an entrepreneurship education programme. The key consideration will be the influence on the development of an entrepreneurial mind-set.

This chapter will also cite empirical theory from Social Cognitive Theory: An Agentic Perspective (Bandura 2001: 3). This Social Cognitive Theory suggests that to be an agent is to intentionally make things happen by one's actions; where agency embodies the endowments, belief systems, self-regulatory capabilities and distributed structures and functions through which personal influence is exercised, rather than residing as a discrete entity in a particular place. The core

features of agency enable people to play a part in their self-development, adaptation, and self-renewal with changing times.

Finally, this chapter will cite empirical theory from The Human Motivation Theory (McClelland 1961) and Social Learning Theory (Rotter 1966) to discourse terms such as need for achievement and inner locus of control respectively. The research will also discourse entrepreneurship education theory. The Theory of Cognitive Learning will be discoursed.

Chapter 4 will focus on the research method adopted to test the research question. It will describe in detail the methods used, samples will be described, and objectives for each sample, data acquisition methods as well as measurement intervals will be explained. The operationalisation of the key variables is presented and the methods for data analysis are explained. The chapter will also provide an explanation of the research design, the research methodology, including detailing around the research instrument, population and sampling and data collection, analysis, limitations, ethical considerations and conclusions.

Chapter 5 will focus on the data collation: the researcher's analysis of the data and the sub-conclusions that the researcher arrives at. There will also be an in-depth discussion of the results.

Chapter 6 will focus on the conclusion presented as an analysis into each specific hypothesis. It will present a summary of findings, conclusions, summary of contributions and suggestions for further research. It will include implications for theory and practice, elaborate on its limitations and provide further ideas for promising avenues of research.

Chapter 7 will focus on the recommendations made arising from this research.

The last section will be the appendices: For the research examiner's verification of information and for the reader to follow and/or check for further and follow-on research.

1.12. Conclusion

This chapter introduced the context, the background, the importance and relevance of this research. It also identified the research problem, formulated the research question, the research

objectives and hypotheses. The chapter also provided the definitions of the key terms used and an outline of the thesis.

The next chapter will review the existing literature about entrepreneurship, entrepreneurship education and the development of an entrepreneurial mind-set to potentially create and foster entrepreneurial intentions in South African youth.

Chapter 2: Literature review

2.1. Introduction

The previous chapter introduced the context, the background, the importance and relevance of this research. It also identified the research problem, formulated the research question, the research objectives and hypotheses. The chapter also provided the definitions of the key terms used and an outline of the thesis.

This chapter will present some literature review of academic studies, policy debates and conferences and best practices around the world to strengthen argument around the value of entrepreneurship education. The researcher considers this review as important since the entrepreneurship and entrepreneurship education understanding and description in South Africa is still in early stages relative to countries globally.

Chapter 3 will provide theoretical frameworks and theoretical background and will complement Chapter 2 by providing a review of the relevant theories associated with self-efficacy, inner locus of control and need for achievement. It is to be noted that this thesis was submitted in 2016 and thus does not include examples of current thought that were released in 2016. The literature review has five main goals:

1. To demonstrate the researcher's deep understanding of the body of entrepreneurship knowledge in addition to what was overviewed in Chapter 1.
2. To review prior research to contextualise and rationalise the significance of this research problem.
3. To construct a theoretical framework for guiding the research.
4. To determine key research issues and emerging gaps to place the research in its proper context.
5. To identify gaps in the existing body of knowledge and the value of the hypotheses of this research in addressing those gaps.

The literature reviewed will be guided by a conceptual literary framework which helps to structure this chapter and may be reflected as below:

- The risk of youth unemployment in South Africa
- The rationale for a new youth employment narrative in South Africa

- Youth entrepreneurship as a driver of national economic prosperity
- The development of the entrepreneurial mind-set as a lever for youth entrepreneurship
- Entrepreneurship education as a systematised driver of the development of the entrepreneurial mind-set
- The conceptual framework: constructs of the entrepreneurial mind-set for South African youth

This research will adopt an extensive literature study that supports the view that entrepreneurship education will influence the development of the entrepreneurial mind-set. The research will thus validate the merit of its own endeavour to describing the effect of entrepreneurship education programmes on the mind-set of South African youth.

A large source base will be covered to arrive at a wide-ranging understanding of these focus areas. The sources will include journal articles, textbooks, global and national reports, previous academic research and desktop research. A delimitation to the study must be pointed out: it engaged with literature that supported the view that entrepreneurship education will encourage entrepreneurship. The delimitation was adopted to gain an in-depth understanding of this perspective and to ground this research paradigm. In addition, this thesis was completed in August 2016: it has thus delimited its readings and literature review to May 2016.

2.2. The risk of youth unemployment in South Africa

The 2014 World Economic Forum (WEF) Global Risks Report indicates youth unemployment as one of the top ten risks. The implications thereof are that youth efforts to build a future are hampered and there is a higher risk of social unrest; and this is especially a concern in developing countries where an estimated two-thirds of the youth are not fulfilling their economic potential.

Year-on-year analyses of youth unemployment in South Africa point to marked increases: in the first quarter of 2015, the official youth unemployment rate was 37% for youth between the ages of 15 and 34 years (which equates to approximately 3 646 000 young people). This rate has increased from 33% in 2008 (Graham & Mlatsheni 2015: 51), working on the definition of youth as extracted from the National Youth Act of 1996 as persons between the ages of 14 to 35 years, where 15 is the age at which children are formally permitted to start working. As extrapolated from the QLFS statistics cited earlier in this research, in South Africa, it is this age group, 15 onwards

and specifically 15 to 24, that are most vulnerable to unemployment and are the biggest cohort of job seekers. This specifically contributes to youth unemployment in South Africa and raises it to the level of a top ten risk, as illustrated in the WEF report cited earlier.

Willemse (2015, 25) by citation of wide global and national research suggested that unemployment (including that of youth) was considered to be one of the most stressful life events a person could experience, because of the loss of substantial material and psychological resources that are provided by employment. Willemse pointed out that unemployment was associated with depression, anxiety, psychosomatic symptoms, low subjective well-being and poor self-esteem. This validates the reporting in the WEF report: that unemployment can result in hampering youth efforts to build a future and raises the risk of social unrest.

Nemalili (2006, 13) clearly outlined the nature of the economic risk in South Africa where institutional employment was a critical consideration. Based on the correlation, Nemalili suggested that a very direct relationship existed between the well-being of the economy of a country and the levels of institutional unemployment. The state of the South African economy has become a matter of grave concern as statistically, around one million job opportunities have been lost since the early 1980s and the South African job market is currently unable to create jobs at the required rate to realistically address general unemployment, aside from addressing youth unemployment.

Swartz & Schneider (2006, 15) provided a sociological perspective on the risk of youth unemployment. They suggested that the inclination to violence springs from the circumstances of life among the poor – the lack of jobs that pay a living wage and the resulting alienation and lack of hope for the future. In as early as 2009, South Africa revealed its National Youth Policy 2009-2014, noting such risks as pointed to above. The National Youth Policy noted that:

'The future of South Africa's youth, and thus the future of the country as a whole, is intimately affected by that policy disposition. Therefore, government in partnership with different role players must ensure that all young people access the opportunities that enable them to grow, develop and prosper as fully engaged, responsive and productive citizens. At the same time, all these role players must support young people who, by virtue of their vulnerability and other constraints, find

themselves relegated to the margins of society and are unable to benefit from the policy dispensations offered by our democracy.’

However, seven years later, South African unemployed youth continue to find themselves in vulnerable positions; especially in terms of employment and employment opportunities. This is particularly challenging in South Africa when one considers youth to be in conflict between the government messaging of national unlimited opportunity and the hard-socio-economic facts that inhibit success and achievement. This conflict is a distinctive feature of the challenge youth in South Africa face; especially as they aim to transition from South Africa’s historical legacy.

De Witte, Rothmann & Jackson (2012, 19) highlighted one of the most important reasons for addressing this epidemic of South African youth unemployment: to avert the risk of it becoming pandemic. Evidence to substantiate their assertion related to this risk is their reference to the extended definition of unemployment in South Africa which then includes the growing percentage of persons who are becoming discouraged job seekers (see definition in Chapter 1).

National Treasury (2011) reported the South African youth unemployment situation as an acute problem that required a multi-pronged strategy to raise employment and support inclusion and social cohesion. The report suggested that high youth unemployment meant young people were not acquiring the skills or experience needed to drive the economy forward. The implication is that youth unemployment inhibited the country’s economic development and imposed a larger burden on the state to provide social assistance. The report further suggested that addressing the burden would require a multi-pronged strategy that would require the intersection and interaction of various facets within society. Such reference may be described later on in the chapter when the research considers the entrepreneurial infrastructure.

In The South Africa Risk Report (2015, 15) the Institute of Risk Management South Africa suggested that South Africa’s high rate of unemployment was exacerbated by the fact that South Africa is now one of Africa’s slowest-growing economies. Such a state does not bode well for the young jobless. Much of the risk, as suggested by economists, may be attributed to the mismatch between the skills that young people offer and the ones that employers need. The report also found that part of risk mitigation would require collaboration between schools, universities and government to start talking about the requisite skills youth would require in the future to contribute to the country’s growth and development. A key recommendation made by the report was that a

crucial solution lay in changing the curriculum of schools (and universities) to grow students and prepare them for future jobs that may not yet exist and jobs that they may need to create. The recommendation was well aligned with global reports and findings related to youth unemployment and key recommendations made: specifically, around the introduction of entrepreneurship education programmes at the level of high school.

The literature that was reviewed reinforces the view that South Africa, as a developing economy, is not excluded from this risk and that measures must be adopted to start addressing the situation.

2.3. A new youth employment narrative in South Africa: from job seeker to job creator

Building onto the National Treasury Report, Jones (2015, 12) suggests that there is growing recognition among governments and organisations that as jobs become scarce, youth entrepreneurship becomes an important strategy for integrating youth into labour markets. This may well be a means for South Africa to begin to address its youth unemployment challenges.

Key insights emerging from a 2014 United Nations Trade and Development Conference reinforced the view that many countries currently experiencing an unprecedented level of youth unemployment focused on the development of entrepreneurial talents among its young people. The latter, if paralleled by adequate policies addressing the constraints of the labour market, would achieve employment generation and inclusive growth for its vulnerable youth (Jones 2014: 45).

This view is corroborated by a key finding of the 2009 World Economic Forum Report that suggested entrepreneurship education is essential for developing the (youth) human capital necessary for the society of the future and it ought to be added centrally to the way education operates. Educational institutions, at all levels (primary, secondary and higher education), needed to adopt 21st century methods and tools to develop the appropriate learning environment for encouraging creativity, innovation and the ability to ‘think out of the box’ to solve problems. The report also suggested that such transition required a fundamental rethinking of educational systems, both formal and informal, as well as the way teachers or educators are trained, how examination systems function and the way rewards, recognition and incentives are given.

Another citation in a Global Entrepreneurship Monitor Special Report 2009 suggested that while education is indeed one of the most important foundations for economic development, entrepreneurship is a major driver of innovation and economic growth. Entrepreneurship education plays an essential role in shaping attitudes, skills and culture – from the primary level up. This research accepts the belief that entrepreneurial skills, attitudes and behaviours can be learned. It also accepts that through exposure to entrepreneurship education in an individual's learning track, ideally but not exclusively, starting from youth and continuing through adulthood into higher education, such learning would result in a positive effect on the mind-set of those who access it. This research recognises this relationship and wishes to describe the effect that entrepreneurship education programmes have on the mind-set of South African youth.

The G20 Report of the Task Force on Employment (2013, 15) promotes the need for and formalisation of the provision of youth entrepreneurship measures (such as education) that enable young people to start their own business activity and help them to become successful. The G20 report suggests that success would be indicated by youth being taken off the job market, creating their own jobs and possibly also generating jobs for others. To reiterate, education may well be a constructive intervention to promoting youth start-up businesses however, it is critical to determine the many aspects of the education intervention so that it is relevant and addresses the need in context.

As an example, The Partnership for 21st Century Skills (2008, 20) suggests that the ability of the United States of America to compete as a nation, and for states, regions and communities to attract growth industries and create jobs, demanded a fresh approach to public education. It found that the USA needed to recognize that a 21st century education was the foundation of competitiveness – the engine, not simply an input of the economy. Through embracing and adopting that fresh approach to education, USA could enhance its competitiveness as a nation. This approach, it may be argued, was right for the USA at that particular time. Taking a roll-out approach will not yield the same result as it did in USA at that time. Debating the audience, the context and the need is thus critical to informing what the educational approach may be.

In the United Kingdom (UK), also an innovation/knowledge-driven economy, by as early as 1971 through the 'Bolton Task Force Report on Small Firms' (Lundstrom & Stevenson, 2001: 384), and in response to prevalent macroeconomic conditions, it was determined that there was

a need for SME support and promotion, through an integrated approach. After many other changes that began putting great economic pressure on its economy, the UK instituted a new structure for SME policy development and programme implementation in 2000. The mandate of the new policy structure comprising three components – the Small Business Service (SBS), the Small Business Service Steering Board and the Small Business Council (SBC) – was the following (Lundstrom et al. 2001: 388):

1. To be a strong voice for small business at the heart of government, making sure government is aware of the needs of small business and adheres to the principles of *Think Small First*.
2. To develop and maintain a world-class business support service to enhance the competitiveness and profitability of small businesses.
3. To minimise the burden of regulation on small firms.
4. To champion entrepreneurship across society and change the culture so that society encourages, values and rewards enterprise.

Inherent within the UK governmental Small to Medium Enterprise (SME) policy, programmes and structures mandate, were the key objectives, as set out in the Department of Trade and Industry strategic framework:

1. Focus on SME financing
2. Research and Development support
3. SME management performance and competitiveness
4. SMEs online and e-commerce access
5. SME internationalisation and delivery of small business support services on a national and regional basis
6. The promotion of enterprise, innovation and productivity

The UK was deliberative in its study of global entrepreneurship best practice, in arriving at its strategic framework for the support of SMEs and promotion of entrepreneurship.

The GEM Report (2012, 45) reported that both Brazil and South Africa were similar in terms of its entrepreneurship policy and both were efficiency-driven economies. Today, Brazil is an innovation-driven economy and South Africa remains efficiency driven. The differentiator was the policy implementation. Nassif, Ghobril & Da Silva (2010: 23) stated that the statistics and practices pointed to 'micro and small businesses becoming increasingly important to the Brazilian

economy'. Combined, micro and small businesses were responsible for '96% of the jobs and 98% of the total number of businesses in Brazil'. That success story in Brazil emerged as a direct result of the governmental policy and structures instituted to support SMEs and promote entrepreneurship. Some notable programmes and structures, derived from Endeavor Brazil's website, included:

1. Government's Financing Agency for Projects and Studies (FINEP) launch of PRIME, which will disburse around \$65 000 to start-ups focused on innovation. FINEP expects to help 10,000 innovative companies over four years, and thereby generate 10 new jobs per each one directly generated by a new company.
2. The Brazilian Micro-Enterprise and Small Business Support Service (SEBRAE) speaks of the increase of new companies in Brazil being directly related to Brazilians' growing entrepreneurial spirit and this is corroborated by data provided in Table 1 above.
3. Brazil's global challenger companies emerged, such as Embraer, Marcopolo, and Natura, which accounted for job creation during the period 2008 to 2010, at 57.4% in the country.
4. In 2005, the Inter-American Development Bank and SEBRAE engaged in a \$1.5 million technical cooperation programme to help Brazilians returning home (The Brazilian Diaspora) from Japan (Brazilians are Japan's third-largest immigrant community) with the goal of starting new businesses. SEBRAE selected and trained potential entrepreneurs, with full support from government to implement such programmes.
5. Brazil's incubator network has developed from 136 in 2000 to 400 currently, and Brazil has a sophisticated incubation model that is relevant and suited to its needs.
6. There are also some economic policies in Brazil focusing on technological innovation. In 2004, for instance, the government passed a law that allows federal university

Mitra (2010, 36) suggests that the national importance of education is based on the significant positive influence it has on individual lives and on the welfare of communities. It is accepted that education, at an individual level, is primarily a way to train children in the skills they will need as adults to find good jobs and live well. However, at a societal level, education also has broader social and economic function. A better-educated workforce leads to more research and innovation and enhances the competitiveness of the nation. In addition, the benefits of such economic innovation are then spread more widely and powerfully throughout a better-educated public, and thus the motivation for governments to invest in quality education for a macro-socio-economic

recovery approach. At a more individual approach, the motivations of teachers or the youth themselves, may adopt a different perspective as to the benefits of entrepreneurship education.

On the macro-level, the influence of governments to facilitate entrepreneurship by implementing policies and regulations that directly impact an entrepreneur's ability to set up a firm, attract capital, and hire, retain or fire employees is an important one. The role of governments in creating an efficient regulatory environment, facilitating capital exchange, and helping populations build skills and develop business acumen is critical to the promotion of a new narrative and the attainment of a paradigm shift: from job seeking to job creation (Murphy 2010: 12). This research concurs with Murphy's view and some of its paradigm and key assumptions may be located within Murphy's view.

El Harbi & Anderson (2010, 15) concur with Murphy's view and advocate for focusing the discourse on entrepreneurship regarding young people, without the risk of subjecting them to succeed under unfriendly circumstances or the requisite entrepreneurial infrastructure, which would include: building an entrepreneurial culture, education and training, business development services, access to market, access to finance and access to technology transfer and innovation.

In noting the discourse around the entrepreneurship infrastructure as an enabler, the researcher highlights the fact that in as early as March 1995, the South African government released its *White Paper on National Strategy for the Development and Promotion of Small Business in South Africa*. South Africa was aware of the strategic role of small business and start-ups to contribute to its economic development and growth. Some of the most critical considerations for implementation were documented as (DTI 2005: 3) and included the importance of education and training to enable the requisite mind-sets, skills and management practices:

1. Creating an enabling legal framework
2. Streamlining regulatory conditions
3. Facilitating access to information and advice
4. Facilitating access to marketing and procurement
5. Facilitating access to finance
6. Facilitating access to affordable physical infrastructure
7. Providing training in entrepreneurship, skills and management
8. Improving industrial relations and the labour environment

9. Facilitating access to appropriate technology
10. Encouraging joint ventures
11. Capacity building and institutional strengthening
12. Introducing differential taxation and other financial incentives

Relative to approaches and strategies that were successful, South Africa did not progress its implementation plan well. From an implementation and critical perspective gained from reading Moos (2001: 211), the following emerged and continues to prevail to the impediment of policy and programme support of small business and promotion of entrepreneurship in South Africa:

1. To provide an increased supply for financial and non-financial support services across governmental, private and public sector initiatives. Whilst many such initiatives such as the National Youth Development Fund, the National Empowerment Fund, Small Enterprise Development Agency, Accelerated and Shared Growth Initiative – South Africa and various others were introduced, issues of access to, comprehension and optimal sustainable utilisation of such resources for value creation and economic inclusivity were not addressed as implementation plans. Whilst many such initiatives remain, these are not being optimally utilised.
2. To create a demand for small enterprise products and services through the institution of new policy directives such as the public-sector procurement and the Black Economic Empowerment policies to drive such demand. Once again, theoretically the policy was a solid formulation. The challenge was the disconnect between the formulation and the implementation stages: the failure to implement, monitor and track the expected outcomes for the promotion of demand of small enterprise products and services.
3. To reduce small enterprise regulatory constraints through the creation of an enabling entrepreneurship environment and including assessment and impact frameworks.

The European Competitiveness Report (2014, 56) asserts that entrepreneurship can constitute an important element with regard to the autonomy, personal development and well-being of young people. Entrepreneurship can be seen as one of the solutions to combat youth unemployment and young people need to get special attention and be given help in order to start, run or grow a business or enterprise. The report makes this assertion after critical examination of countries within Europe and the youth employment strategies those countries adopted and which yielded success.

The report further noted the need in Europe for young citizens who are creative, socially responsible, who can spot opportunities, understand and take risks, and work in teams and solve problems. The need was addressed through the adoption of youth entrepreneurship strategies, which included young people getting the help they needed to start, run or grow a business. The express intent thereof was to boost the number of start-ups and increase the number of young people working as entrepreneurs: as entrepreneurial employees within an established business or within entrepreneurial start-ups which could help enhance productivity, increase adaptability, and ensure that opportunities are fully realised. The outcomes of such intent are that economies optimise their human capital at an individual level and as a society, economies grow financially, socially, politically and sociologically.

Valerio, Parton & Rob (2014, 67) suggest there is a wide body of research associated with understanding the constraints to entrepreneurial success. Some of those are associated with regulations related to the ease of starting a business which can affect entrepreneurial activity, the contextual dimensions that can shape entrepreneurship, including social contexts, spatial contexts, finance access or the imperative for innovation. However, in all these cases of constraints to entrepreneurial success, they found that governments were critical in alleviating constraints and promoting entrepreneurship. In most cases, the starting point was taken at the level of school, often driven by the inclusion of entrepreneurship education.

Ernst and Young's Entrepreneurship Barometer Country Report (2013, 66) has already suggested that a widespread reform of South Africa's education system was clearly needed. It suggested that educational solutions offered at South African schools ought to focus on developing entrepreneurial skills and attitudes to boost the country's growth potential. The point of the reform of South Africa's education reinforced the view of the Global Entrepreneurship Monitor (GEM) Report 2009, which suggested the introduction of entrepreneurship education as a compulsory subject in primary and secondary schools in South Africa. The GEM report emphasised that business studies (as a subject at school) should correlate positively with entrepreneurial aspirations.

This research acknowledges that youth alone and the reform of their education cannot make South Africa's youth unemployment challenge dissipate; however, the youth have the enthusiasm, optimism, and belief that success is possible, and the potential for the development of their related

mind-sets makes the notion more realistic and feasible. The further belief of this research is that such change does not emerge suddenly. The capacity to cause change grows in an individual over time as small-scale efforts lead gradually to larger ones. The process needs a beginning – a story, an example, an early taste of success – something along the way that helps a person form the belief that it is possible to make the world a better place. Those who act on that belief spread it to others. They are highly contagious. Their stories must be told (DeBerg & Eimer 2012: 44).

One of the findings of the Human Research Development Councils' Report (2013, 67) was that South Africa's future efforts to drive the integration of entrepreneurship education into FET Colleges should communicate a more positive message about the need for and role of entrepreneurship education. The message should emphasise the production of productive citizens who possess the requisite life skills and attributes to contribute meaningfully to economic development and wealth creation whether as employees or entrepreneurs. Messaging should also highlight the critical role played by entrepreneurs in an economy as producers and providers of goods and services, wealth creators, job creators and generally as drivers of economic progress. An important element of driving entrepreneurship education within FET Colleges should be the elevation of the role and importance of entrepreneurship within society at large. A visible public campaign to profile entrepreneurship as a worthy pursuit should be designed and executed alongside efforts to drive entrepreneurship within FET Colleges.

There exist many global narratives that validate the rationale for shifting the narrative from youth job seeking to job creation, which provides a substantive and plausible reason for South Africa to consider the adoption of such a paradigm shift for its youth as well. Insights gained from international experiences provide important lessons for South Africa. A key finding from countries that have implemented successful youth entrepreneurship programmes, was that they also adopted a multifaceted approach of building an entrepreneurial culture. Some measures adopted were through education and training, business development services, access to market, access to finance, access to technology transfer and innovation. Of such global best practices, the conclusion was to start with education.

International success stories can provide a benchmark for South Africa's option to evaluate some best practice interventions available to young people. This research will attempt to highlight one of the critical aspects involved in trying to shift perceptions to develop an alternative narrative

whereby young South Africans are not seeking jobs but creating them. In addition, the imperative to change the narrative for young South Africans is for them to keep sight of their potential to lead and contribute to South Africa's economy despite the very real challenges and social vulnerability they face.

In attempting to understanding the youth unemployment issue in South Africa, literature relating to youth education must be examined. This rationale to examine the school education is validated by similar approaches adopted by policy-makers globally. There is consensus globally and in South Africa that one key contributor to the vulnerability of youth across the globe, and in South Africa, is that the skills, knowledge and competencies youth acquire at school renders them inadequately skilled to find employment in the formal sector; notwithstanding the fact that the formal sector in South Africa cannot create jobs at the required absorption rate for South Africa's youth not in education, employment or training.

Having ascertained the critical need for a review of the school education provided in South Africa, key lessons can be derived from international best practice in guiding such review: for example, a critical best practice that interlinks education with the driving role of government in creating an efficient regulatory environment, facilitating capital exchange, and helping populations build skills and develop business acumen, is critical to the promotion of a new narrative and the attainment of a paradigm shift: from job seeking to job creation (see Figure 2 below).

Figure 2: A conceptual framework of the European Union Entrepreneurial Framework



From extant academic and reported literature reviewed both globally and nationally, it is known that education worldwide faces unprecedented challenges: economic, technological, social and personal. Policy-makers globally are beginning to stress the urgent need for education to develop ‘human resources’ – in particular, entrepreneurial individuals who demonstrate the requisite attitudes, behaviours, aptitudes, knowledge, values and skills and better powers of communication. The critical contribution this literature provides is that globally, and in South Africa, is the need to review some of the most basic assumptions about education (OECD 201: 13).

Such review could mean new approaches and priorities based on broader concepts of young people’s abilities, of how to motivate them and promote their self-esteem, and of developing the skills and aptitudes they require to be entrepreneurial individuals who think creatively, adaptively,

demonstrate entrepreneurial knowledge, skills and an entrepreneurial mind-set; that is, an innovative practice of identifying and creating opportunities, and then acting to manifest those opportunities in a productive way (Wilén-Daugenti 2014: 20).

The South African Country Report, Education for All (2010: 8) accepts that education (Goal 6: Improving all aspects of the quality of education and ensuring excellence for all, so that recognised and measurable learning outcomes are achieved by all – especially in literacy, numeracy and essential life skills) is a prerequisite for tackling poverty and promoting short- and long-term economic growth. When individuals have the chance to learn basic life and literacy skills, economies grow faster and poverty rates decline. When people go to school, they are eventually able to earn more money and support their families. No country has achieved continuous and rapid economic growth without at least 40% of adults being able to read and write.

Historically, South Africa has battled its poor-quality provision of Maths and Science at the level of basic education. Levinsohn (2007, 17) suggested that the poor quality of the education system, especially in Mathematics and Science, has contributed to the skills shortage, with few students obtaining quality matriculation passes in those subjects and the required general problem-solving skills.

In as early as 2012, Patel suggested the most critical aspect of the National Development Plan would be transforming the South African education system. Patel suggested that in a tight market as in South Africa, for youth to become key contributors to the economic growth, they need more skills, competencies and knowledge development to successfully feed into business needs and job creation. His view was validated by The World Economic Forum's 2013 Global Information Technology report which ranked South Africa 140 out of the 144 countries in terms of its education and second last for the quality of its Mathematics and Science provision.

OECD (2008, 4) in its Review of South African National Education Policy suggested that South Africa needed to ensure it made the right education policy choices going forward. Inherent to South Africa making those right choices, amidst many other, was undoubtedly choices about the education content. From its critical perspective, the current content was seen as inadequate in relevance, promotion of literacy and numeracy, imparting life skills, knowledge and values and being inclusive of all demographics equally but most significantly, in skilling South African youth to succeed in the country's present context.

The view was further corroborated by the Basic Education Workstream Report (2013, 14) for South Africa, which suggested that the current education system continued to favour rote academic learning and largely ignored the realities of the world of work; more damaging was the fact that South African education perpetuated the culture of entitlement and job seeking and created the perception that vocational expertise was distinctly inferior to academic knowledge.

A pattern emerges that South Africa's provision of basic education remains in need of reform. Such reform would seek to achieve a revision of the content that is currently offered which is generally viewed as inadequate in relevance, lacking the promotion of literacy and numeracy, failing to impart life skills, knowledge and values and to be inclusive of all demographics equally but most significantly, in skilling South African youth to succeed in the country's present context.

The Education for All Report (2013, 15) also agreed that youth unemployment in South Africa constituted a major problem with approximately 31% of persons between the ages of 15 and 35 (approximately 5.7 million youths) currently being unemployed. In the light of current macroeconomic trends in South Africa, youth unemployment is unlikely to be reduced significantly in the near future; it is thus imperative for young people to be provided with skills that could facilitate their self-employment.

Many education policy-makers are still debating the content review of South Africa's provision of basic education. Most consider the content review to focus on Maths, Science and Technology as critical to achieving the quality aims targeted for South Africa's improved economy. This research posits that the value of entrepreneurship education cannot be underestimated for its potential to contribute to improving the current provision of basic education. The statement will firstly be substantiated by reviewing specific countries and how entrepreneurship education became a driver of youth's contribution to the economy through entrepreneurial activity. Secondly, by reference to existing research, the research will justify the call for the compulsory incorporation of entrepreneurship education for all learners in the FET phase of basic education; that is, the country's Grades 10 to 12, in the normative age group 15 to 18.

The possibilities and efficacy of entrepreneurship in promoting economic growth through human capital development has been embraced by most developed countries and the relationship between the two is well established (Garba 2010: 140). Refocusing the South African basic education system through the incorporation of entrepreneurship education will contribute

immensely to developing the spirit and culture of entrepreneurship in South Africa and how it is perceived by South African youth.

The Ernst and Young G20 Report (2013) suggested that a widespread reform of South Africa's education system was clearly needed. The report suggested that in the short term, few South African children will receive a quality education to contribute to the growth of the economy. To improve current basic education provision, the report suggested that policy-makers needed to focus on (amongst other subjects) developing entrepreneurial skills and attitudes to help boost the country's growth potential.

Maas & Herrington (2006, 23) further suggested that while a definite need existed in South Africa for a greater focus on entrepreneur training and business skills, cognisance had to be taken of the fact that since entrepreneurship was not a natural process in South Africa at the moment, it should be managed in a more formal and integrated manner until it became a more ordinary part of South Africa's daily existence. This research also notes that there are pedagogical considerations such as the learning approach: combining theory and practical learning contexts, learnings from best practice around the world, the nature/nurture debate, context and motivation for learning. Premised on its research paradigm, the research accepts and seeks to explore the relationship between entrepreneurship education programmes and the development of the entrepreneurial mind-set. Should the research be able to prove such a positive relationship, the research will consider ways in which entrepreneurship education should be managed.

Amoros & Bosma (2013, 56) concluded, by extrapolation from its extensive database of almost 59 countries that participated in a research related to best practice to drive entrepreneurial activity in any economy, that South Africa could adopt the best practice of the introduction of entrepreneurship education as a compulsory subject in primary and secondary schools. Whilst discourse around entrepreneurship education and actual entrepreneurship activity abounds, this research posits that adopting best practice from other proven contexts, aligning it for country, context and audience relevance, could potentially be a starting point for South Africa's entrepreneurship eco-system.

In this study, the researcher suggests that if education is globally recognized to be one of the most critical means of addressing youth unemployment, then there is justification for South Africa to consider education as a means of addressing youth unemployment. The research does

however posit that all aspects surrounding education, entrepreneurship and other relevant factors be considered in catalysing the new youth employment narrative in South Africa.

2.4. The development of the entrepreneurial mind-set as a lever for youth entrepreneurship

This research, after careful consideration of the various aspects of entrepreneurship education, attempts to clarify and study a recurring theme of entrepreneurship education that emerges in most research, that is, the development of an entrepreneurial mind-set. This research will provide a rationale that it focuses on entrepreneurial mind-set development. This research also argues that if an entrepreneurial mind-set is to be considered an essential aspect of entrepreneurship education, there needs to be a good understanding of what it means and why it is significant.

In contextualising the rationale for the focus of this research on entrepreneurial mind-set development, a good starting point would be to examine the view of a much-respected scholar of entrepreneurship, Schumpeter. According to Schumpeter (1965, 12), the entrepreneur is an actor that has the ability and drive to carry out innovations, characterised as a new source of raw material, a new method of production, a new product, a new market and/or a new organisational principle. To be able to carry out innovations the entrepreneur is a dynamic actor with the will to change, which Schumpeter contrasts with passive adaptive behaviour (Schumpeter, Becker, Knudsen & Swedberg 2011: 13).

Other academics have added to the views of Schumpeter and suggest that the entrepreneurial mind-set may be characterised as a personality that seeks opportunities, uses great discipline, pursues the best opportunities, focuses on adaptive execution and engages everyone's energy (McGrath & MacMillan 2000: 13) and to be dynamic, flexible, and self-regulating in one's cognitions given dynamic and uncertain task environments (Baron 2010: 30).

This study accepts the characteristics of the entrepreneurial mind-set as cited by such scholars and the potential high contribution that effective entrepreneurial mind-set development can make towards the current South African youth unemployment situation. Therefore, it is necessary to determine how the development of entrepreneurial mind-set can be effectively encouraged. Additionally, this research, after examination of extensive literature, believes and accepts that there are three key constructs of the entrepreneurial mind-set that are most suitable and relevant

to the current demographic profile of the South African youth. The distinctive contextual profile of the South African youth was provided earlier in this chapter and based on South African youth's peculiar context, this research believes that mind-set constructs such as self-efficacy, an internal locus of control and the need for achievement are critical to the mind-set development.

This research is aimed at clearly defining the entrepreneurial mind-set in a way that is appropriate for the development of South African youth. An additional literature base will be examined to determine what this research defines as an entrepreneurial mind-set.

Rasheed (2010, 12) cites various early researches as to the most important constructs of the entrepreneurial mind-set. Kourilsky (1980, 8) suggested the need for achievement, creativity and initiative, risk-taking and setting objectives, self-confidence and internal locus of control, the need for independence and autonomy, motivation, energy and commitment, and persistence. Gorman, Hanlon & King (1997, 14) suggested values and attitudes such as creativity, risk-taking propensity, and locus of control. McClelland (1961, 6) proposed achievement motivation, risk taking and locus of control as important. Robinson, Stimpson, Huefner & Hunt (1991, 3) argued that self-esteem and innovation were more important and Brockhaus (1980, 19) suggested that risk-taking and achievement motivation were important. Timmons (2007, 11) identified a set of core attributes which he noted as: commitment and determination, opportunity obsession, tolerance of risk, ambiguity and uncertainty, creativity, self-reliance and adaptability, leadership, motivation to excel and courage.

The Partnership for 21st Century Skills (2008, 10) suggests that entrepreneurial thinking, the ability to think unconventionally, imagine new scenarios and produce astonishing work is a skill set highly associated with job creation. Likewise, an entrepreneurial mind-set, the ability to recognise and act on opportunities and the willingness to embrace risk and responsibility are the mind-sets of individuals in highly competitive economies and is necessary for the creation of entrepreneurial societies. Given the established link between education and economic growth, entrepreneurship in education would therefore mean developing personal qualities and attitudes as well as formal knowledge and skills – personal qualities and attitudes that increase the probability that a person will see opportunities and act upon them.

Kumar & Abirami (2014, 16) suggest that education and learning are key elements to improve entrepreneurial mind-sets and the latter is significant because entrepreneurship contributes to

economic growth, employment and personal fulfilment. Students' mind-sets should be positively directed towards entrepreneurship by an overwhelming desire to achieve success, well-defined plans on how to achieve goals, a willingness to take appropriate actions to carry out plans, persistence and an unwillingness to quit.

Urban (2010, 26) suggests that key constructs to the development of the entrepreneurial mind-set are self-efficacy, need for achievement, need for autonomy, risk taking and locus of control. Bruwer (2012, 23) believes the most prevalent psychological factor that has a distinct influence on the entrepreneurial mind (directly influencing the entrepreneurial mind-set) includes having a strong inner drive, being goal orientated and being opportunistic, among others. Pollard (2013, 17) suggests the following important elements: the capacity to think creatively, strategically, analytically and reflectively, confidence in one's abilities, the ability to collaborate and well-developed communication skills. Quality Assurance Agency for Higher Education (2012, 8) suggests that entrepreneurial qualities include recognising self as a creative or resourceful person; or as someone who can translate ideas into actions; or as a person who is prepared to challenge assumptions through investigation and research. Tilana (2015, 12) suggests that the mind-set of an entrepreneur requires the entrepreneur to be innovative in approach, to be willing and active when exploiting opportunities by means of rapid sensing, acting and mobilised responses.

From the examination literature and its various definitions of the entrepreneurial mind-set, this research will define the entrepreneurial mind-set as one that encompasses the constructs of self-efficacy, an internal locus of control and the need for achievement. The full definition is presented in Chapter 1. This definition was derived from the most common intersection of constructs across all literature reviewed. In addition, the context of South Africa as a post-apartheid African country in transition from efficiency to an innovation-driven economy and from a developing to a developed economy, these three constructs hold the most significance for a shift in the way South African youth perceive themselves as contributors to the economy. This establishes the imperative for this research to explore and describe the effect of entrepreneurship education programmes on the mind-set development of South African youth.

2.5. Entrepreneurship education as a driver of the development of the entrepreneurial mind-set

The Quality Assurance Agency for Higher Education (2012, 26) positions the value of entrepreneurship education in the 21st century. It states that entrepreneurship education equips students with the additional knowledge, attributes and capabilities required to apply these abilities in the context of setting up a new venture or business. All of this is a prerequisite for entrepreneurial effectiveness, that is, the ability to function effectively as an entrepreneur or in portfolio careers, where multiple job opportunities, part-time work and personal ventures combine or in the creation of one's own job. This claim is validated by the fact that entrepreneurship education is transdisciplinary – spanning an expanse of opportunities and the individual response to such opportunity.

Raposo & Do Paco (2011, 68) concur with the view and add on that the government (of any country) can influence the rate of entrepreneurship not only through legislation, but also through the educational systems. Education seems important for stimulating entrepreneurship because it provides individuals with a sense of autonomy, independence and self-confidence, makes people aware of alternative career choices, broadens the horizons of individuals, thereby making people better equipped to perceive opportunities, and provides knowledge that can be used by individuals to develop new entrepreneurial opportunities.

Moreover, Raposo & Do Paco state that entrepreneurship education, besides the evident stated advantages, has wider appeal and relevance to the 21st century: success in starting a new business and to purpose people to be responsible in consideration of ways they can contribute to economic development and sustainable communities. For this research, the important point that emerges is that entrepreneurship education is an enabler.

Evidence to validate the point may be located in secondary data in the secondary data presented below. South Africa may well examine some best practices from around the world, for example, Creative Entrepreneurship in Schools Project, headed by the European Commission (Creative Entrepreneurship at Schools Project, findings and futures, 2016: 2) is an ambitious multi-country project that has been co-funded by the European Commission, the British Council and eight organisations across Europe in the Czech Republic (National Institute for Education), Denmark (the Danish Foundation for Entrepreneurship – Young Enterprise), Estonia (ENTRUM), Lithuania (Lietuvos Junior Achievement), Finland (the Aalto University School of Business, the Small

Business Center), Poland (the Polish Association of Creativity), Slovenia (CEED) and the UK (A New Direction). The project has two key aims:

- To promote models and a methodology that can be used by schools and other organisations providing entrepreneurship education to develop pupils' creativity and entrepreneurship skills.
- To promote ways to productively engage creative entrepreneurs and businesses at schools, as well as to engage school-age students in practical business opportunities in the creative industries.

The project has immense experience, findings and conclusions that could assist South Africa in its review of policies relating to education especially; in creating an implementation plan for the incorporation of entrepreneurship education into schools, should this research be able to show a correlation between entrepreneurship education and the development of the (entrepreneurial) mind-set.

In addition, Hatak & Reiner (2011, 88), present some best practices from around the world and those may also be carefully examined by South Africa should it look to incorporating entrepreneurship education into its high schools. Some case studies were presented as:

A best practice reported from Austria (Hatak & Reiner: 2011)

ALCA Bohne GmbH In Austria "ALCA Bohne GmbH" is a practice firm trading in coffee and tea, founded in 1993 and located in a college for business administration in the region of Salzburg (Neumarkt am Wallersee). The age of the students is 17 – 18; practice firm work is in the fourth year of this 5-year professional business education. In the previous school years' students are trained in several relevant business subjects to meet the challenges of the practice firm work. ALCA Bohne shows an optimal performance and is a reliable partner on the national practice firm market with about 950 competitors, a standard within the practice firm business competition in Austria. This practice firm - students and teacher - provides a long lasting and quality educational work. Even though the company staff (students) changes every school year, the company maintains its own high standard, showing that programs like student companies have an impact on the education quality itself. ALCA Bohne works with two real partner firms that support the student company through all the years and who profit themselves by the students' competences.

A best practice from Finland (Hatak & Reiner: 2011)

Practice firms are used in secondary vocational education at national level in Finland. The company itself is fictitious, but some practice firm students are participating in real business activities using the partner company's products. FINPEC (Finnish Practice Enterprises Centre) is the organization promoting practice firms in Finland. The length of practice firm training varies approximately from three months to 1 year. An interesting application is to replace the curricular course by a business planning activity, thus prolonging the duration of practice firm activity (in some form) to 3 years. The pedagogical objective is that students become familiar with business planning, are able to work on different tasks in the firm, understand the business as a whole and learn a set of soft skills. Practice firms interact actively with other practice firms and with the outside world, especially with the partner company at the beginning of the practice firm period. The Merikoski Vocational school has replaced standard courses within the curricular framework by a practice firm's business plan. That business plan guides students during the whole duration of their studies (3 years). Where before the established curriculum provided guidance on what was to be studied, now the business planning activity leads the different blocks of the study program. The first two years are dedicated to planning and preparation, and improving the work already done. The third year is dedicated for the actual practice firm activity. The business plan is developed in co-operation with the partner company and financier, which creates significant added value for students. Representatives from partner companies are on the board of the practice firm to guide its operations and provide incentives for the operations. 30 Concerning this example, practice firm students actually took part in the business of a partner company by selling its products, which created added value for students. Students also performed test marketing activities for the partner company at international practice firm fairs. These experiences have proved to be very effective for the students' learning and adaptation process. Contact: Finnish Practice Enterprises Centre (FINPEC),

A best practice from France (Hatak & Reiner: 2011)

Une entreprise dans votre lycée (A company in your school) All institutions of secondary education of the Academy of Rennes can participate in this program, including public and private schools (lycées) for comprehensive, technical and professional education. In the course of this program students create - on the basis of a product or service idea - their own company. After the administrative and legal setting up of a fictitious company, the project promoters share responsibilities and tasks concerning the foundation of their company: market research and

competition, registering of the company name, creation of a logo, technical development, negotiations with the suppliers or subcontractors, marketing, and sales, etc. Each year in May, a competition takes place with ten teams of students (12 students per team/company on average) from the institutions of the Academy of Rennes. In the course of this competition, the teams have to present their company at a booth and have to make an oral presentation in front of a panel consisting of professionals, e.g., representatives of partners and CEOs. The three best companies are awarded a prize by the regional council. Training of teachers is ensured by the Head of the Académie and by the Chamber of Commerce and Industry. Quality Partnerships are built with local companies in order to give young people their support in form of sponsorship, advice and collaboration. This program enables a team of young people to network and gain skills as to teamwork. It furthers pupils' autonomy and openness to entrepreneurship. Success stories of this program are that, in a number of cases, young people have put their knowledge gained within the project into practice and founded their own enterprise, whereas in other cases, local partner enterprises have developed particularly innovative and reliable projects further and used them for their own enterprises.

For this research, the focus is on entrepreneurship education as an enabler of the entrepreneurial mind-set of South African youth. The research notes that the outcome of such a mind-set may be diverse: it may enable South African youth to think diversely, creatively and innovatively, it may enable South African youth to have expanded perceptions of career opportunities, it may enable South African youth to have increased perceptions of their entrepreneurial intent or enable their increased perceptions of entrepreneurial activity. The possible outcomes however are not the focus of this research. The focus is on exploring and describing the effect of entrepreneurship education programmes on the mind-set of South African youth.

In considering the possible outcomes of an entrepreneurial mind-set on South African youth, the researcher believes that consideration must be given to the value of mentorship in addition to education, to achieve such a mind-set. From literature reviewed, the following thoughts emerged on the value of mentorship.

Cull (2006, 102) suggests that Youth Business International (YBI) has helped a significant number of young entrepreneurs through its network of business programmes worldwide. It provides young people, who have little more than a bright idea and the determination to succeed, with a start-up

loan and the services of a volunteer mentor. His study found that little is known is the true nature of the mentor-client relationship and yet the impact a mentor has on a young person's personal and business success is so great.

This study takes as its sample two distinct groups of mentors, young entrepreneurs and programme managers from two different countries and using a case study method explores what leads to success. The emerging themes show the nature of the relationship is affected at three critical phases: start-up, midpoint and endpoint. The results also show that mentors are required to use an approach towards entrepreneurs that reduces dependency and increases self-confidence. The findings indicate a style of mentoring which is less directive and more empowering as the client's business starts to grow. A key finding of the study was the value the mentor could bring to a young person and the person's likelihood of entrepreneurial success.

Eesley & Wang (2014, 56) examined the influence of the type of mentor, particularly how their prior career experiences may influence the effectiveness of mentorship. Their findings suggested that mentorship by former or current entrepreneurs may have different effects from mentorship by other types of professionals. They also found that mentors who did not have direct entrepreneurship experience may work in venture capital (VC) firms or as middle or upper level managers in established organizations. Some VCs might have previously been entrepreneurs, and could thus be considered entrepreneur mentors. They concluded that compared with non-entrepreneur mentors, those with entrepreneurial experience would have seen with direct experience the steps (and missteps) in the firm formation process. They concluded that those were the elements that would be missing or there to a lesser extent in mentors who lacked direct experience of starting a business. That distinction allowed them to better isolate the impact of those factors on the mentees.

Lorz (2011, 82) cites Vollery & Muller's extensive research that focused on the effect of entrepreneurship education to promote the development of entrepreneurial attitudes (mind-set) as well as other positive influences. Their review provided substantive evidence to validate the widespread belief in the positive impact of entrepreneurship education and the development of the entrepreneurial mind-set and/or entrepreneurial success. As per the stated delimitation of this study, the researcher focused on the positive correlations between entrepreneurship education and the development of the entrepreneurial mind-set, or other positive correlations. Of 41 studies reviewed that analysed the impact of entrepreneurship education, 39 indicated a positive or mixed

result. There were studies that also yielded a negative relationship between the two, however, this research will accept that there is a positive relationship between the two based on the number that yielded a positive or mixed relationship result. Some notable positive correlations for entrepreneurship education were:

- The correlation between entrepreneurial education and venture creation as cited in Vallery and Muller and found in research conducted by Charney and Libecap (2000), Dumas (2001), Kolvereid and Moen (1997), McLarty (2005), Monroe, Allen and Price (1995), Osborne, Falcone and Nagendra (2000), Van der Sluis, Van Praag and Vijverberg (2005)
- The correlation between entrepreneurial education and opportunity recognition as cited in Vallery and Muller and found in research conducted by Brännback et al. (2005), DeTienne and Chandler (2004), Dimov (2003)
- The correlation between entrepreneurial education and entrepreneurial intention as cited in Vallery and Muller and found in research conducted by Autio et al. (1997), Galloway and Brown (2002), Klapper (2004), Noel (2000), Peterman and Kennedy (2003)
- The correlation between entrepreneurial education, entrepreneurial self-efficacy, and entrepreneurial orientation as cited in Vallery and Muller and found in research conducted by Alvarez and Jung (2003), Ehrlich et al. (2000), Frank et al. (2005), Galloway et al. (2005)
- The correlation between entrepreneurial education and Need for Achievement and Locus of Control as cited in Vallery and Muller and found in research conducted by Hansemark (1998)
- The correlation between entrepreneurial education and other entrepreneurial knowledge as cited by Vallery and Muller and found in research conducted by Kourilsky and Esfandiari (1997)

The European Commission Report (2012, 58) suggests that entrepreneurship education has a positive impact on the entrepreneurial mind-set of young people and their intentions towards entrepreneurship, their employability and finally on their role in society and the economy. Based on the major findings of a study conducted in Europe, the European Commission concluded that there was a need to stimulate the entrepreneurial mind-sets of young people and that education had an important role to play in achieving that development.

Arising out of the study, the European Commission's Thematic Working Group on entrepreneurship education made key recommendations on several aspects (to be outlined

below) as to how to develop entrepreneurship approaches more suitable to its individual context. Some of those considerations were (EU Thematic Working Group on Entrepreneurship Education, 2014: 3):

- Giving rationale to embed entrepreneurship policy as a key competence into European education and training
- Presenting an overview on actions taken and results achieved in Member States
- Outlining the policy success factors making up the entrepreneurship education ecosystem focusing on stakeholder engagement working together to create change, the entrepreneurial curriculum and teaching methods, entrepreneurial learning outcomes and assessment, supporting educators and leaders, pathways for aspiring entrepreneurs, measuring progress and impact
- Providing practical ideas and frameworks for implementation, supported by examples of successful practice

The study is augmented by the Europe 2020 strategy for smart, sustainable and inclusive growth puts young people high on its agenda and embraces several concrete initiatives to support their creativity and employability as well as dealing with related challenges. Under the EU Youth Strategy (2010–2018), the Member States and the Commission cooperate by means of the open method of coordination. The Strategy advocates a cross-sector approach to youth issues and involves eight fields of actions: Education and Training; Employment and Entrepreneurship; Voluntary activities; Participation; Social inclusion; Health and Well-being; Creativity and Culture; Youth and the World. Its objectives are to create more and equal opportunities for all young people in education and in the labour market, and to promote the active citizenship, social inclusion and solidarity of all young people; harnessing both technical and soft skills development (EU Youth Strategy 2010-2018, 2014: 6).

More recently, the EU commissioned research at their Joint Research Centre, Seville to better define and describe entrepreneurship as a competence and to develop the reference framework of knowledge, skills and attitudes for European citizens (Bacigalupo, Kampylis, Punie & Van den Brande, 2016: 5).

In a review of other research conducted between 1985 and 1994, Gormon, Hanlon & King (1997: 29) established that empirical research findings validated the positive relationship between entrepreneurial education and the development of the entrepreneurial mind-set.

More recent research undertaken by Viviers, Solomon & Venter (2013, 12) found that South African students had high levels of awareness of entrepreneurship. This finding was corroborated in the 2013 GEM Report (Amoros & Bosma 2013: 45) and their additional finding was that the perceptions of South African youth were favourable with regard to entrepreneurship. However, actual entrepreneurial activity in South Africa was low. They further suggest that the low incidence of entrepreneurship in South Africa ought to raise the question whether this low prevalence is not perhaps symptomatic (amidst other societal, legislative and economic factors) of our education system.

Vanevenhoven (2013, 76) and Garud & Giuliani (2013, 54) in their respective studies found evidence to support the relationship between entrepreneurship education and entrepreneurship activity – the desired/ideal outcome of this research. Their research also found support for the relationship between entrepreneurship education and the development of entrepreneurial ‘sub-processes’, which intersects with the entrepreneurial mind-set as defined in this research.

Martin, McNally & Kay (2012, 11) found a positive relationship between entrepreneurship education and the ‘creation of better entrepreneurs’. From their definition of ‘better entrepreneurs’ there was a large degree of intersection with the definition of the entrepreneurial mind-set as defined within this research.

In the first-ever study conducted in Spain regarding the relationship between entrepreneurship education and entrepreneurial competencies, which closely aligns with the definition of entrepreneurial mind-set as adopted in this research, Sanchez (2013, 34) found that there existed a positive relationship between entrepreneurship education and the acquisition of entrepreneurial competencies.

In South Africa, several studies have been conducted with the focus of understanding the relationship between entrepreneurship education and on a continuum, the development of the entrepreneurial mind-set, entrepreneurial intention and entrepreneurial activity. These researches will be reviewed to provide a background to this research.

Morris, Webb, Fu & Singhai (2013, 102) suggested the formation of a strong entrepreneurial culture in South Africa to address the youth unemployment issue. They identified the implementation of entrepreneurship education as a key driver to the establishment of such a culture. A similar view was expressed by Gouws (2002, 34) that education would drive entrepreneurship in South Africa. Morris *et al*/suggested that a level of education was an important determinant of entrepreneurial capacity. In addition, from their research they concluded that entrepreneurship education correlated positively with entrepreneurial activity.

A similar view was reinforced by Amoros & Bosma (2013, 167) where they found South African participants rated education and training as the most important prohibitive factor to the development of entrepreneurship capacity in South Africa. By citation of other studies (Driver, Wood, Segal & Herrington 2001, Maas & Herrington 2006, Turker & Seluk 2009 and Herrington, Kew & Kew 2009) they suggested that the only way for South Africa to respond to its increasing inability to absorb the number of job seekers in the formal and public sectors, to provide employment and increase competitiveness, was through the promotion of entrepreneurship.

Amoros & Bosma (2013, 45) further suggest, by citation of Nieuwenhuizen & Kroon (2002, 87) that the South African education system should be supported by economic and political institutions through an integrated approach to inculcate an entrepreneurial culture in society. Finally, they suggest a direct correlation between national levels of entrepreneurial activity (opportunity and necessity driven) with levels of economic growth in all the countries on the Global Entrepreneurship Monitor (GEM) database over the 15 years of tracking.

In a study, Rungani & Fatoki (2010, 215) found that entrepreneurial intentions of graduates in South Africa are low. Further, the study pointed to the lack of entrepreneurial education in South Africa to motivate and/or remove obstacles to entrepreneurial intentions. Specifically, they found that entrepreneurial education was required to address gaps in business skills, management skills, and entrepreneurial skills (aligned to the entrepreneurial mind-set as defined in this research). In their earlier study by citation of Fatoki, Papulova & Makros (2007, 178), they concluded that a similar finding was made: that the implementation of entrepreneurship education would drive entrepreneurial activity in South Africa. Additionally, by citation of Izedonmi & Okafor (2010, 90), they found that youth exposure to entrepreneurship education for a period of four years can promote entrepreneurial intent and instilling the entrepreneurial mind-set by raising attitudes and behaviour towards entrepreneurial intent.

Lundstrom & Stevenson (2001, 56) cite Birch (1979, 12) who early on in the debate of the correlation between entrepreneurship education and the development of the entrepreneurial mind-set suggested that entrepreneurship education was critical to supporting and enabling entrepreneurial intention. Their view reinforces the view that South African youth need to be accommodated in the economy, no matter at what stage they exit the formal school system, with an entrepreneurial education and training that enables them to become job creators instead of job seekers (Nieuwenhuizen & Groenewald 2008: 128).

Kuratko & Hodgetts (2007, 56) and Drucker (1985, 43) concurred that entrepreneurs have a distinctive mind-set and that like any discipline, entrepreneurship can be learned. Extrapolating from that, it may be assumed that learning should include entrepreneurship skills, competencies and create an entrepreneurial mind-set.

The World Economic Forum's Global Education Initiative (2010, 56) suggested the need to transform the educational system through entrepreneurship education; one that would foster the enablement of youth to adopt 21st century methods and tools to develop the appropriate learning environment and to encourage creativity, innovation and the ability to think 'out of the box' to solve problems.

The United Nations Conference on Trade and Development (2012) Entrepreneurship Policy Framework positions itself as a guide to supporting developing-country policymakers and those from economies in transitions to promote entrepreneurship. It aligns policy with a strategy and includes a three-pronged focus: at the core is Entrepreneurship Policy that focuses on unlocking entrepreneurship capability and facilitating start-ups, the next focus is the involvement of private sector and enterprise development policy, with the outermost focus being general economic policies and policies to improve the business climate (UNCTAD, 2012: 9).

The United Nations Conference on Trade and Development (2015, 45) suggested that while an integrated entrepreneurship policy is at the heart of youth entrepreneurship, as a solution to youth unemployment, access to entrepreneurship education is key to ensuring that young people acquire the competencies and skills they need to pursue entrepreneurship and to lay the groundwork for developing a culture of entrepreneurship.

Ramlogan & Rigby (2013, 45) examined publicly supported policies in the United Kingdom for entrepreneurship development with the principal objective to increase a level of entrepreneurial activity, which is currently considered to be below the social optimum. They found that that policies implemented through broadcast methods such as education policy would affect cultural and behavioural impacts and increase awareness of entrepreneurship as a career choice amongst youth.

Garba (2010, 34) suggests that entrepreneurship education and its capabilities and efficacy in promoting economic growth through human capital development is well established and has thus been embraced by most developed countries. In addition, the 2014 United Nations Trade and Development Conference suggested that in response to the many countries currently experiencing an unprecedented level of youth unemployment, there is a focus on the development of entrepreneurial talents among young people – if paralleled by adequate policies addressing the constraints of the labour market – to achieve employment generation and inclusive growth.

Efe (2014, 67) builds on this line of argument by suggesting that education is very important in the training and development of human resources in any country through the impartation of appropriate skills, capacities, values, knowledge and attitudes which can be used in the transformation of individuals, communities, nations and the world at large. Entrepreneurship education can be used for wealth creation, poverty reduction, ensuring socioeconomic empowerment, sustained self- and national development.

The OECD (2009) suggested that education for entrepreneurship is concerned with the inculcation of a range of skills and attributes, underpinned by the recognition that changing mind-sets is fundamental. It adds that part of the entrepreneurial pipeline is the development of the entrepreneurial mind-set that starts in education, runs through research to business and society at large.

Thus far, this research has established that globally, where youth unemployment is an issue, governments, policy-makers and academics are agreeing that entrepreneurship may well be a solution to this pressing problem. Further, there is consensus that there is a need for the development of an entrepreneurial mind-set with the desired/ideal objective being entrepreneurial activity. This research thus posits that the implementation of entrepreneurship education and

developing the entrepreneurial mind-set will also yield benefits for South African youth providing them with a sense of autonomy, independence and self-confidence, awareness of alternative career choices, and broadening their horizons, thereby making them better equipped to perceive opportunities and providing the knowledge that they can use to develop new entrepreneurial opportunities.

From the examination of literature cited earlier in this chapter, academic and reported, relating to emerged, emerging and developing economies, factor-driven, efficiency-driven and innovation-driven, evidence points to a validation of the view that entrepreneurship education can positively influence entrepreneurial mind-set development with the potential for entrepreneurial activity. From what the literature review has proven as known and valid, this establishes a case for South Africa to explore and describe the effect of entrepreneurship education programmes on the mind-set of its youth.

Njongeri (2015, 88) undertook an extensive study of countries across the economic continuum and his findings concluded that economies that had implemented entrepreneurship education in a systematised manner reported vast benefits for their citizens. By citation of Katz (2003, 19), Maina (2011, 54), and Nafukho & Muyia (2010, 54) he noted that the field of entrepreneurship education in the United States of America is better recognised than in any other country in the world and that in the United Kingdom context, entrepreneurship studies are also prevalent and gaining momentum because of their reported benefits.

Njongeri describes the case in India where the entrepreneurial education space, through entry of industry associations, non-governmental organisation consultants and voluntary organisations, is currently gaining immense momentum and is resulting in the strengthening of the entrepreneurial ecosystem. In Japan, entrepreneurs play a critical role in catalysing the emergence of successful young companies. By citation of information from the Japan Innovation and Entrepreneurship Council 2012 Report, Njongeri states that entrepreneurship and entrepreneurial thinking stimulated and created entirely new sectors in industry and more self-employment opportunities than any other catalyst.

In Kenya, the development of entrepreneurship education and training programmes developed entrepreneurship through the development of positive attitudes among students toward self-

employment and self-reliance and in ensuring high success rates among graduates who become self-employed in micro and small business enterprises (Njongeri by citation of Nafukho & Muyia 2010: 89).

The 2009 WEF Global Education Initiative report suggests that education has the power to develop the skills that result in the generation of an entrepreneurial mind-set and in preparing future leaders to solve more complex, interlinked and fast-changing problems. It added that education needed to come back to the top of the priorities of governments and the private sector and be the fundamental mechanism for attaining sustainable economic development and societal progress. Moreover, the world needed effective global leaders and stronger educational systems that prepared the current and future generations of entrepreneurs, workers, teachers, managers and individuals with the skills needed to succeed and help others.

In this chapter, the research reviewed literature pertinent to the following focus areas to understand what is known and what remains unknown of the effect of entrepreneurship education programmes on the mind-set of South African youth. As outlined in Chapter 1, this was a gap area that emerged as the researcher worked through the literary framework as outlined below:

- The risk of youth unemployment in South Africa
- The rationale for a new youth employment narrative in South Africa
- Youth entrepreneurship as a driver of national economic prosperity
- The development of the entrepreneurial mind-set as a lever for youth entrepreneurship
- Entrepreneurship education as a systematised driver of the development of the entrepreneurial mind-set
- The conceptual framework: constructs of the entrepreneurial mind-set for South African youth

From literature reviewed in this chapter, it has been established that the widespread youth unemployment in South Africa is a national risk. In addition, it has been established that the formal job sector cannot create jobs at the required rate to address the situation effectively. Global and national literature reviewed generally showed a correlation between youth entrepreneurship and the resultant national economic prosperity. Such a positive relationship could signal a possible solution for South Africa: addressing youth unemployment effectively through youth

entrepreneurship. However, the literature reviewed points to the fact that entrepreneurship in South Africa, especially amongst its youth, is not perceived as an employment opportunity. The literature reviewed also pointed to the need for some intervention, ideally an educational one at a systematised level, to promote and foster such mind-set to result in intention for youth entrepreneurship. One common approach that is suggested in the literature base reviewed is the development of an entrepreneurial mind-set through the intervention of entrepreneurship education.

This research will adopt a modified version of the entrepreneurial mind-set from the literature it has reviewed in this chapter, which it will seek to describe. In this research, the constructs of the entrepreneurial mind-set have been carefully selected, guided by the theoretical rationale that will be discoursed in Chapter 3.

This research acknowledges that in the ideal context, where all entrepreneurial infrastructure aspects are enabled (see Figure 2 above), the development of the entrepreneurial mind-set would culminate in the desired/ideal behaviour of youth entrepreneurship. However, given that there remain so many gaps in the South African entrepreneurial infrastructure, achieving entrepreneurial mind-set could result in one or a combination of many outcomes, as depicted below in Figure 3.

Figure 3: The continuum of outcomes of developing the entrepreneurial mind-set

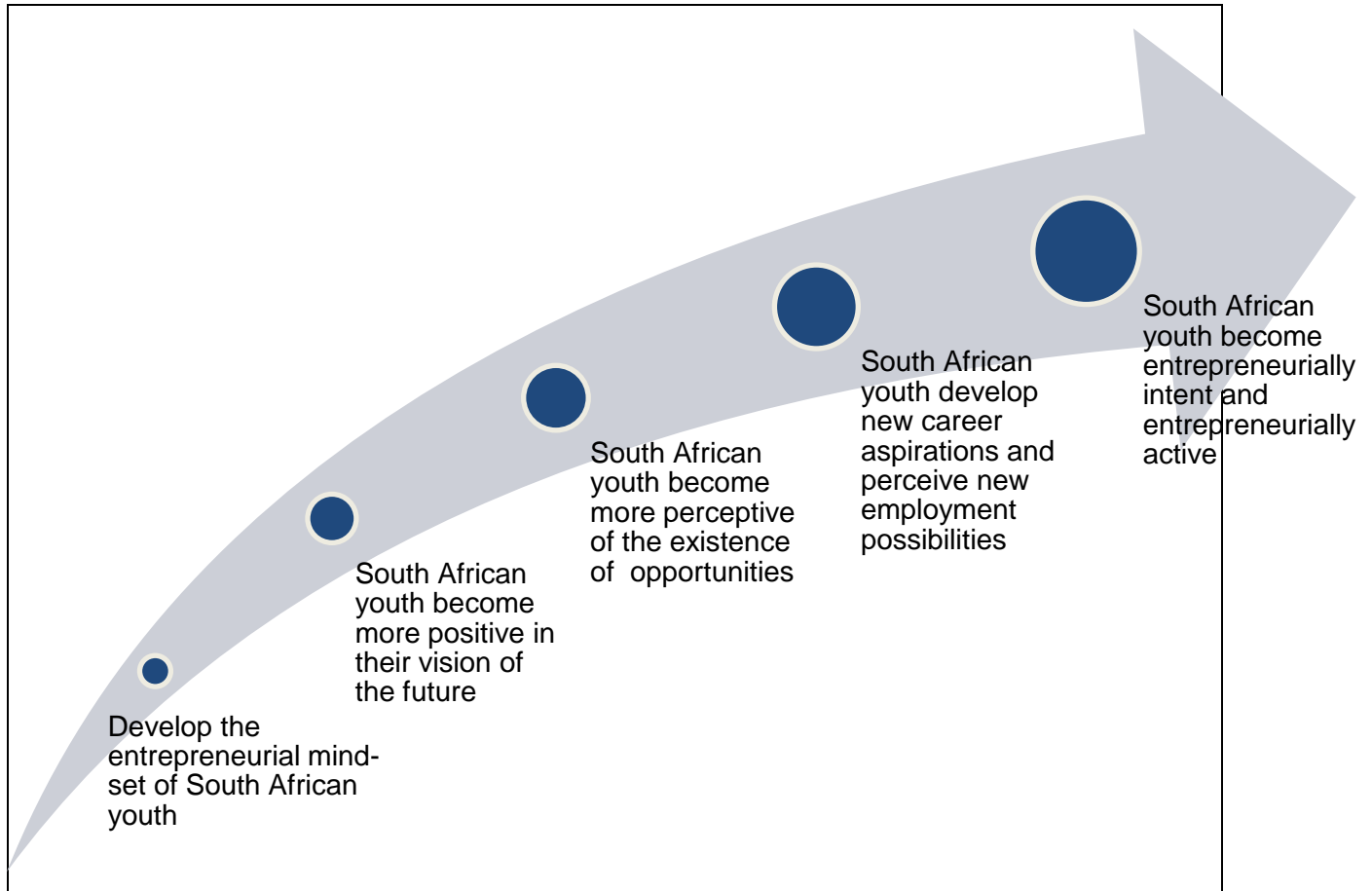
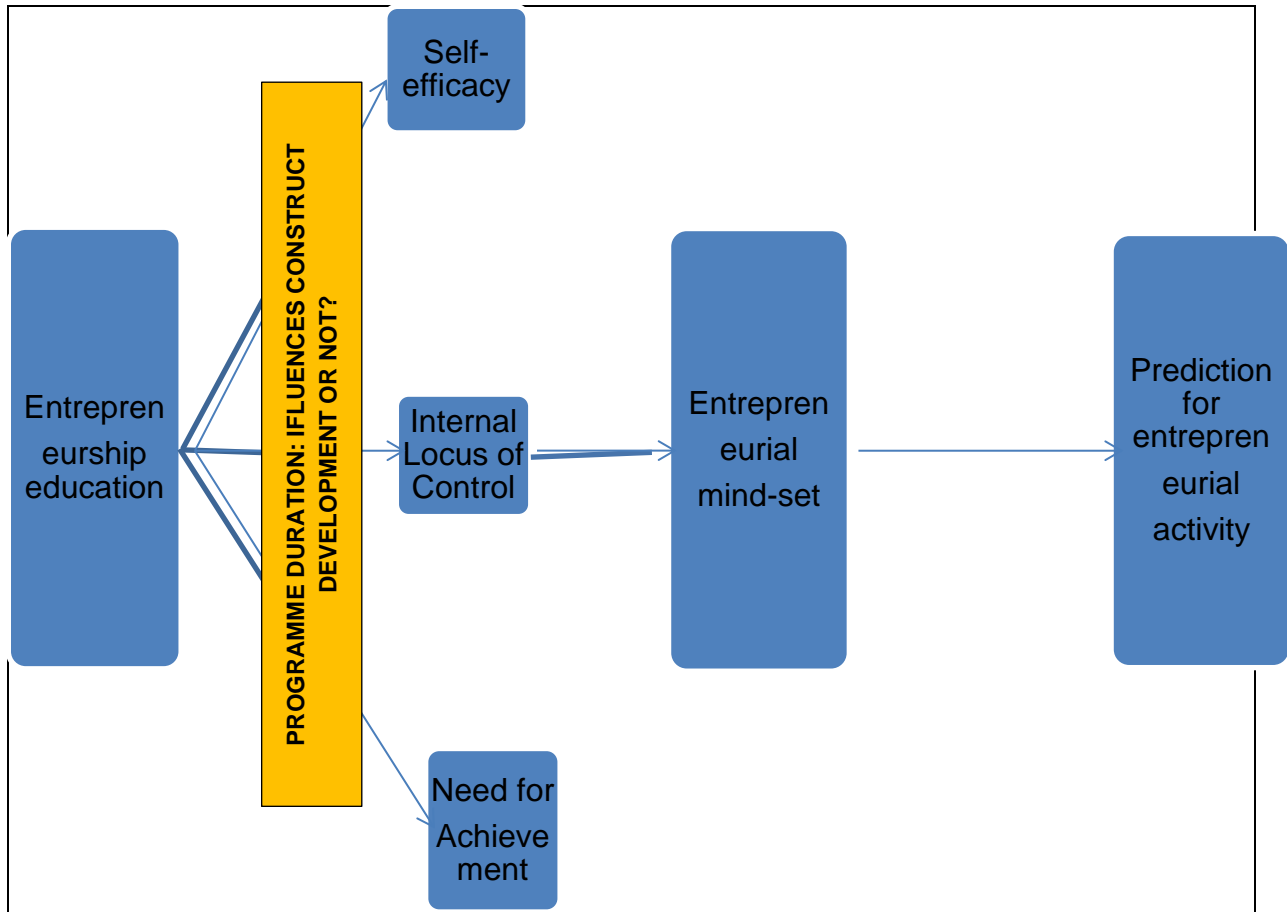


Figure 4: The full hypothesised model of this research



2.6. Conclusion

This chapter reviewed the pertinent literature on the research topic, identified the key issues of the research problem, developed a conceptual framework for the study and identified the gaps in the body of knowledge on the research problem.

The review will continue in the next chapter with the discussion of the pertinent theoretical perspectives and provide substantiation for proposing the adoption of the Theory of Planned Behaviour (Ajzen 1991), the Social Cognitive Theory (Bandura 1997), the Social Learning Theory (Rotter 1966) and the Achievement Motivation Theory (McClelland 1958).

Relevant theory will be adopted to provide rigour to what this research postulates: that strong constructs of self-efficacy, inner locus of control and the need for achievement will contribute to a

strong probability of the desired outcomes and that entrepreneurship education will affect the development of the (entrepreneurial) mind-set of South African youth.

Chapter 3: Theoretical perspectives

3.1. Introduction

The previous chapters introduced the context, the background, the importance and relevance of this research. It also identified the research problem, formulated the research question, the research objectives and hypotheses, the definitions of the key terms used, provided an outline of the thesis and presented the literature review. From the literature reviewed, this research has concluded that a strong correlation exists between entrepreneurship education, development of the entrepreneurial mind-set and entrepreneurial intention.

Several countries such as the USA, UK, Brazil and a number of European countries, as cited in Chapter 2, had introduced entrepreneurship education to enhance entrepreneurial intention and that a number of successes were achieved in each case. The detailed achievements per country are cited in Chapter 2. An achievement that was reported in common amongst all those countries was an influence on the mind-set: ranging from how the education intervention was perceived, to influence on the mind-set and the actual influence on the entrepreneurial behaviours.

The literature cited in Chapter 2 also highlighted the effect of entrepreneurship education to reduce unemployment among youth by the demonstrated correlation of entrepreneurship education, the entrepreneurial mind-set and entrepreneurial intention. Another learning from those countries that implemented such education was that entrepreneurship education should be implemented in a systemic way, that is, education should ideally be enhanced by a favourable entrepreneurial infrastructure, as outlined in Figure 2 as cited in Chapter 2.

A key learning from the Entrepreneurship Education at School in Europe National Strategies, Curricula and Learning Outcomes Report (European Commission, 2012: 9) highlight the various strategies adopted by six countries in two regions to promote the implementation of entrepreneurship education at schools. Some strategies included national integrated approaches (cross ministries) as a growth strategy. In other practices, entrepreneurship education was implemented as a life-long growth strategy. A conclusion of the report was that the various examples of strategies showed that the promotion of entrepreneurship could be tackled from different directions such as formal education, youth, life-long-learning and employability. In some

cases, the strategies explicitly encouraged curriculum reforms to incorporate entrepreneurship education' (European Commission, 2012: 11).

In addition, the report pointed to the facts that the most of the countries, the cross-curricular approach was combined with the integration of entrepreneurship education into other subjects. Each country might have adopted different approaches; for example, in Lithuania and Romania, entrepreneurship education was a compulsory subject whereas in Bulgaria, it was compulsory for students choosing the technology branch and in Denmark and Spain, it was an optional subject.

At the level of upper secondary school, the equivalent of Grades 10-12 in South African schools, all European countries recognised entrepreneurship education in their steering documents, even if the exact term 'entrepreneurship' was not always used. The cross-curricular approach was as widely adopted in around two thirds of European countries. According to the report, what was most noticeable at that level of education was the increase in the number of countries – more than two thirds of all European countries – integrating entrepreneurship education in optional subjects such as economics, business studies, career education, social science and a few even in Information Technology (European Commission, 2012: 16). Irrespective of the implementation strategy adopted and the integration plan, all countries within the report stated that the overall goal of entrepreneurship education was to give students the attitudes, knowledge and skills to act in an entrepreneurial way.

A review of literature cited in Chapter 2 pointed to a gap in terms of specific research being done pertaining to entrepreneurship education and the development of the entrepreneurial mind-set for South African youth in Grades 10 to 12 and in the normative age group of 15 to 18. This research proposes to fill the gap. It noted that for South African youth, specifically given the socioeconomic and political-historical context of the country, a mind-set that included the general constructs as per the definitional stance of the entrepreneurial mind-set, would hold them in good stead. To effectively deal with the country's context and lack of a positive entrepreneurial infrastructure, three constructs, namely self-efficacy, an inner locus of control and the need for achievement, were critical in the development of the entrepreneurial mind-set of South African youth.

Van der Kuip & Verheul (2003, 32) have widely researched the field of psychology and their finding suggests that personality is not only hereditary, but is also influenced by the environment. Among

the environmental factors exerting influence on the process of personality formation is the culture in which people are raised, that is the norms, attitudes and values of family, friends and social groups. There is also substantive evidence that children's personalities are still malleable in early childhood, and thus initial education can play an important role in the development of personality traits or, more specific to this research, the development of an entrepreneurial mind-set. Following this view, it may be a fair assessment that the entrepreneurial mind-set is best developed through entrepreneurship education in primary (as an ideal starting point) and secondary education (as a trade-off to primary education because of the urgency of the need for the intervention for imminent school leavers and as the need exists in South Africa).

In this chapter, the research will provide theoretical substantiation for the following:

- Entrepreneurial intention and/or behaviour can be learnt by discourse of the Theory of Planned Behaviour (Ajzen 1991).
- Self-efficacy, people's beliefs about their capability to produce designated levels of performance that exercise influence over events that affect their lives; a demonstrated belief in one's own ability, that is, self-confidence to control one's own success, which does not depend on others, a high degree of endurance and the ability to continue wilfully, in spite of setbacks or objections (Bandura, 1997) are key constructs for the development of the entrepreneurial mind-set of South African youth. The Social Cognitive Theory will be discoursed here.
- People with an internal locus of control who believe that the responsibility for whether or not they get reinforced ultimately lies within themselves reflect independent decision making; people who have the ability to resolve their problems and take personal responsibility for their successes or failures (Rotter 1966) are key constructs for the development of the entrepreneurial mind-set of South African youth. Social Learning Theory will be discoursed here.
- The need for achievement; success in competition with some standard of excellence demonstrated by setting and striving for high target levels and putting in much effort to reach them (McClelland 1958) are key constructs for the development of the entrepreneurial mind-set of South African youth. Achievement Motivation Theory will be discoursed here.
- Entrepreneurship education as an agency for the entrepreneurial mind-set.

Relevant theory will be adopted to provide rigour to what this research postulates: that strong constructs of self-efficacy, inner locus of control and the need for achievement will contribute to a strong probability of the desired outcomes and that entrepreneurship education will affect the development of the (entrepreneurial) mind-set of South African youth.

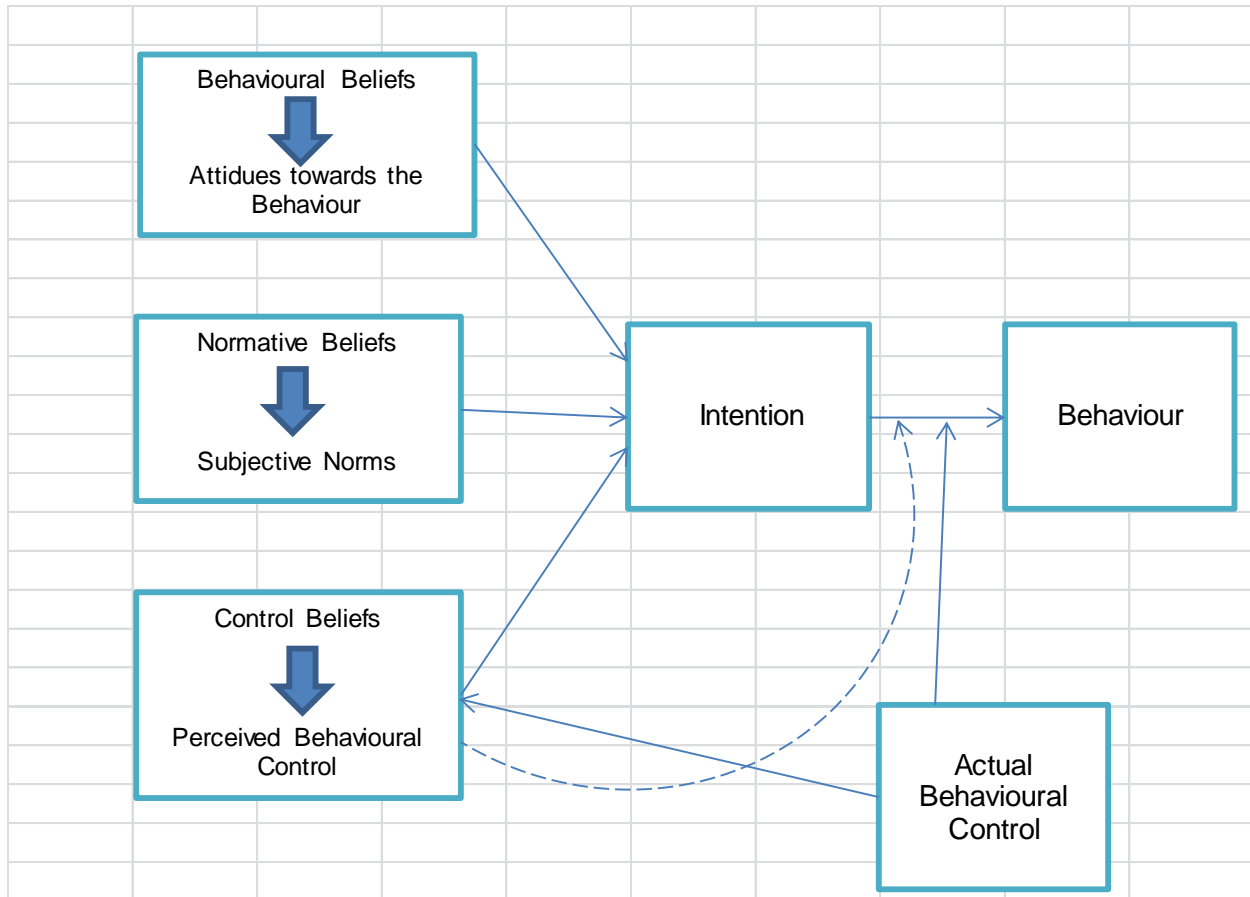
3.2. The rationale for adopting the Theory of Planned Behaviour

For this research, the Theory of Planned Behaviour (TPB) as advocated by Ajzen (1991, 10) will be explored. The Theory of Planned Behaviour suggests that entrepreneurial behaviour (EB) is a construct of entrepreneurial intentions (EI) and may be demonstrated as: Attitudes = Motivation = Intentions = Behaviour (EA). Using this theory, it follows that entrepreneurial activity can be motivated by the antecedents, intentions, motivation and attitudes that stimulate and encourage entrepreneurial activity.

This research aims to describe the effect of entrepreneurship education programmes on the development of the mind-set in South African youth as antecedent to entrepreneurial intention and/or entrepreneurial activity as the ideal outcomes. As a secondary outcome, the research hopes to describe the effect of entrepreneurship education programmes on the mind-set of South African youth in outcomes as represented in Figure 3.

Given that the Theory of Planned Behaviour (TPB) is a widely endorsed model to understand behaviour in applied social psychology and is one of the most influential and cited models for the predictions of human behaviour (Ajzen 1991: 120), this research finds that reliability is established as to why it ought to adopt this theory to better understand and be enabled to explore and describe the effect of entrepreneurship education programmes on the development of the mind-set of South African youth.

Figure 5: Illustration of the Theory of Planned Behaviour (Ajzen 2006)



In the outline that follows, an overview will be provided as to how this research understands the premise and the applicability of the theory. Broadly stated according to the theory, the more favourable the attitude and subjective norm, and the greater the perceived control, the stronger the person's intention to perform the behaviour in question should be. Also, given a sufficient degree of *actual* control over the behaviour, people are expected to carry out their intentions when the opportunity arises. Intention is thus assumed to be the immediate antecedent of behaviour. From an application perspective, this research assumes that developing an entrepreneurial mind-set is in fact antecedent to entrepreneurial intention.

The first TPB determinant, the attitude toward the behaviour, deals with a person's favourable and unfavourable evaluations of the behaviour. It entails a consideration of the outcomes of performing the behaviour. For this research, it is postulated that exposure to entrepreneurship education can provide the means for South African youth to evaluate and to perceive the behaviour (entrepreneurial) as favourable. As stated in Chapter 1, South Africans' low prevalence of entrepreneurship may well be related to the fact that they have little to no experience of the

behaviour and thus have little to no means to either evaluate or perceive the behaviour as favourable.

Subjective norm, the second determinant of TPB, refers to the perceived social pressure from the society. This refers to the belief about whether most people approve or disapprove of the behaviour. It relates to a person's beliefs about whether peers and people of importance to the person think they should engage in the behaviour. For this research, it is acknowledged that this is part of the entrepreneurial infrastructure (Figure 2) that will require more intervention from government and that this may be a limitation to this study. However, through the entrepreneurship education received, South African youth may begin to develop attitudes that could make them perceive their individual success as greater than the external social pressure they may perceive and experience. This is where this theory intersects with Social Cognitive, Social Learning, Achievement Motivation theories or a combination thereof.

The third determinant, perceived behavioural control, refers to the perceived ease or difficulty of performing a behaviour in different situations when the behaviour may go beyond one's controllable aspects of predicting behaviour directly or through intention (Ajzen 1991: 186). Ajzen goes on to state that the behavioural achievement depends on the availability of resources and opportunities. Perceived behavioural control has an impact on intentions and actions as it deals with a person's perception of the ease or difficulty of performing the behaviour and the actual role of perceived behavioural control varies according to the situational factors.

For this research, it is posited that situational factors may be aligned with the entrepreneurial infrastructure (Figure 2) that will require more intervention from government and that this may be a limitation to this study. However, through the entrepreneurship education received, South African youth may begin to develop attitudes that could make them perceive their individual success as greater than the perceived behavioural control limitations they may experience. This is where this theory intersects with Social Cognitive, Social Learning, Achievement Motivation theories or a combination thereof.

The fourth determinant, behavioural intention, refers to the motivational factors that influence a given behaviour, that is, where the intention to perform the behaviour is stronger, the more likely it will be that the behaviour will be performed. For this research, it is postulated that exposure to

entrepreneurship education can provide the motivational factors and the means for South African youth to be more entrepreneurially intentional.

The fifth determinant, social norms, refers to the customary codes of behaviour in a group of people or larger cultural context. Social norms are considered normative, or standard, in a group of people. For this research, it is acknowledged that this is part of the entrepreneurial infrastructure (Figure 2) that will require more intervention from government and that this may be a limitation to this study. However, through the entrepreneurship education received, South African youth may begin to develop attitudes that could make them perceive their individual success as greater than the current South African social norm of low rates of entrepreneurship. This is where this theory intersects with Social Cognitive, Social Learning, Achievement Motivation theories or a combination thereof.

The sixth determinant, perceived power, refers to the perceived presence of factors that may facilitate or impede performance of a behaviour. Perceived power contributes to a person's perceived behavioural control over each of those factors. For this research, it is acknowledged that this is part of the entrepreneurial infrastructure (Figure 2) that will require more intervention from government and that this may be a limitation to this study. However, through the entrepreneurship education received, South African youth may begin to develop perceived power of their individual success. This is where this theory intersects with Social Cognitive, Social Learning, Achievement Motivation theories or a combination thereof.

Empirical studies cited from across a timeline (1996 to 2014) and country demographics (geographical, economy profile from developed to developing and level of entrepreneurship activity) generally support the relationship postulated by the TPB between entrepreneurial intention and attitudes (Kolvereid 1996, Krueger, Reilly & Carsrud 2000, Douglas & Shepherd 2002, Souitaris, Zerbini & Al-Laham 2007, Kuratko 2005, Lin & Chen 2010, Bidin, Shamsudin & Othman 2012, Barua 2013, Karali 2013, Fayolle & Linan 2014) thus validating the rationale for the adoption of the Theory of Planned Behaviour as propounded by Ajzen.

The researchers cited above generally validate the premise of the theory that the intention to engage in a specific behaviour is based on a person's perceptions of the six determinants outlined above. This research has already identified the limitations in the South African entrepreneurial infrastructure context that may impede the desired behaviour. The research also advocates for

the promotion of that immature entrepreneurial infrastructure to begin at the level of education that South African youth receive.

One of the reasons for the appeal of applying the Theory of Planned Behaviour is that it embraces new variables in the predication of behaviour intentions. Deriving from psychology literature, intention is demonstrated to be the best predictor of planned behaviour, especially when the latter is unusual, difficult to distinguish, or involves unpredictable time lags (Karali 2013: 5). Entrepreneurship in South Africa is a classic example of such planned, intentional behaviour and the challenges, given the lack in the entrepreneurial infrastructure.

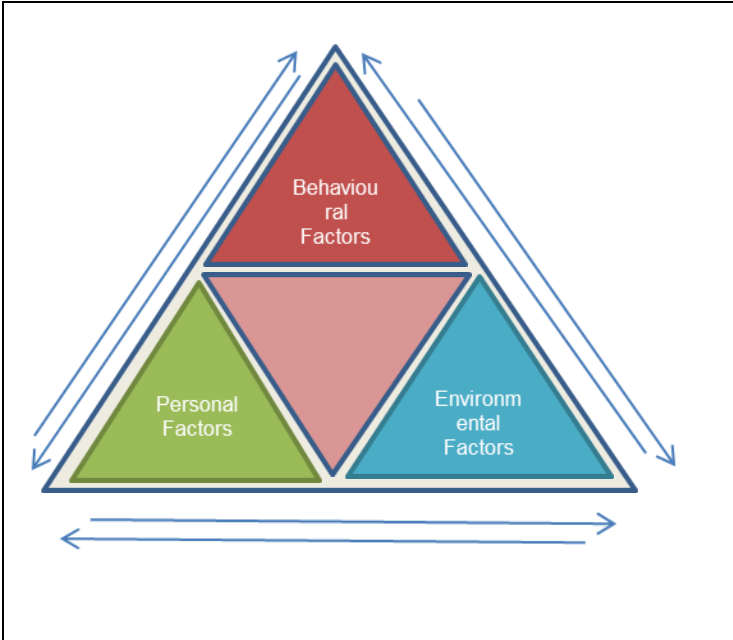
Therefore, it is the purpose of this research to bring new light to this area by using the TPB as the theoretical foundation to explore and describe the effect of entrepreneurship education programmes on the mind-set development of South African youth and consequently, their intentions and behaviour. This research will be the first to study the effect of entrepreneurship education programmes on the mind-set development of South African youth, by specific reference to the constructs of self-efficacy, inner locus of control and need for achievement, and their influence on entrepreneurial intention and/or predictions for the desired behaviour.

In this research, specifically, the desired behaviour we seek to promote is entrepreneurial activity, the antecedent of which is entrepreneurial intention. Interventions in the form of short and long entrepreneurship education programmes will be implemented to develop the entrepreneurial mind-set of the sample group. These programmes aim to influence behaviour by means of focus on one or more of the six determinants. However, changes in these determinants are assumed to be based on corresponding sets of beliefs.

The entrepreneurship education interventions must therefore try to change the beliefs that, according to the theory, ultimately guide performance of the behaviour. Thereafter, positive perceptions of these factors ought to produce changes in behavioural intentions and, given adequate control over the behaviour, the new intentions should be carried out under appropriate circumstances (which may have direct and/or indirect dependency on the entrepreneurial infrastructure (Figure 3).

3.3. The rationale for adopting the Social Cognitive Theory

Figure 6: Illustration of the Social Cognitive Theory (Bandura 1986)



According to the Social Cognitive Theory postulated by Bandura (1986), self-efficacy is one of the most important variables that influence people's beliefs about their capability to produce designated levels of performance that exercise influence over events that affect their lives. It is demonstrated by belief in one's own ability, that is, self-confidence to control one's own success, which does not depend on others, a high degree of endurance and the ability to continue wilfully, despite setbacks or objections.

The Social Cognitive Theory is composed of four processes of goal realisation: self-observation, self-evaluation, self-reaction and self-efficacy. These components are interrelated, each influencing motivation and goal attainment.

Self-observation relates to observing oneself, which can inform and motivate. It can be used to assess one's progress toward goal attainment as well as motivate behavioural changes. Bandura also suggests that self-observation in itself is insufficient because motivation depends on one's expectations of outcomes and efficacy.

Self-evaluation allows for a comparison of an individual's current performance with a desired performance or goal. It is affected by the standards set and the importance of the goals. When individuals achieve these valued goals, they are more likely to continue to exert a high level of effort, since sub-standard performance will no longer provide satisfaction (Bandura 1989, 8).

Self-reaction relates to reactions to one's performance, which can be motivating. If the progress made is deemed acceptable, then one will have a feeling of self-efficacy about continuing, and will be motivated towards the achievement of one's goal. A negative self-evaluation might also be motivating in that one may desire to work harder if one considers the goal to be valuable. Self-reaction also allows a person to re-evaluate their goals in conjunction with their attainments (Bandura 1989). If a person has achieved a goal, the person is likely to re-evaluate and raise the standard (goal), whereas if a person has not achieved the goal, the person is likely to re-evaluate and lower the standard (goal) to an achievable goal.

Self-efficacy thus relates to one's belief in the likelihood of goal completion which can be motivating. As stated earlier, it refers to people's judgments about their capability to perform tasks. Task-related self-efficacy increases the effort and persistence towards challenging tasks; therefore, increasing the likelihood that they will be completed.

Self-efficacy has been indicated as an important motivational behaviour in human behaviour research showing that higher levels of self-efficacy lead to better performance in tasks (Hasheminasab, Zarandi, Azizi & Zadeh, 2014: 87) where a strong sense of efficacy enhances human accomplishment and personal well-being in many ways. Self-efficacy, also called perceived ability, refers to the confidence people have in their ability for success in each task. Bandura's (1977) self-efficacy theory refers to an individual's level of confidence that they can carry out the recommended behaviour across a range of potentially difficult situations. This holds relevance to the current situation of South African youth in general and could hold value for them irrespective of where they are on the continuum (Figure 3).

Research broadly concurs that if people possess the ability to successfully perform, then that task will be attempted (Bandura 1997, Tenaw 2013, Mahyuddin et al. 2006). Collins (1982, 90) demonstrated in a clear way the importance of self-efficacy beliefs and skill application, which showed that people may perform poorly in tasks not necessarily because they lack the ability to succeed, but because they lack belief in their capabilities, thus corroborating the view propounded by Bandura. This view is the rationale for which this research includes the development of individual self-efficacy as a critical construct of the entrepreneurial mind-set development. As acknowledged earlier, given that the entrepreneurial infrastructure in South Africa is at an immature level, the belief in one's own capabilities becomes more significant: to enhance human (youth) accomplishment, personal well-being in many ways and self-confidence people (youth) have in their abilities for success in each task.

Tsang, Hui & Law (2012, 11) suggest that research generally shows that people's self-efficacy beliefs about their capabilities and about the outcomes of their efforts are particularly predictive of actual behaviour. Further, their research found that self-efficacy is also associated with key motivational constructs like causal attributions, self-concept, optimism, achievement goal orientation, academic help-seeking, anxiety, and value, and these are therefore the most important constructs of the social cognitive theory.

According to social cognitive theory, self-efficacy beliefs are developed and strengthened in four ways: (1) enactive mastery; (2) vicarious experience (role modelling); (3) subjective norm (social persuasion); and (4) physiological states (Bandura 1977). Building on social cognitive theory, and aside from the general means to develop and derive the benefits of self-efficacy, entrepreneurship

education could strengthen and or develop individual self-efficacy in several ways. First, entrepreneurship education offers an opportunity to repeatedly engage in a task and develop confidence in one's ability to perform such a task successfully in the future, which speaks to enactive mastery.

Pajares (2005, 102) suggests that well-being can be fostered by improving the self-efficacy of young people. In addition, self-efficacy is a critical determinant of the life choices people make and of the courses of action they pursue, typically engaging in activities in which they feel competent and avoiding those in which they do not. Pajares further states that this is particularly critical at the high school and college levels, where young people can acquire the knowledge and skills that will play a critical role in what they choose to do and not do.

Bandura's social cognitive theory (1986) provides a strong theoretical argument in favour of reasons to develop self-efficacy amongst people. Considering this theory and empirical findings in related research, this research aims to explore and describe the effect of entrepreneurship education on the development of the construct of self-efficacy within the development of the entrepreneurial mind-set. The specific relevance is that strong perceptions of self-efficacy directs behaviour, shapes courses of action, and increases perseverance in the face of obstacles. Also, highly efficacious individuals, who may experience setbacks as learning experiences rather than personal failure, not only prefer challenging activities but also display higher staying power in those pursuits. Thus, it is more likely that those individuals who have strong perceptions of self-efficacy will intend to start their own business and engage in those behaviours in the long run (Bandura 1999: 23). The latter has direct significance for and relevance to youth in South Africa.

In this research, the researcher had examined a large body of empirical literature from 2005 to 2016 that suggested a positive relationship between entrepreneurship education, the development of self-efficacy, and entrepreneurial intent. This relationship is particularly important to and of relevance in an economy where the entrepreneurial infrastructure is not mature, as is the case in South Africa.

Zhao, Seibert & Hills (2005, 78) found a positive correlation between exposure to entrepreneurship education, the development of self-efficacy and an entrepreneurial intent. Most significantly, they found evidence that individuals choose to become entrepreneurs (or at least

formulate the intentions of doing so) most directly because they are strong in entrepreneurial self-efficacy, the belief that they can succeed in this role. This particular finding has direct relevance to this research: this research hypothesised that entrepreneurship education will promote strong perceptions of self-efficacy, which will have a direct influence on entrepreneurial intent.

Drnovsek, Wincent & Cardon (2009, 12) suggest that the self-efficacy construct is appropriate for the study of entrepreneurship because of its nature: it is a task-specific construct that includes an assessment of confident beliefs an individual has about internal (personality) and external (environment) constraints and possibilities, and it is close to action and action intentionality.

Urban (2011, 67) suggests that attitudes influence behaviour by their impact on intentions. Intentions and attitudes depend on the situation and person and by understanding entrepreneurial perceptions, researchers' understanding of intended behaviour increases. Urban's study specifically focuses on the influence of self-efficacy on women's entrepreneurial intentions, which he premises as follows: 'Entrepreneurs must have perceptions of high self-efficacy to face challenges of modern society.' Based on his research findings on self-efficacy, which was theoretically and empirically linked to intentions, hypotheses were formulated, where entrepreneurship as a career choice was examined in terms of entrepreneurial self-efficacy for men versus women, with the role of gender proposed as a differentiating factor. Inferring from Urban's study, it may extrapolate that youth as entrepreneurs must also have perceptions of high self-efficacy to face their specific challenges of modern South African society.

This research posits that the level of youth perceived self-efficacy will correlate with the duration of the entrepreneurship education programme that they have undergone. Camp (2011, 89) conducted a similar study: to establish the correlation between entrepreneurship education, the development of self-efficacy and entrepreneurial intent, with gender as a mediating effect. His study found a positive relationship between entrepreneurship education, the development of self-efficacy and entrepreneurial intent. Whilst his study, unlike Urban's, found that gender had no mediating effect, it like Urban's, established the positive relationship between entrepreneurship education, the development of self-efficacy and an entrepreneurial intent. This research extrapolates the correlation and aims to build on it by describing the effect on the mind-set of youth in South Africa.

Malebena & Swanepoel (2014, 109) suggest that low entrepreneurial activity rates in South Africa may be attributed in part to an immature entrepreneurial infrastructure. By citation of extant studies, Malebena & Swanepoel demonstrated that in those in whom there was a development of the entrepreneurial self-efficacy, the propensity for entrepreneurial intent was higher than in those whom the entrepreneurial self-efficacy was not developed. Moreover, by citation of various studies, they found that entrepreneurship education can enhance entrepreneurial self-efficacy. Olakitan (2014, 57), in his study of Nigeria, a developing economy like South Africa, found that there was a positive relationship between entrepreneurship education, the development of self-efficacy and entrepreneurial intent.

Shinaar, Hsu & Powell (2014, 214) reached the conclusion in their study generally that the relationship between entrepreneurship education, the development of self-efficacy and a positive relationship with entrepreneurial intention, was valid. Their study specifically sought to report on the moderating effect of gender. Kurczewska & Bialek (2014, 112) drew similar conclusions in their study where it was found that the key antecedents of entrepreneurial intentions were identified as perceived feasibility (connected with individuals' beliefs about success in becoming an entrepreneur) and perceived desirability (related to the extent to which being an entrepreneur is a justified and preferred career path for them) related to the concept of self-perception and capabilities to produce the desired outcomes. The study also sought to report on the moderating effect of gender. This research seeks to specifically report on the duration of the entrepreneurship education programme as the moderating effect. This research, however, accepts the conclusions of the two studies cited: that a positive relationship exists between entrepreneurship education, the development of self-efficacy and entrepreneurial intent.

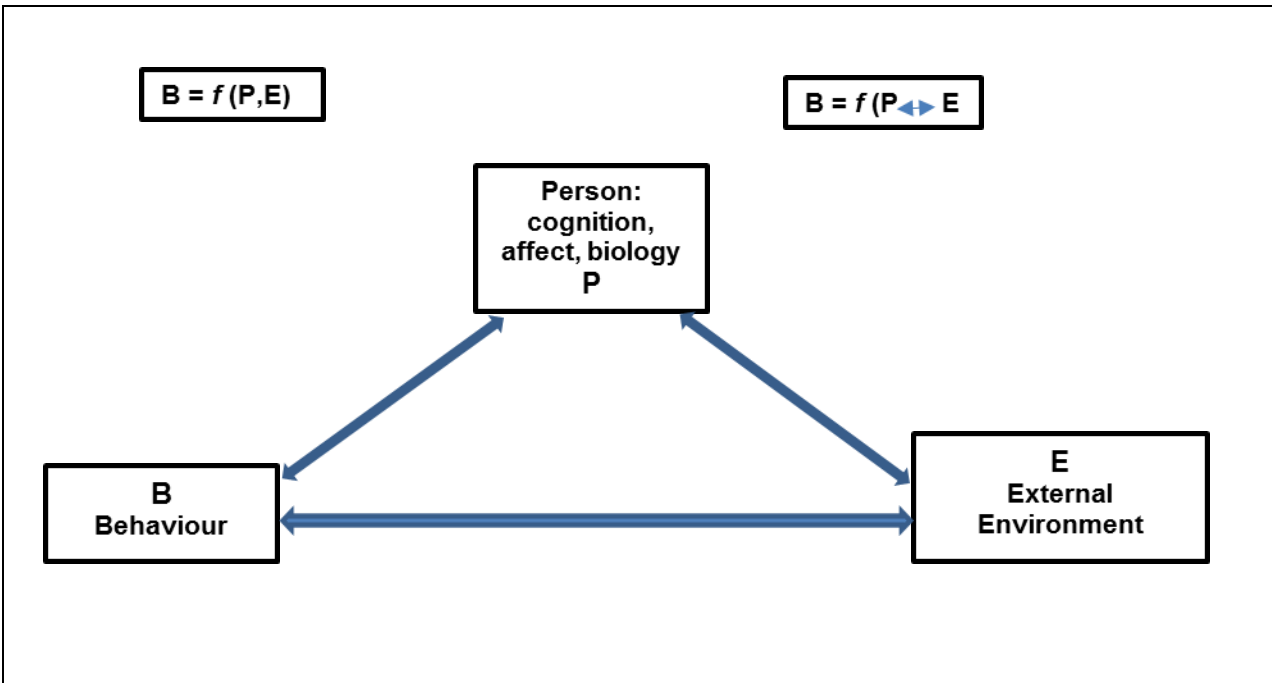
Hermawan, Soetjipto & Rahayu (2016, 67) suggest that academic institutions foster self-efficacy and goals that serve their personal effect to obtain achievements. To maximize self-efficacy, schools should teach intellectual skills to encourage the personal development of the students' self-confidence and self-regulatory ability and ought to educate students throughout life given the importance of self-efficacy to change everyone. Of significance, this recent finding too validates the positive relationship between a strong sense of self-efficacy and entrepreneurial intention. Most significantly, the study showed a conclusive positive relationship between entrepreneurial education programmes, the development of self-efficacy and the entrepreneurial intent. Pfeifer, Sarlija & Susac (2016, 89) in their study in Croatia, found the existence of a positive relationship

between entrepreneurship education, the development of self-efficacy and entrepreneurial intention.

This section sought to provide the rationale for the development of self-efficacy in the mind-set of South African youth, particularly those in Grades 10 to 12, in the normative age group 15 to 18 and closest to school-leaving age. The Social Cognitive Theory and its definition of self-efficacy, as well as its positive correlation with entrepreneurial intention, is generally validated in the studies reviewed. This research accepts that the stronger the South African youth's perceptions of self-efficacy are, the stronger their entrepreneurial intentions will be. The research also believes that it will be the effect of entrepreneurship education programmes on the mind-set of South African youth that will drive the desired outcome.

3.4. The rationale for adopting the Social Learning Theory

Figure 7: Illustration of the Social Learning Theory (Rotter 1996)



Rotter (1966) suggests a predictive formula: Behaviour Potential (BP), Expectancy (E) and Reinforcement Value (RV) can be combined into a predictive formula for behaviour where:

$$BP = f(E \& RV).$$

One main idea in Rotter's Social Learning Theory is that personality represents an interaction of the individual with his or her environment; that is, personality is concomitant to internal factors and the environment of the individual.

Rotter sees personality, and therefore behaviour, as always changeable. In his view, if the way the person thinks is changed, the way the person behaves will change too. Rotter has four main components to his Social Learning Theory model predicting behaviour. Those are explained below and are extracted directly from his theory.

Behaviour potential is the likelihood of engaging in a behaviour in a specific situation. In other words, what is the probability that a person will exhibit a behaviour in a situation? In any given situation, there are multiple behaviours one can engage in or exhibit. There is behaviour potential

for every possible behaviour. The individual will exhibit whichever behaviour has the highest potential.

Expectancy is the subjective probability that a given behaviour will lead to a outcome; that is, how likely is it that the behaviour will lead to the outcome? Having high or strong expectancies means the individual is confident the behaviour will result in the outcome. Having low expectancies means the individual believes it is unlikely that his or her behaviour will result in reinforcement. If the outcomes are equally desirable, people will engage in the behaviour that has the highest expectancy. To have a high expectancy, people must believe both that they have the capacity to enact the behaviour effectively and that the behaviour will result in reinforcement.

Reinforcement is another name for the outcomes of behaviour. Reinforcement value refers to the desirability of these outcomes. Things people want to happen, that they are attracted to, have a high reinforcement value. Things people do not want to happen, that they wish to avoid, have a low reinforcement value. If the likelihood of achieving reinforcement is the same, they will exhibit the behaviour with the greatest reinforcement value, the one directed toward the outcome they prefer most.

Predictive Formula therefore is the combination of Behaviour Potential (BP), Expectancy (E) and Reinforcement Value (RV) for a desired behaviour. Rotter believed that by changing the environment, a change in a person's behaviour should follow.

Following the formula, people who display an internal locus of control believe that the responsibility for whether or not they get reinforced ultimately lies with themselves. They reflect independent decision making, the ability to resolve their problems and take personal responsibility for their successes or failures. Following on the explanation, this research accepts and believes that developing the internal locus of control construct is critical to the entrepreneurial mind-set development.

April, Dharani & Peters (2012, 124) suggest that locus of control is a psychological social learning theory and from their research and by citation of corroborating research (Lefcourt 1976, Hiers & Heckel 1977, Anderson & Schneier 1978 and McCullough, Ashbridge & Pegg 1994) they reported that successful leaders are endowed with a high internal locus of control. The link between internality and leadership may be explained by the fact that individuals with an internal locus of

control have faith in their ability to achieve self-appointed objectives and in transforming their environment (Andrisani & Nestel 1976 cited in Klein & Wassertein), they feel personally responsible for their success, and when something fails, it is attributed to their own inadequacy (Klein & Wasserstein-Warnet 1999: 104).

Klein & Wasserstein (2000, 7), by citation of other primary research, also suggest that people with an internal locus of control believe that the outcomes of their actions are a result of their own personal efforts (Andrisani & Nestel 1976), abilities (Carrim et al. 2006), or permanent characteristics (Littunen & Storhammar 2000). They believe that hard work and personal abilities lead to positive outcomes (Carrim et al. 2006). Thus, these individuals interpret reinforcements they receive from their surroundings as contingent upon their own actions (Lee-Kelley 2006). For internals, key links exist between behaviour and consequences, and between outcome and personal effort (Connolly, 1980). This belief entails that they are masters of their fates (Boone, Van Olffen & Van Witteloostuijn 2005).

McClelland (1961, 12) suggests that entrepreneurs show responsibility for their actions and show a positive relationship between control orientation and entrepreneurship. Lefcourt (1976, 45) and Phares (1976, 87) suggest that internal individuals differ from externals in a variety of ways. Internal persons appear to take more initiative and are responsible in a performance situation. Internal persons seek and utilize information more efficiently and seem to be more in touch with external realities. These characteristics that were credited to internals are essential factors in enhancing achievement motivation. For instance, internal-external controls have served as predictors of academic success and Rotter has argued that internals appear to persist at tasks and feel responsibility for their actions.

Ugwoke, Kalu & Laurretta (2013, 90) suggest that entrepreneurs who may become successful must be internally driven. The act of creating a new venture or becoming an entrepreneur is considered an onerous task which demands firm decision and goal-driven activities; especially true in a country where the entrepreneurial infrastructure may be inhibitive or not yet mature. Drive affects the individual's ability to initiate, take risk or persevere in any enterprise and to persevere. Given the immature South African entrepreneurial infrastructure that was discoursed earlier, the rationale and logic for the development of an internal locus of control amongst South African youth is established.

Ugwoke, Kalu & Laretta cite extensive studies that generally show a positive relationship between the internal locus of control, the development of the entrepreneurial mind-set and consequent entrepreneurial intent. Moreover, they showed a positive relationship between an entrepreneurship education intervention and the development of an internal locus of control. By citation of studies conducted (Neill 2006, Gerrig & Zimbardo 2005, Inegbenebor 2007, Halim, Muda & Amin 2011) they posit that with internal locus of control, an individual tends to be achievement oriented. They are bold, ready, original, enthusiastic and willing to explore their talents as well as any opportunity or circumstance that presents itself. The value of such finding for this research is that these are the characteristics that are required for youth in South Africa to display entrepreneurship behaviours.

In addition, they posit that the introduction of entrepreneurship education in schools would allow students to become self-employed and employers of labour rather than wait endlessly for white collar jobs. That, they state may be unrealisable if the individual has low internal locus of control. On the contrary, if students believed that they can control their own environments they are more likely to be aware of actions and information that will help them achieve their goals. Such persons tend to work towards improving their situations and to place higher value on their own skills. Researches also generally suggested that there was a positive correlation between entrepreneurship (entrepreneurial mind-set) development and locus of control and posit that an application of locus of control in development of entrepreneurial mind-set is constantly seen as an effective way of providing entrepreneurs with the right attitude and behaviour in order to develop and grow.

Of significance, the study concluded that a perceived development of an internal locus of control was a reliable and valid predictor of entrepreneurial development (mind-set and subsequent intent) among undergraduate students of the University of Nigeria, Nsukka. Also, the students were found to exhibit internal perceived locus of control that saw them display great entrepreneurial skills on graduation even in a disabling environment such as Nigeria.

Kusmintarti, Thoyib, Ashar & Maskie's (2014, 102) study concluded that students who have entrepreneurial characteristics tend to establish new entrepreneurship in the future. Their conclusion validated earlier studies they cited that posited the same view (Bird 1988, Mazzarol et

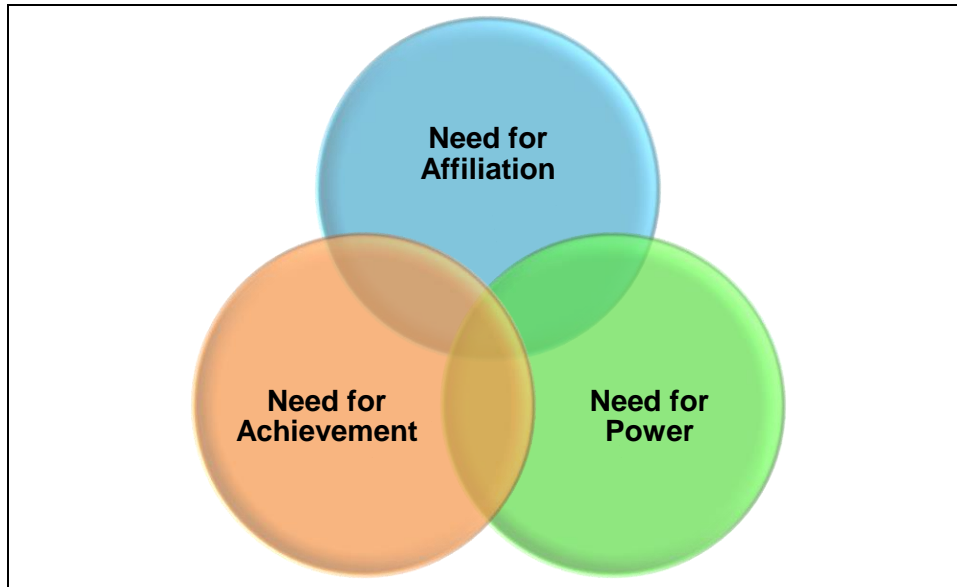
al. 1999, Birfthistle 2008, Indarti dan Rostiani 2008, Luthje dan Franke 2003, Hatten dan Ruhland 1995) that characteristics of internal locus of control have a significant influence on entrepreneurial attitude (intent). By explanation, they suggest that students who have internal locus of control and other identified entrepreneurial attitudes tend to like becoming bosses of their own businesses and like having flexible working schedules, thus confirming the result of the other studies cited that internal locus of control has a significant influence on entrepreneurial attitude.

Ni, Ping, Ying, Sern & Lih's (2014, 201) findings also reinforced those of Kusmintarti *et al.* In their study and by citation of other related research, they found that those individuals with a higher internal locus of control are more likely to be self-employed (Bönte & Jarosch 2011, Göksel & Aydintan 2011, Mueller & Thomas 2000, Gürol & Atsan 2006, Khan et al. 2011) and have high motivation to improve the efficiency of work. They thus can control the environment through their action and they are willing to take risks and generally demonstrate high potential for entrepreneurial intention. The study concluded that the higher the internal locus of control of undergraduates, the higher the entrepreneurial intention. The study also found that entrepreneurship education may be adopted as a means to promote the internal locus of control and an entrepreneurial mind-set and by citation of past research, that had proven to have a positive impact towards students' entrepreneurial intention (Peterman & Kennedy 2003, Souitaris et al. 2007, Matlay 2008, Ahmed et al. 2010, Izedonmi & Okafor 2010, Ekpoh & Edet 2011, Ooi et al. 2011). Vooijes (2010) also concluded that the personality trait of an internal locus of control approach is important for successful entrepreneurship

From these empirical findings, this research accepts that internal locus of control is a critical construct to promote the entrepreneurial mind-set development. It also accepts the view articulated by the WEF GEI Report 2009 that: education (specifically entrepreneurship education) has the power to develop the skills that generate an entrepreneurial mind-set and in preparing future leaders for solving more complex, interlinked and fast-changing problems. Education needs to return to the top of the list of priorities of governments and the private sector and be seen as the fundamental mechanism for attaining sustainable economic development and societal progress.

3.5. The rationale for adopting Achievement Motivation Theory

Figure 8: Illustration of the Achievement Motivation Theory (McClelland 1958)



According to McClelland, the need for achievement is the urge to excel, to accomplish in relation to a set of standards, to struggle to achieve success.

Need for power is the desire to influence other individuals' behaviour as per your wish. In other words, it is the desire to have control over others and to be influential.

Need for affiliation is a need for open and sociable interpersonal relationships. In other words, it is a desire for relationship based on cooperation and mutual understanding.

McClelland further states that individuals with high achievement needs are highly motivated by competing and challenging work. They look for promotional opportunities in their jobs. They have a strong urge for feedback on their achievement. Such individuals try to get satisfaction in performing things better. High achievement is directly related to high performance. Individuals who are better and above-average performers are highly motivated. They assume responsibility for solving the problems at work. McClelland called such individuals 'gamblers' as they set challenging targets for themselves and they take deliberate risks to achieve those set targets. Such individuals look for innovative ways of performing their job. They perceive achievement of goals as a reward, and value it more than a financial reward.

The individuals who are motivated by power have a strong urge to be influential and controlling. They want their views and ideas to dominate and thus they want to lead. Such individuals are motivated by the need for reputation and self-esteem. Individuals with greater power and authority will perform better than those possessing less power. Generally, individuals with a high need for power turn out to be more efficient and successful as managers and in general. They are more determined and loyal to the organisation they work for. The need for power can also be viewed as the need to have a positive effect on the organisation and to support the organisation in achieving its goals.

The individuals who are motivated by affiliation have an urge for a friendly and supportive environment. Such individuals are effective performers in a team. These people want to be liked by others. The ability of these individuals to make decisions is hampered if they have a high affiliation need as they prefer to be accepted and liked by others, and this weakens their objectivity. Individuals having high affiliation needs prefer working in an environment providing greater personal interaction. Such people have a need to be in the good books of all. They generally cannot be good leaders.

Achievement Motivation Theory and subsequent development (1958, 1961) suggest that the term motivation is quite broad and refers to a variety of constructs. For this research, the need for achievement construct will be considered. It is particularly relevant to the current South African context where the drive to achieve outcomes must be especially strong to actually achieve success; more particularly entrepreneurial success.

Moore, Grabsch & Rotter (2010, 54) by examination and citation of other related primary studies suggest that those who demonstrated a need for achievement were best described as exhibiting competition with a standard of excellence that was most notable when an individual was in direct competition with someone else but that it could also be evident in the concern for how well one individual performed a task, regardless of how someone else was doing. In addition, the need for achievement was the unconscious concern for excellence in accomplishments through individual efforts, the desire to accomplish something difficult, attain a high standard of success, master complex tasks, and surpass others and to accomplish realistic but challenging goals.

Simpeh (2011, 34) concurs and by citation of other research (Johnson 1990, Shaver & Scott 1991) suggests that the need for achievement theory by McClelland (1961) explains that human beings

have a need to succeed, accomplish, excel or achieve. Entrepreneurs are driven by this need to achieve and excel. While his research finds that there is no research evidence to support personality traits, there is evidence for the relationship between achievement motivation and entrepreneurship. Achievement motivation may be the only convincing personological factor related to new venture creation.

Tatum (2012, 78) by citation of many studies suggests that achievement motivation predicts drive to perform well and/or achieve the expected outcomes (Bakker 2011, Hansford & Hattie 1982, Harrison, Newman, & Roth 2006, House & Prion 1998, Judge, Thoresen, Bono, & Patton 2001, Ma & Kishor 1997, Meyer, Stanley, Herscovitch & Topolnytsky 2002, Miujs 1997, Oliver & Simpson 1988, Partin et al. 2011, Ramanaiah, Ribich, & Schmeck 1975; Riketta 2008, Rosenberg 1965; Sandler, Reese, Spencer & Harpin 1983, Watkins 1989). The research by citation of other related studies also found that the need for achievement is related to persistence and later career success (Hustinx, Kuyper, Van der Werf & Dijkstra 2009, Mandel & Marcus 1988, McCall Evahn & Kratzer 1992).

Okhomina (2013, 90) bases his finding on his own study and by citation of the longitudinal analysis of the need for achievement scores of college freshmen conducted by McClelland (1965) which concluded that a high need for achievement is a predictor of entrepreneurship and is based on influences of childhood and adult training and experiences. Through the correlation studies in the laboratory, McClelland determined that the subsequent manifestation of several behaviours (including the need for achievement) correlated strongly with entrepreneurial success (McClelland 1961, 1965a). His finding was corroborated by a number of studies (Shaver & Scott 1991, Johnson 1990, Miner, Smits & Bracker 1989, Begley & Boyd 1987).

Most conclusively, it was found that people with a high need for achievement are more likely to engage in energetic and innovative activities that require planning for the future and entail an individual's responsibility for task outcomes. McClelland (1961) also argued that people with a high need for achievement would prefer tasks that involve skill and effort, provide clear performance feedback, and were of moderate challenge or risk. He argued that entrepreneurial positions have more of these characteristics than any other types of positions. Therefore, as was suggested by McClelland (1961), it seems likely that individuals high in need of achievement should be attracted to and perform well in entrepreneurial jobs. This study validates Okhomina's

conclusion that a high need for achievement has a positive relationship with entrepreneurial intention.

Bharanti (2016, 67) suggests that past studies (Zain et al. 2010, Indarti & Rostiani 2008, Emmeline & Readon 2007, Gurol & Nuray 2006, Gupta & Nachiket 2007) found that personality factors such as the need for achievement play an important role that affect a person's decision to engage in entrepreneurship. Further, the need for achievement was one of the characteristics of a person's personality that would encourage someone to have entrepreneurial intentions. There was found to be a strong influence of the need for achievement motivation in the student entrepreneurship intentions in the United States and Turkey as well. However, in a comparative study in three countries, namely Indonesia, Norway, and Japan, the finding suggested an inconsistency between the significant effect of the need for achievement and entrepreneurial intentions of students in all three countries.

Compared with Japan and Norway, Indonesia had higher entrepreneurial intention scores and that was because the process of economic development was based on the emergence of new enterprises and small-scale individual ventures supported by the government. In Japan and Norway, entrepreneurial activity and innovation processes were not generally perceived as supported by the respective governments. Bharanti concluded that need for achievement was positively related to entrepreneurial intention but that other factors could have a moderating influence on the relationship.

There is a considerable body of literature in achievement, motivation, need for achievement and entrepreneurship. However, there are important issues that have yet to be addressed in so far as how this construct may be developed in individuals. From the empirical findings of literature reviewed, this research accepts that need for achievement is a critical construct to promote the entrepreneurial mind-set development and thus merits further investigation.

3.6. Entrepreneurship education theory

The major purpose of this study is rooted in the manifestations of entrepreneurial education. This research premises its aim and objectives on the ontological view that entrepreneurship can be taught. It aims to describe the effect of entrepreneurship education on the entrepreneurial mind-set, intentions and predictions for entrepreneurial activity/behaviour of the individual. It is thus

imperative to discourse theory to explain and validate the ontological view. This sub-section will discourse entrepreneurship education theory that is best-aligned to its ontological view.

The research does aim to focus on the value of entrepreneurship education as an agency for the desired personality, cognitive and behavioural processes of South African youth in Grades 10 to 12 and in the normative age group 15 to 18. In making the assertion that entrepreneurship education can be the agency, it is imperative that the research advocates relevant theory to support its assertion.

Fayolle (2013, 23) correctly points out that support for the value of entrepreneurship education, which is disconnected from education and education psychology, is less theoretically grounded than research in entrepreneurship. Entrepreneurship is an integration of economics, sociology, management and psychology. The pedagogical perspective of entrepreneurship education is therefore primarily informed by educational approaches and linked to theory of teaching and learning (Kozlinska 2015: 32).

In the context of this research, the researcher found the cognitive educational theory to be suitable for discourse. Neck & Greene (2011, 56) suggest that cognitive theorists focus on the cognitive processes of individuals. For example, in processes of decision making to engage in entrepreneurial activity, the process would include psychosocial determinants such as attitudes towards autonomy, self-efficacy, locus of control, need for achievement and those would correlate with intentions and actual behaviour; as outlined in Theory of Planned Behaviour, Social Cognitive Theory, Social Learning Theory and Achievement Motivation Theory.

Cognitive theory further suggests that the psychosocial determinants provide the orientation towards entrepreneurship. In critically engaging with this view, the question arises as to why some individuals notice and pursue entrepreneurial activities more extensively than others. Baron (2006, 56) suggests one possible reason as what he terms the pattern-recognition perspective. According to Baron, frameworks that are constructed through prior knowledge, experience or background will determine how and why individuals connect the dots and become alert to particular opportunities. In this specific research, experience and/or prior knowledge are significant determinants of the participants' responses to entrepreneurial intentions and/or predictions for entrepreneurial activity because all participants in both referred groups will be

accessing entrepreneurship education programmes that will give them exposure to theoretical and experiential learning opportunities within the field of entrepreneurship.

Krueger (2003, 32) added to the cognitive theory by collating what was known about entrepreneurship intention models, decision making, perception and other related human mind processes that cognitive theorists were focused on. Krueger correctly pointed out that whilst this linear cognitive psychology of entrepreneurship, which gained validity over the last 20 years to understand and describe how people think entrepreneurially, the last decade focused on understanding how individuals responded to non-linear approaches and more specifically, how education could be structured so as to equip students to manage their mental processes to think and enact processes linked with entrepreneurship (Baron 2006: 48). The latter thinking is highly relevant to this research which seeks to describe the effect of entrepreneurship education, which promotes skills, knowledge and competencies that the research asserts is lacking in the current provision of formal education. Through cognitive theory, education has been given more credit and power to influence people choosing entrepreneurship as a career path, to equip them with the required competences, and to develop from novices to experts (Krueger 2003: 34).

There has been widespread support for cognitive theory and the view that entrepreneurship can be taught. In addition, the view that the discipline could be taught to any student, also gained support, as well as the view that any student with access to the correct form of education could become a successful entrepreneur (Sarasvathy & Venkataraman 2011: 23). Studies by Fayolle (2013, 34), Kuratko (2005, 45), Kyrö (2005, 20), Gibb (2005, 67), and Fayolle & Gailly (2008, 32) have all validated cognitive theory and have contributed to developing the pedagogical side of entrepreneurship based on existing knowledge of education and psychology.

The European Commission Union's 2012 study concluded that there was a need to stimulate the entrepreneurial mind-set of young people and that education had an important role to play in achieving such stimulation. Garud & Giuliani (2013, 89) in their study found support for the 'teachability' of entrepreneurship and concluded that it provided a means to understanding the complex relationship between entrepreneurship education and opportunity identification.

The researches cited above provided full support for the positive relationship between entrepreneurship education and entrepreneurial activity. Research also exists that raised

concerns about the relationship between entrepreneurship education and entrepreneurial activity and which had reservations accepting that such a positive relationship existed. Rideout & Gray (2013, 78) by citation of various other studies (Fayolle 2006, Lee & Wong 2006, Dainow 1974-1984) all support a positive relationship between the two with reservations about the methodology of teaching entrepreneurship. Some of that reservation about methodology was further examined in terms of academic-focused entrepreneurship education versus training-focused entrepreneurship education (Martin, McNally & Kay 2012: 213, Van Vuuren 2014). Sanchez (2013, 190) concluded with a similar concern around teaching methodology and about the content of the entrepreneurship education programme for entrepreneurial success.

Various studies undertaken in the South African context found strong support for entrepreneurship education and stimulating an entrepreneurial culture (Morris, Webb, Fu & Singhai, 2013: 34). The latter, by citation of other research (Nieman 2003, Gouws 2002) concluded that stimulating an entrepreneurial culture in South Africa was a critical need and that entrepreneurship education had a key role in doing so. In addition, they concluded that such entrepreneurship education should encompass the psychological (developing mind-set) and cognitive (skills, knowledge and competencies) constructs to yield impact. Nieuwenhuizen & Kroon (2002, 54) further suggested that the South African education system should be supported by economic and political institutions through an integrated approach to systematise entrepreneurship education in South Africa.

Benedict & Venter (2010, 78) analysed the South African education system in their research and found that there were low levels of scientific and technological innovation inherent in the post-apartheid education system. In addition, their finding was that the pre-apartheid education system inhibited entrepreneurial intention in South Africa. The conclusion was thus support for the post-apartheid education system to stimulate the entrepreneurial mind-set and to promote critical and analytical thinking to foster the promotion of innovation-driven thinking. In their research, Antonites & Govindasamy (2013, 56) found that there existed a significant correlation between entrepreneur success and the level of formal education: where more successful entrepreneurs had accessed a higher level of formal education compared to lesser successful entrepreneurs. The research by Antonites & Govindasamy validated the correlation between entrepreneur success and levels of education accessed. It did however raise the question of what key success factors were that would constitute a successful entrepreneurship education programme.

Botha, van Vuuren & Kunene (2015, 66) undertook an examination of eight entrepreneurial training models to find those key skills and supportive skills to be included in entrepreneurial training models. Notably, they defined functional competencies as business management/general business and technical skills and enterprising competencies as entrepreneurial and personal skills. Their study concluded that for both start-ups and established small to medium enterprises, both the functional and enterprising competencies were necessary. The table below reflects the output of their examination of the eight training models:

Table 5: Overview of the entrepreneurial performance models (Botha, van Vuuren and Kunene 2015)

Authors	Equations	Skills and competencies
Glancey (1998)	Increase in performance = G (traits, motivation, management) x h(market)	Entrepreneurial characteristics
		Managerial practices
		Entrepreneur's motivations
		Markets in which the business operates
Van Vuuren and Nieman (1999)	$\uparrow E/P = aM \times b E/S \times c B/S$	Motivation
		Entrepreneurial skills
		Business skills
Wickham (2001)	$\uparrow \text{Performance} = W$ (industry, management, interpersonal, motivation)	General management skills
		Industry knowledge
		Personal motivation
		Interpersonal skills
Erikson (2002)	$\uparrow \text{Performance} = E$ (competence and commitment) x M x (B/S+ opportunity x resources)	Entrepreneurial competence
		Entrepreneurial commitment
		Motivation
		Opportunity
Man et al. (2002)	$\uparrow \text{Performance} = M$ (competitive scope, B/S, E/S)	Resources
		Competitive scope
		Organisational competencies (business skills)
		Entrepreneurial competencies (entrepreneurial skills)
Ucbasaran et al. (2002)	Success = U(E/S, B/S, Technical)	Entrepreneurial role
		Managerial role
		Technical role
Darroch and Clover (2005)	Success = D(motivation, E/S, B/S)	Motivation
		Entrepreneurial skills
		Business skills
Perks and Struwig (2005)	Success = P(personal, opportunity, B/S, technical)	Personal skills
		Technical skills
		Business opportunity
		Management skills

For this research, the researcher has critically engaged with these findings and conclusions that spanned many years; engaged with the more recent findings in such theory as cognitive theory and will adopt the entrepreneurship education theory based on cognition. The rationale for the adoption thereof is that it fully supports the view that entrepreneurship can be taught and; it does offer some pedagogical explanation to understand how individuals responded to non-linear cognition approaches and more specifically, how education could be structured to equip students to manage their mental processes to think and enact processes linked with entrepreneurship. Moreover, there is support for the view that both functional knowledge and enterprising competencies are important for entrepreneurial success and this is where the previous research intersects with this research.

This research aims to describe the effect of entrepreneurship education on the mind-set development of South African youth; with the specific intent of testing its hypotheses. It thus necessitates that the researcher showed support for the fact that entrepreneurship can be taught and that if learners have the requisite cognition, when the opportunity arose, they would be able to access the knowledge to actually engage in such entrepreneurial activity. Moreover, this subsection aimed to demonstrate that there is an existing body of theory that validates the relationship between entrepreneurship education and the development of the entrepreneurial mind-set as antecedent to entrepreneurial intention and/or entrepreneurial activity.

There have been many studies conducted on entrepreneurship education that have created entrepreneurship education knowledge and theory. This research will build on and create new theory as it makes specific assumptions about the constructs and the factors that it claims will lead to the entrepreneurial mind-set as antecedent to entrepreneurial intention and predictions for entrepreneurial activity.

In this research, the researcher seeks to prove that the value of entrepreneurship education in relation to the creation of the entrepreneurial mind-set. The researcher asserts that such education must comprise the following specific constructs: self-efficacy, inner locus of control and need for achievement and must be layered by those specific factors, as reflected in the table below, for it to create entrepreneurial intention and predictions for entrepreneurial activity.

Table 6: constructs and factors for entrepreneurial intention and entrepreneurial activity (developed for this research)

Variable	Factor description
Self Efficacy	
11	Anything to be an entrepreneur
12	Acquired knowledge and skills to be an entrepreneur
13	Seek further knowledge outside the programme, if needed
14	Confidence to be an entrepreneur
15	Skill to accurately evaluate my strengths and weaknesses
16	Perceive all things, even failure, as an opportunity to improve
Locus of Control	
17	Take responsibility for successes and failures
18	Things I do personally, not those around me, influences my life
19	Being a leader depends mostly on my potential
21	When I achieve, it is because I worked hard for it
22	Learnt to overcome fear of failure
Need for Achievement	
23	Learnt to see failure as a motivation
24	Want to succeed at all cost
25	Enjoy being on top and receiving credit
26	Want to be an entrepreneur to make profit and increase my status
27	Set challenging yet attainable personal goals
28	Welcome personal accountability
29	Desire performance feedback
30	Take calculated risks for goal accomplishment
Entrepreneurial Intention	
31	I have the competencies to be an entrepreneur
32	I have the skills to be an entrepreneur
33	I have the knowledge to be an entrepreneur
35	I spot opportunities to be an entrepreneur
Entrepreneurial Activity	
36	Start entrepreneurial activity within 5 years of leaving school
37	Most important aim of my entrepreneurial activity is to make profit
38	Most important aim of my entrepreneurial activity is to take advantage of my skills and knowledge
39	Most important aim of my entrepreneurial activity is to create employment
40	Most important aim of my entrepreneurial activity is to grow the economy

3.7. Overview of the short and long entrepreneurship education programmes

This sub-section seeks to present an overview of the content of the short entrepreneurship education programme and the long entrepreneurship education programme. The objective in presenting the overview is to show that there is an intersection of content that is common to both the short entrepreneurship education programme and the long entrepreneurship education programme. However, the long entrepreneurship education programme goes on to cover more content that reinforces the construct learning. It sought to demonstrate that cognitive processes are subject to longer learning periods and thus may result in the increased mind-set development across the constructs. The overview is presented in the table below (the information was received from JASA and permission was granted for it to be shared).

In addition, the researcher used the framework of Botha et al. to assess the soundness of the JASA entrepreneurship education programme and to determine some gap areas.

In the table below: the following key is used based on Botha *et al*/table.

Entrepreneurial characteristics	EC
Managerial practices	MP
Entrepreneur's motivations	EM
Markets in which the business operates	BM
Motivation	M
Entrepreneurial skills	ES
Business skills	BS
General management skills	GMS
Industry knowledge	IK
Personal motivation	PM
Interpersonal skills	IS

Table 7: Analysis of short and long EEP against the training model (Botha et al.)

Programme Session	Short EEP	Long EEP	Related Competency
Organising a JA Business	X	X	GMS/ES
Understanding business	X	X	MP/ES
Understanding HR matters	X	X	MP/ES
Understand team dynamics	X	X	MP/ES
Understand the market	X	X	MP/GMS/ES
Understand needs and wants	X	X	BS/IS/PM/ES
Understand the types of business	X	X	GMS/MP/ES
Understand product criteria and product ideas	X	X	GMS/MP/ES
Business ethics and social responsibility	X	X	IS/PM/BS
Managing Your Money	X	X	IS/IK/MBM
Budgeting, saving, assets and liabilities	X	X	IS/IK/MBM/PM/ES
Budget impact on business	X	X	IS/IK/MBM/PM/ES
Create a personal budget	X	X	IS/IK/MBM/PM/ES
Management Positions and Financial Management of Business	X	X	BS/GMS/BM/ES
Difference between leader and manager	X	X	BS/GMS/BM/ES
Role and responsibilities of managers	X	X	BS/GMS/BM/ES
Presentation skills	X	X	BS/GMS/BM/ES
Voting processes	X	X	BS/GMS/BM/ES
Election processes	X	X	BS/GMS/BM/ES
Presentation of job descriptions	X	X	BS/GMS/BM/ES
Financial statements	X	X	BS/GMS/BM/ES
Product costing process	X	X	BS/GMS/BM/ES
Start up capital and purchase of product supplies	X	X	BS/GMS/BM/ES
Market Research Planning	X	X	BS/GMS/BM/ES
Understanding market research	X	X	BS/GMS/BM/ES
Conducting market research	X	X	BS/GMS/BM/ES
Effective use of a questionnaire	X	X	BS/GMS/BM/ES
Leasing of business premise	X	X	BS/GMS/BM/ES
Reseraching product cost efficiencies	X	X	BS/GMS/BM/ES
Market Research Happens Between Session 4 and 6	X	X	BS/GMS/BM/ES
Know Yourself	X	X	IS/PM
Discover your career	X	X	IS/PM
Market Research Analysis	X	X	BS/GMS/BM/ES
Market research analysis	X	X	BS/GMS/BM/ES
Product costing and breakeven point	X	X	BS/GMS/BM/ES
Training of relevant managers on procedures and forms	X	X	BS/GMS/BM/ES
Begin collecting share money	X	X	BS/GMS/BM/ES
Product Selection and Production Techniques	X	X	BS/GMS/BM/ES
Deadline for purchasing shares	X	X	BS/GMS/BM/ES
Final selection of product	X	X	BS/GMS/BM/ES
Production and the production process	X	X	BS/GMS/BM/ES
Production management techniques and measurements	X	X	BS/GMS/BM/ES
Ordering of raw material	X	X	BS/GMS/BM/ES
Planning the Business	X	X	BS/GMS/BM/ES
Intro to the concept of a business plan	X	X	BS/GMS/BM/ES
Development of an effective business plan for the selected business	X	X	BS/GMS/BM
Template provided for completion of business plan	X	X	BS/GMS/BM
First production session	X	X	ES/PM/GMS/BS
Marketing Your Product	X	X	ES/PM/GMS/BS
Management of formal company meetings and management of HR issues	X	X	ES/PM/GMS/BS



First formal company meeting	X	X	ES/PM/GMS/BS
Discussion on marketing strategies and techniques	X	X	ES/PM/GMS/BS
Second production week	X	X	ES/PM/GMS/BS
Communicating and Working in Teams	X	X	ES/PM/GMS/BS
Second formal company meeting	X	X	ES/PM/GMS/BS
Working in Teams	X	X	ES/PM/GMS/BS
Reviewing of the product and the performance of the business	X	X	ES/PM/GMS/BS
Third production week	X	X	ES/PM/GMS/BS
Problem Solving and Decision Making	X	X	ES/PM/GMS/BS/IK/IS
Third formal company meeting	X	X	ES/PM/GMS/BS/IK/IS
Learning about how to solve problems without conflict	X	X	ES/PM/GMS/BS/IK/IS
Decision making skills	X	X	ES/PM/GMS/BS/IK/IS
Fourth production week	X	X	ES/PM/GMS/BS/IK/IS
Communicating Effectively	X	X	ES/PM/GMS/BS/IK/IS
Fourth formal company meeting	X	X	ES/PM/GMS/BS/IK/IS
Communicating Effectively	X	X	ES/PM/GMS/BS/IK/IS
Fifth production week	X	X	ES/PM/GMS/BS/IK/IS
Wealth Creation	X	X	ES/PM/GMS/BS/IK/IS
Fifth formal company meeting	X	X	ES/PM/GMS/BS/IK/IS
Preparation for liquidation of the company	X	X	ES/PM/GMS/BS/IK/IS
How to enhance money earned and create wealth	X	X	ES/PM/GMS/BS/IK/IS
Sixth production week	X	X	ES/PM/GMS/BS/IK/IS
Liquidation Process	X	X	ES/PM/GMS/BS/IK/IS
Liquidation process	X	X	ES/PM/GMS/BS/IK/IS
Post test	X	X	ES/PM/GMS/BS/IK/IS
Submission of first liquidation report	X	X	ES/PM/GMS/BS/IK/IS
Final Liquidation	X	X	ES/PM/GMS/BS/IK/IS
Presentation of final reports	X	X	ES/PM/GMS/BS/IK/IS
Certification	X	X	ES/PM/GMS/BS/IK/IS
Payout of profits	X	X	ES/PM/GMS/BS/IK/IS
Company Meetings		X	ES/PM/GMS/BS/IK/IS
Fourth formal company meeting		X	ES/PM/GMS/BS/IK/IS
Supply and Demand		X	ES/PM/GMS/BS/IK/IS
Fifth production week July 2013 - © Junior Achievement 3		X	ES/PM/GMS/BS/IK/IS
The Role of Government in the Market		X	ES/PM/GMS/BS/IK/IS
Third formal company meeting		X	ES/PM/GMS/BS/IK/IS
Government's Role		X	ES/PM/GMS/BS/IK/IS
Fourth production week		X	ES/PM/GMS/BS/IK/IS
Post test 2		X	ES/PM/GMS/BS/IK/IS
Fifth formal company meeting		X	ES/PM/GMS/BS/IK/IS
Learning about how to solve problems without conflict		X	ES/PM/GMS/BS/IK/IS
Decision making skills		X	ES/PM/GMS/BS/IK/IS
Reviewing of the product and the performance of the business		X	ES/PM/GMS/BS/IK/IS
Sixth production week		X	ES/PM/GMS/BS/IK/IS
Supply and Demand		X	ES/PM/GMS/BS/IK/IS
Sixth formal company meeting		X	ES/PM/GMS/BS/IK/IS
Communicating Effectively		X	ES/PM/GMS/BS/IK/IS
Seventh production week		X	ES/PM/GMS/BS/IK/IS
Environmentally Responsible Business		X	ES/PM/GMS/BS/IK/IS
Seventh formal company meeting		X	ES/PM/GMS/BS/IK/IS
Environmentally Responsible Business		X	ES/PM/GMS/BS/IK/IS
Eighth production week		X	ES/PM/GMS/BS/IK/IS
What Is My Advantage		X	ES/PM/GMS/BS/IK/IS
Eighth formal company meeting		X	ES/PM/GMS/BS/IK/IS
What Is My Advantage		X	ES/PM/GMS/BS/IK/IS
Ninth production week		X	ES/PM/GMS/BS/IK/IS
Ninth formal company meeting		X	ES/PM/GMS/BS/IK/IS
How to enhance money earned and create wealth		X	ES/PM/GMS/BS/IK/IS
Tenth production week		X	ES/PM/GMS/BS/IK/IS
Goal Setting and Managing Your Money		X	ES/PM/GMS/BS/IK/IS
Liquidation process		X	ES/PM/GMS/BS/IK/IS
Submission of first liquidation report		X	ES/PM/GMS/BS/IK/IS

3.8. Conclusion

Based on the theoretical background, the wide-scale research conducted and the past experience of developed and developing countries, it has been argued that for developing countries to grow and maintain sustainable development, there is a pressing need for integrating entrepreneurship education in an education system at all levels.

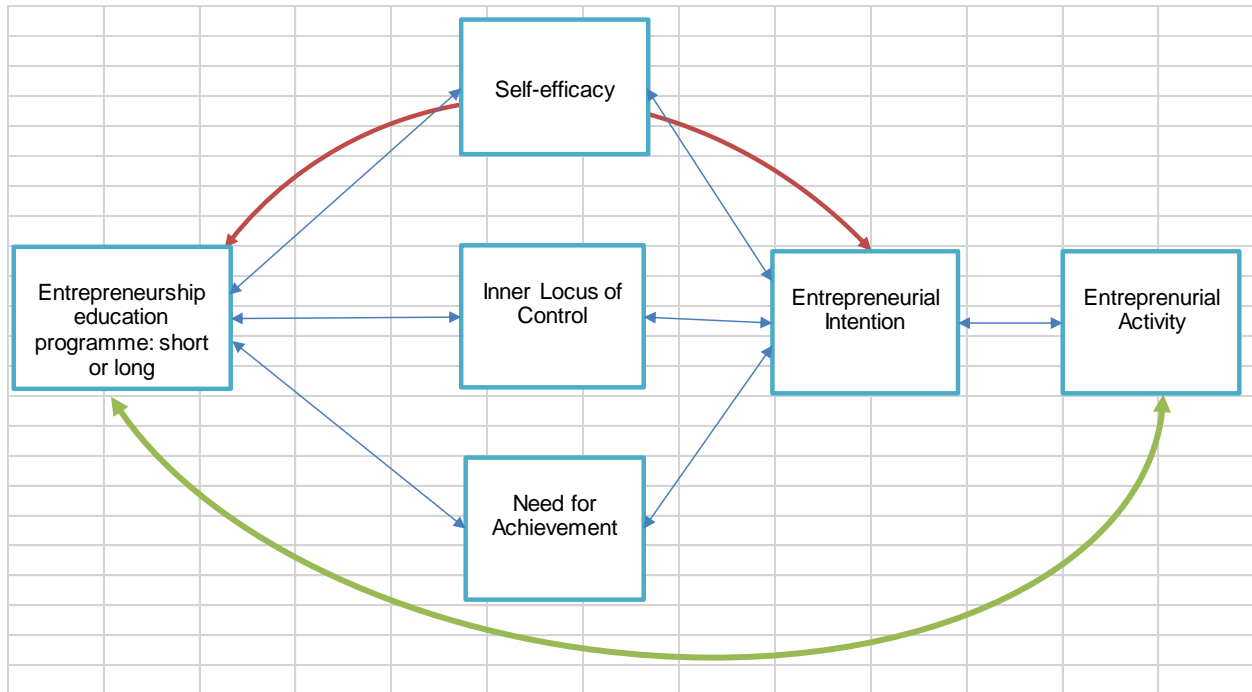
This research accepts such research findings and believes that these theoretical perspectives when adopted together will provide key insights for this research specifically. These theories provided the basis from which this research defined its key concepts, defined its domain and limitations, built internal relationships amongst variables and made specific predictions. It has also provided a reliable and valid framework for analysis, for development of the research tool, and to appreciate the value of theory proper. It also provided the researcher with the capability to discern the value it could make as a contribution in terms of models and frameworks which constitutes valuable and significant conceptual contributions to the understanding of and knowledge in the field of entrepreneurship in South Africa.

The contribution that will specifically be used in this study is the model of the intervention. The conceptual model is principally in the form of an entrepreneurship education programme. The research will conduct the study to determine the value of such a model and the moderating influence of the duration of the entrepreneurship education programme to affect the mind-set of South African youth. The model will specifically be interested in studying the effects of self-efficacy, inner locus of control and need for achievement on the mind-set of South African youth.

After consideration of the general definition of the entrepreneurial mind-set and the by consideration of the peculiar needs of South African youth, this research defines the entrepreneurial mind-set as cited in Chapter 1 as: An entrepreneurial mind-set may be defined as one that incorporates self-efficacy, inner locus of control and the need for achievement. In addition, those who then possess the entrepreneurial mind-set, will demonstrate the ability to think creatively, adaptively, demonstrate entrepreneurial knowledge, skills and an innovative practice of identifying and creating opportunities, and then acting to manifest those opportunities in a productive way.

This research is now able to examine the constructs it has hypothesized has value in the development of the entrepreneurial mind-set as well as to examine the value of developing the entrepreneurial mind-set through entrepreneurship education programmes.

Figure 9: Intersection of the constructs and hypotheses developed for this research



Chapter 4: Research methodology

4.1. Introduction

Chapter One of the research provided the context of, background to, importance, relevance and significance of this research. It identified the research problem, the research question and the general and specific objectives and formulated the research hypotheses. It also provided a definition of the key words for this research.

Chapter Two focused on a literature review to connect to the existing body of knowledge previously researched and published by other academics and scholars as well as empirical theory. This review will focus on research/studies conducted in the field both globally and locally to provide a global view of the significance of entrepreneurship as a possible solution to youth unemployment. Research gaps were identified in the literature review. This identification resulted in a theoretical framework design to validate the hypotheses for the research.

Chapter Three focused on theoretical perspectives adopted in this research to validate its assertions and to add robustness to the significance of the research. It used the theoretical framework to demonstrate that an entrepreneurial mind-set can be motivated by the antecedents; exposure to an entrepreneurship education programme. The key consideration was how to influence the development of an entrepreneurial mind-set with the intent of stimulating entrepreneurial intentions amongst South African youth.

This chapter will describe the methodology and method adopted in this research. It is guided by the knowledge that all research is based on some underlying philosophical assumptions about what constitutes valid research, that is, the controls the researcher adopts in conducting the study as such that maximum control will be exercised over factors that could interfere with the validity of the research results. Methodology also focuses on which research method or a combination of methods may be best suited to the development of knowledge of that study.

It is important to know what the research and the researcher's assumptions are to conduct and evaluate the research. This chapter discusses the philosophical assumptions and design strategies underpinning this research study, as well as the research methodologies and design used in the study. The chapter is structured as follows:

- The methodology is linked to the literature review to provide an overview of the chapter.
- The research paradigms are outlined and a justification for the paradigm adopted is provided.
- An outline of the research strategy and a description, with justification, of the type of research selected for the study is provided.
- The primary data collection techniques relating to the survey method are discussed.
- The data collection tool used for the research methodology is described: the survey sample and survey questionnaire, questionnaire administration, sampling techniques and justification for the chosen sample. The pre-test which was conducted will also be discussed.
- The measures taken to ensure the reliability and validity of the research are discussed. These include the usage of sources of evidence to test the validity and reliability of the findings.
- The procedures for data analysis and the data that emerged from the questionnaire sample surveys are presented. The methods used to analyse the data through Structural Equation Modelling (SEM) and Confirmatory Factor Analysis (CFA) techniques are also discussed.
- A discussion of the ethical issues to protect the rights of the researcher and to ensure the researcher's responsible conduct, is provided
- A conclusion to the chapter is provided.

4.2. Methodological approach

The objective of this chapter is to outline the research methodology adopted in this study, which is to address the research problem that too few South African youth are currently exposed to entrepreneurship education to develop an entrepreneurial mind-set.

Berglund (2007, 125) suggests that methodology comprises two things: the underlying assumptions and justification guiding the choice of methods, and the technical aspects of the methods themselves, including procedures and methods for analysing empirical material, dealing with ambiguities. Berglund further suggests that entrepreneurship research may stand to gain from a deepened understanding of issues such as the nature of human intentions and actions, and the relationship between scientific third-person and entrepreneurial first-person knowledge.

This chapter will therefore discuss methodological assumptions before describing the technical aspects of the methods used.

Extant entrepreneurship studies, cited in Chapters 2 and 3 of this research, have been conducted thus far; the inconclusive findings of the relationship between exposure to entrepreneurship education and the development of an entrepreneurial mind-set encourages the researcher to conduct further investigations in different settings and methodologies relative to the samples and approaches adopted in those studies cited. Based on the review of the methodologies used in previous entrepreneurship research and the researcher's own assumptions, the researcher was guided towards an identification of the appropriate approach for this study.

4.3. Research paradigms

Kusumawardhani (2013, 113) defines research paradigm as a cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done and how results should be interpreted. Moreover, the researcher's view of reality and being is called ontology; the view of how the research acquires knowledge is termed epistemology; and methodology is the assessment of the criteria when the researcher is choosing methods of investigation to meet the original research purpose and align with the researcher's ontological and epistemological views. Further, social science research, such as this research, generally holds in common two paradigms: positivist research and interpretivist research.

4.3.1. Ontological perspectives

Ontology is the starting point which will potentially lead to the theoretical framework of a study. In this study, the researcher will adopt the definition of ontology as the study of claims and assumptions that are held about the nature of social reality, claims about what exists, what it looks like, what units make it up and how these units interact with each other (Kusumawardhani 2013: 40). As the researcher understands it, ontology grounds the study and investigates what is meant when it is asserted that something exists.

In this research, the researcher's ontological assumption about the nature of human action is that intentions somehow cause action, and more specifically, situated action; that is, in the case of this study, if South African youth develop the constructs of self-efficacy, inner locus of control and

need for achievement, it might constitute an entrepreneurial mind-set, which could lead to entrepreneurial intention and entrepreneurial action/behaviour. This assumption is based on the acceptance of action being a mental state that exists independently of, and gives rise to, a specific action that takes place in the physical world (Ajzen 1991: 24).

Moreover, the researcher's ontological assumption is that too few South African youth are receiving entrepreneurship education; that if more South African youth received entrepreneurship education, it would shift their mind-sets and consequently behaviour: from job seeking on exiting school to job creating. A further assumption is that the current South African entrepreneurial infrastructure is inhibitive and immature, relative to other developing economies, therefore a fair starting point towards addressing such entrepreneurial infrastructure developmental areas would be education. The researcher believes this based on knowledge derived from other economies that faced similar challenges and succeeded in positively addressing its entrepreneurial infrastructure challenges; and, that this is a point at which the South African government, through education, may have influence on larger numbers of young people who are at school.

The specific unit that the researcher believes ought to be the starting point is at the level of high school for learners in Grades 10 to 12, at the normative age of 15 to 18, which answers the question: What should the starting point be for entrepreneurship education to potentially have the most influence in the current South African context? This specific unit is assumed to be the most relevant unit for two reasons: they are closest to school-leaving age and are expected to become contributors to the economy, and based on the QLFS statistics outlined in Chapter 1, they are the cohort at highest risk of unemployment. This unit is highly vulnerable, as shown by the statistics and if, as this research does, accept the extended definition of unemployment (those who are becoming discouraged job seekers included), then this cohort could become a risk to the South African economy, as postulated in the literature reviewed in Chapter 2.

4.3.2. Epistemological perspectives

If, as outlined above, that is what ontology studies, then epistemology studies what is meant when it is stated that something is known. Mack (2010, 112) defines epistemology as the theory of knowledge embedded in the theoretical perspective and thereby in the methodology. Together, ontological and epistemological assumptions make up a paradigm. Generally, the researcher's

ontological assumptions inform the epistemological assumptions which inform methodology, all of which leads to the methods adopted to collect data.

In this study, the researcher's ontological position is reflected in an epistemology that prioritises entrepreneurs' educational experiences, that is, the immediate educational experience of a situation over abstract knowledge or reflection (Berglund 2007: 67). Berglund suggests that the focus on lived experiences implies that human knowledge is not seen as an objective mirror of a world external to the human being, but is seen as relative to situations, social contexts, purposes, previous experiences and other factors or conditions.

From literature reviewed in Chapter 2, what is meant when it is stated that something is known, is what guides the researcher's epistemological assumptions in this study. From the theory of knowledge within this study phenomenon, the researcher's epistemological assumptions are that intentions and/or actions relate to a mental or cognitive state. The researcher's assumption is that education can enable such a mental state, as accepted from the large base theory and studies conducted in this area. Critical to this research is the researcher's epistemological assumption that entrepreneurship education can enable the mental state for entrepreneurial intentions.

The researcher's epistemological assumption also extends to the belief that South African youth's knowledge and positive perceptions of constructs such as self-efficacy, inner locus of control or need for achievement consists of the meaning that those constructs represent for them. Moreover, in the situation or social context of youth unemployment in South Africa, they will feel enabled to enact these constructs in specific conditions. Thus, the imperative of this research is to explore and describe the effect of entrepreneurship education programmes on the mind-set of South African youth

4.3.3. Methodological perspectives

The methodological consideration was guided by the stated questions of this research. Methods should emphasise the perceptions of the educational experience, with retention of focus on the individual and specific emphasis on the constructs of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and entrepreneurial activity. Of all the methods considered, the researcher concluded that this study would gain most from the adoption of the following method approaches: the quantitative; deductive and descriptive. Justification for such

conclusions will be provided further on in this chapter. The researcher was always guided by the knowledge that the method should adopt techniques that would ensure the trustworthiness of results. The researcher accepted that no procedures guarantee complete objectivity, however aiming for the utmost objectivity was important to the researcher as the research design was constructed. More information on the research design will follow under the same heading.

4.3.4. Positivist paradigm

The positivist approach aims to discover universal laws that can be used to predict human activity (Kusumawardhani 2013: 54). As this paradigm emphasises an objective view of science, it is often associated with the quantitative method which relies on the researcher's ability to gather numerical evidence to support the research question and to analyse the data to answer the research question. Deductive reasoning is commonly used in the positivist paradigm (Kusumawardhani 2013: 62).

Mack (2010, 132) suggests that the positivist paradigm is also called the scientific paradigm with the purpose of research in this paradigm being to prove or disprove a hypothesis. Mack also suggests that other characteristics of positivist research include an emphasis on the scientific method, statistical analysis, and generalizable findings. Positivism maintains that the scientist is the observer of an objective reality. From this understanding of the positivist approach, the methodology for observation is adopted where researchers seek to describe a phenomenon in social science.

4.3.5. Interpretivist paradigm

The interpretivist paradigm suggests that human behaviour cannot be studied in the same way as non-human phenomena and emphasises the view that the social world is socially constructed and subjective (Kusumawardhani 2013: 65). In addition, the interpretivist paradigm is usually associated with qualitative methods, which requires the researcher to be skilled and thoroughly knowledgeable in the process of acquiring and processing qualitative data to develop hypotheses. Inductive reasoning is usually associated with this paradigm.

Mack (2010, 136) suggests that the interpretivist paradigm was developed as a reaction to positivism and is heavily influenced by hermeneutics and phenomenology. Mack explains that hermeneutics is the study of meaning and interpretation in historical texts. Mack also suggests that another strong influence is the philosophical movement phenomenology which advocates the need to consider the subjective interpretations of human beings; their perceptions of the world (their life-worlds) as a starting point to understanding a social phenomenon.

In summary of the various authors (Kusumawardhani, 2013; Mack, 2010), the ontological assumptions of the interpretivist paradigm are that social reality is seen by multiple people and those multiple people interpret events differently leaving multiple perspectives of an incident. Most notably, this paradigm asserts that research can never be objectively observed from the outside; rather it must be observed from inside through the direct experience of the people. The writers who contributed towards the understanding of the interpretivist paradigm point out that uniform causal links that can be established in the study of natural science cannot be made in the world of education where individual learners construct meaning. In this approach, the role of the researcher is to understand, explain, and demystify social reality through the eyes of different participants (Cohen 2007 cited in Mack 2010: 65). Researchers in this paradigm seek to understand rather than explain.

4.3.6. Deductive versus inductive reasoning

From the literature reviewed earlier, the following may be recorded of deductive versus inductive reasoning. Trochim (2006, 56) identifies two broad methods of reasoning as the inductive and deductive approaches. Induction moves from the specific to the general, while deduction begins with the general and ends with the specific; arguments based on experience or observation are best expressed inductively, while arguments based on laws, rules, or other widely accepted principles are best expressed deductively. Creswell & Clark (2007, 87) suggest that the deductive researcher works from the top down, that is, from a theory to hypotheses to data to add to or contradict the theory and that by contrast, the inductive researcher works from the bottom up, using the participants' views to build broader themes and generate a theory interconnecting the themes.

4.3.7. Overview of this research's paradigm

This study is situated in the positivist paradigm. Table 8 below displays the characteristics of positivism, as used in this study, the table categorises the purpose of the research, the nature of reality (ontology), nature of knowledge and the relationship between the researcher and the investigated (epistemology) and the methodology used. This research, for the reasons outlined below, will apply deductive reasoning.

Table 8: Characteristics of positivism (Creswell & Clark 2007)

Feature	Description
Purpose of research	To investigate the effect of entrepreneurship education programmes and the development of an entrepreneurial mind-set.
Ontology	<ul style="list-style-type: none"> ➤ A realist ontology: a belief in an objective, real world ➤ There is a learned reality: human behaviour is perceived as passive, controlled and determined by an external environment ➤ People make meaning of their reality through knowledge and experience ➤ Reality can be described through human interactions ➤ Can observe and statistically analyse how people make sense of their social world through observation
Epistemology	<ul style="list-style-type: none"> ➤ Researcher and participants are contracted in a survey process ➤ Experiences are understood through the mental processes of description ➤ Those in the research process construct knowledge through experience and description ➤ Human knowledge is not seen as an objective mirror of some world out there but is seen as relative to situations, social contexts, purposes, previous experiences and other factors or conditions.

	<ul style="list-style-type: none"> ➤ Less personal interactive mode of data collection through a questionnaire
Methodology	<ul style="list-style-type: none"> ➤ Quantitative and deductive reasoning ➤ Process of data collection through survey questionnaire ➤ Research is the product of the researcher's personal values

This research, as in all scientific research, holds certain beliefs or paradigms which underlie how the research should be conducted. Consistent with the description of the positivist and interpretivist paradigms and deductive and inductive reasoning, this research is best served by a positivist paradigm with the application of deductive reasoning. The latter best resonates with the researcher's ontological and epistemological views: the application of a scientific method, statistical analysis and generalisation of findings.

Firstly, the analysis of extant scientific studies, cited in Chapters 2 and 3, dealing with the question of the impact of entrepreneurship education, demonstrated that many studies experienced methodological constraints; usually arising from, amongst others, not using entrepreneurship education programmes of short and longer duration, and using too small sample sizes. This research aims to overcome those constraints and demonstrate improved methodology by comparison to those previous studies.

Second, this research study consists of a stable and unchanging reality (learners in either Grades 10 or 11), thus the researcher may adopt an objectivist perspective, a realist ontology, a belief in an objective, real world and adopt a detached epistemological position based on a belief that people's perceptions and statements are either true or false, right or wrong; a belief based on a view of knowledge as hard, real and acquirable. This research can thus adopt a methodology that relies on control of reality.

Positivism, which regards human behaviour as passive, controlled and determined by an external environment, is thus generally the pedagogical basis for teaching, which is underpinned by this realist and objectivist view of knowledge (Mack, 2010: 45). For this reason, the researcher finds justification in the adoption of the positivist approach with deductive reasoning.

The next sub-section will present an overview of the quantitative and qualitative methods and assess the best fit for this research.

4.4. Research strategy

The research method is a strategy of enquiry, which moves from the underlying assumptions to research design, and data collection (Myers 2009: 44). There are diverse views of the classification of the research method: the most common classification of research method is however categorization into qualitative and quantitative. This research will classify its research method accordingly. Mack (2010, 143) suggests that qualitative and quantitative refer to distinctions about the nature of knowledge: how one understands the world and the ultimate purpose of the research.

In addition, the terms refer to research methods, that is, the way in which data is collected and analysed, and the type of generalisations and representations derived from the data. Wide reading suggests that quantitative research methods were originally developed in the natural sciences to study natural phenomena. Qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. However, in the study of education, both quantitative and qualitative research studies are conducted. The choice between these methods or a combination of the two is best determined by the context, purpose and nature of the research study in question. Table 9 below provides an overview of the major differences between a quantitative and qualitative research approach.

Table 9: Differences between quantitative and qualitative research (Mack 2010)

Research orientation	Quantitative	Qualitative
Assumption about the world	A single reality which can be measured by an instrument	Multiple realities
Research purpose	Established relationships between measured variables	Understanding a social situation from perspectives
Research methods and processes	➤ Procedures are established before study begins	➤ Flexible, changing strategies

	<ul style="list-style-type: none"> ➤ Hypotheses are formulated before research can begin ➤ Deductive in nature 	<ul style="list-style-type: none"> ➤ Design emerges as data is collected ➤ A hypothesis is not needed to begin research ➤ Inductive in nature
Researcher's role	The researcher is ideally an objective observer who neither participates in nor influences what is being studied.	The researcher participates in and becomes immersed in the research/social setting.
Generalisation	Universal, context-free generalisations	Detailed, context-based generalisations

4.4.1. Qualitative research

Qualitative research may be defined as a study that is conducted in a natural setting and the researcher is the instrument for data collection. The researcher's imperative is to accurately and precisely capture the input from the participants and to analyse them by looking for common themes, by focusing on the meaning of the participant, and describing a process using both expressive and persuasive language (Creswell & Clark 2007: 32). Qualitative study is a type of educational research where the researcher relies on the views of the participants, asks broad, general questions, collects data consisting largely of words (or texts), describes and analyses these words for themes, and conducts the inquiry in a subjective, biased manner (Creswell & Clark 2007: 39).

Creswell (2005, 67) suggests that qualitative research is a rigorous approach to finding the answers to questions. It involves spending an extensive amount of time in the field, and data collection and analysis can become complex and time consuming. It also requires a skilled and competent researcher to manage a process that does not have firm guidelines or specific procedures and where conclusions change and evolve continuously as more data is collected. Creswell further suggests that qualitative research often adopts inductive reasoning since it moves from specific observations about individual occurrences to broader generalisations and

theories. In this approach, the researcher begins with specific observations and measures, and then moves to detecting themes and patterns in the data. This allows the researcher to form an early, tentative hypothesis that can be explored. The results of the exploration may later lead to general conclusions or theories (Creswell, 2005: 69).

4.4.2. Quantitative research

Mack (2010, 178) suggests that quantitative research applies the use of statistical analysis to make the connection between what is known and what can be learned through research based on a set of assumptions and hypotheses. The researcher typically starts with a set of assumptions, articulates those as hypotheses, identifies variables (independent, dependent and moderating variables), selects an instrument to collect data and develops the instrument to collect the relevant data to prove or disprove the researcher's hypotheses.

The process of the formulation of hypotheses is followed by the collection and analysis of data using quantitative strategies, which requires an understanding of the relationships among variables using either descriptive or inferential statistics. Descriptive statistics are used to draw inferences about populations and to estimate the parameters of those populations. Inferential statistics are based on the descriptive statistics and the assumptions which then may be generalised to the population from a selected sample (Trochim 2006: 6). The use of quantitative analysis makes it conducive to drawing conclusions from logic, evidence, and argument. The interpretation of raw data is guided by the general guidelines presented to evaluate the assertions made and to assess the validity of the instrument. Quantitative analysis also employs protocols to control for, or anticipate, as many threats to validity as is possible (*ibid*).

4.4.3. The rationale for quantitative research

This research attempts to describe the effect of entrepreneurship education programmes on the mind-set development of South African youth. In keeping with that, this research will quantify identified factors identified within specific entrepreneurship education programmes that could contribute to the development of the entrepreneurial mind-set amongst youth in South Africa. More specifically, this research will seek to describe the effect of entrepreneurship education

programmes on the mind-set development of South African youth through engagement with the primary and secondary hypotheses formulated for the research.

Quantitative data can be transposed into numbers, in a formal, objective, systematic process to obtain information and describe variables and their relationships (Brink & Wood 1998: 5). The following characteristics of quantitative research, as outlined by Brink & Wood, also provide the justification for this research to adopt the quantitative research method:

- There is a single reality that can be defined by careful measurement.
- It is usually concise.
- It describes, examines relationships, and determines causality among variables, where possible.
- Statistical analysis is conducted to reduce and organise data, determine significant relationships and identify differences and/or similarities within and between different categories of data.
- The sample should be representative of a large population.
- Reliability and validity of the instruments are crucial.
- Comprehensive data collected by employing different methods and/or instruments should result in a complete description of the variable or the population studied.
- It provides an accurate account of characteristics of individuals, situations, or groups.
- It can use statistics to generalise a finding.
- It can reduce and restructure a complex problem (youth unemployment in SA) to a limited number of variables (the key one in this study being the development of an entrepreneurial mind-set in South African youth at the level of high school).
- It can test hypotheses.
- It can reduce the subjectivity of the researcher in the methodology.

In this research, the following variables will be observed:

- Entrepreneurship education programmes will be the independent variable and the presumed cause in the study.
- Self-efficacy, inner locus of control, the need for achievement, entrepreneurial intention and entrepreneurial activity are the dependent variables and the presumed effect of the

independent variable. The values of the dependent variables are also dependent upon the independent variable.

- The duration of the entrepreneurship education programme will be the moderating variable and the variable that influences, or moderates, the relation between two other variables (the independent and the dependent variables) and thus produces an interaction effect.

After wide examination of literature pertaining to quantitative research, the key characteristics outlined below are the primary reasons why it may be best suited to this research as outlined by Mack (2010, 67):

- Control enables the researcher to identify the causes of his or her observations with attempts to identify why something happens, what causes some event, or under what conditions an event does occur. Control is necessary to provide unambiguous answers to such questions. To answer questions in education and social science, as in this research, it was important to control the influence of many other variables to isolate the cause of an effect. Controlled inquiry is essential to this because without it the cause of an effect could not be isolated. This is congruent with the researcher's assumptions in this study.
- Operational definitions of key terms/words used in the research eliminate any ambiguity or confusion in meaning and when those are measured, there is absolute clarity of meaning. This is regarded as important to the researcher so that there is clarity around what this study aims to measure.
- Replication of the data obtained must be reliable, that is, the same result must be found if the study is repeated. If observations are not repeatable, the research descriptions and explanations are thought to be unreliable. This research satisfies this characteristic and assumes that while study is a one-time interaction, should the research be replicated, the same result will emerge.
- Hypothesis testing is permitted, that is, the researcher is able to systematically formulate hypotheses and subject these to empirical testing. This research satisfies this characteristic. The researcher started with a set of hypotheses about the influence of short and long entrepreneurship education programmes on the development of the entrepreneurial mind-set and this quantitative approach allows for the means to collect and analyse data in numerical form to test these hypotheses.

4.4.4. The rationale for an exploratory descriptive design

Exploratory research studies what has not previously been studied and attempts to identify new knowledge, new insights, new understandings, and new meanings and to explore factors related to the topic (Brink & Wood, 1998: 312). Polit & Hungler (1999, 154) suggest that exploratory research attempts to investigate the full nature of the phenomenon under study (in this research, to investigate the effect of entrepreneurship education programmes on the development of the entrepreneurial mind-set of South African youth). Whilst Polit & Hungler further suggest that results of exploratory studies are not necessarily generalizable to a larger population, it does provide a better understanding of the sample being examined.

The researcher considered exploratory design suitable for this research to specifically gain an understanding of entrepreneurship education programmes, of varying duration, which could influence the mind-set development of South African youth. Moreover, this research wanted to explore new factors related to the topic, that is, the development of the entrepreneurial mind-set with specific reference to the combination of self-efficacy, inner locus of control and the need for achievement. In this research, the duration of the entrepreneurship education programme will be explored as a moderating variable.

Exploratory research examines the relevant factors in detail to arrive at an appropriate description of the reality of the existing situation (Brink & Wood 1998: 286). Descriptive research provides an accurate account of characteristics of an individual, event or group in real-life situations (Polit & Hungler 1999: 189). Burns (2000, 78) suggests that a descriptive design may be used For developing theory, identifying problems with current practice, justifying current practice, making judgments, or determining what others in similar situations are doing. In addition, the purpose of a descriptive design is to provide the perceptions and views of the participants about the phenomenon being studied.

This study aims to identify and describe factors that can influence the development of the South African youth entrepreneurial mind-set and can provide information about the naturally occurring attitudes of a particular group of 15- to 18-year-olds who attend an entrepreneurship education programme. This descriptive study will be conducted to demonstrate associations or relationships

between factors related to the effect of entrepreneurship education programmes in the development of an entrepreneurial mind-set.

This descriptive study will involve a one-time interaction with groups of Grades 10 to 12 in the normative age group 15 to 18 (it is thus a cross-sectional study) and may become the basis for other studies to build on by following those individuals over time (as a longitudinal study).

In this descriptive study the researcher will interact with the participants via hard-copy surveys to gather information. The main characteristic of this method is that the researcher has no control over the variables, and can only report what has happened or what is happening in the phenomenon under study.

4.5. Research method

The research will study two entrepreneurship education programmes of varying duration being offered by Junior Achievement South Africa (JASA). After consideration of many entrepreneurship education programmes currently being implemented in South African schools, the Junior Achievement South Africa programmes, which will serve as the population for this study, were selected for the following reasons:

- JASA has an established history of entrepreneurship education programmes implementation in South Africa.
- The entrepreneurship education programmes being implemented in South Africa are derived from a solid base of globally designed entrepreneurship education programmes by Junior Achievement Worldwide and customised for the South African iteration.
- The JASA entrepreneurship education programmes are being implemented at schools throughout South Africa and include: schools ranked Quintiles 1-5 (based on resources, capabilities and capacities according to the Department of Basic Education), across rural and urban locations and in all provinces of South Africa.
- JASA offers short and long programmes covering both theory and practical application; the JASA programmes incorporate theoretical, application and experiential teaching and learning context.
- JASA has access to schools across South Africa and permission to implement either the short or long programme there.

- JASA management and Board granted the researcher permission to conduct the research using its database (Appendix 1).

4.5.1. The population and sample

The population of this study includes all members of a defined group that the research will be studying or collecting information on for data-driven decisions. In this case, it will include all Grade 10 to 12 learners nationally who participated in either the short or long JASA entrepreneurship education programme in 2015. Eligibility criteria specify the characteristics that people in the population must possess to be included in the study (Polit & Hungler 1999: 278). In this study, the participants had to be learners in the age group 15 to 18, in Grades 10, 11 or 12, had to have attended either the short or long entrepreneurship education programme and had to have given permission to participate in the study willingly; and the researcher's university granted ethical clearance to engage with the participants (Appendix 4).

A part of the population is called a sample. It is a scientifically drawn group that possesses the same characteristics as the population. The researcher will use the purposive sampling technique, that is, sampling is a strategic choice about whom, where and how one does one's research and the sample must be tied to the research objectives (Palys 2008: 697). This research adopted the stratified sampling technique, that is, the entire population was stratified into those who participated in the short entrepreneurship education programme and those who participated in the long entrepreneurship education programme (Tichapondwa 2013: 203). Hereafter, through purposive sampling, where every individual who met the criterion of having attended an entrepreneurship education programme, two samples were drawn. This rigour was implemented to ensure that from the stratified criterion samples, the research would be able to generalise to the population it is interested in.

It is important to note for empirical rigour that the participants in both the short and long entrepreneurship education programme are similar in characteristics. They would have been included in the programme by having satisfied the JASA eligibility criteria, which is the same for participants in both the short and long programme. In addition, the selection of the school at which either the short or long programme would have been offered is not linked to social, economic or institutional factors but guided by JASA internal capacity in that province or by the request of the donor organisation that funds the programme.

Sample 1: This sample for the research focused on participants who had participated in the short entrepreneurship education programme. The sample was drawn from every person who participated in the JASA short entrepreneurship education programme in 2015. This sample would have been exposed to the JASA entrepreneurship education programme for a minimum of 16 weeks and a maximum of 16 weeks. Whilst the names of the schools are withheld for ethical reasons, they comprise schools located within all nine provinces and represent urban and rural schools. This sample represents participants from all learning areas in the FET phase. A minimum of 800 were randomly selected to constitute the sample. Data was obtained through a questionnaire directly distributed and as hard copies. The research's delimitation did not permit for a bigger sample, which could have added robustness to the data application from the sample to the population for the generalisation. This delimitation could form the basis for further research.

Sample 2: This sample for the research focused on participants who had participated in the long entrepreneurship education programme. This sample was drawn from every person who participated in the JASA long entrepreneurship education programme in 2015. This sample would have been exposed to the JASA entrepreneurship education programme for a minimum of 32 weeks and a maximum of 32 weeks. Whilst the names of the schools are withheld for ethical reasons, they comprise schools located within all nine provinces and represent urban and rural schools. This sample represents participants from all learning areas in the FET phase. A minimum of 400 were randomly selected to constitute the sample. Data was obtained through a questionnaire directly distributed and as hard copies. The research's delimitation did not permit for a bigger sample, which could have added robustness to the data application from the sample to the population for the generalisation. This delimitation could form the basis for further research.

4.5.2. Data collection method using a questionnaire

Tichapondwa (2013, 122) suggests that the knowledge of data collection methods is for researchers to obtain standardised information from all participants in the sample of the study through administration of the same instruments to all participants for the disciplined inquiry through gathering and analysis of empirical data. This research adopted a widely-used data collection tool, that is, the questionnaire using close-ended questions. Given that the general validity of the Likert scale is high, the participants' rankings were evaluated adopting the Likert scale measures of 1 to 5. The researcher noted the suggestion that over the years, numerous methods have been used to measure character and personality traits (Kimberlin & Winterstein

2008: 66), but the difficulty of measuring attitudes, character, and personality traits lies in the procedure for transferring those qualities into a quantitative measure for data analysis purposes.

After careful consideration of various views, the researcher decided to adopt the questionnaire as the data collection tool for the following reasons best documented as (Tichapondwa 2013: 128):

- It is a standard way of collecting data and thus gives the study a high degree of objectivity.
- It enabled the collection of large amounts of data over a short period.
- They were cheaper to administrate than conducting actual interviews over a wide geographical location.
- There was little personal involvement during the data collection process and lesser probability of researcher influence.

4.5.3. Piloting the instrument

Pilot testing of the instrument is widely advised to assess and increase the validity and reliability, feasibility and practicability of the study as well as the suitability of the research instrument (Tichapondwa 2013: 170). The pilot used a group of participants who were part of the population but not selected for the sample. Whilst it was a small group of five participants, they had similar characteristics and attributes to the sample groups. It also included one facilitator, who had similar characteristics and attributes to all facilitators. All facilitators were provided a Letter of Introduction (Appendix 5) and a Facilitator Note for implementation (Appendix 6).

The value of the pilot was that it gave the researcher insight into:

- clarity of the wording and instructions to the facilitator;
- the average time it would take to complete the questionnaire;
- any objectionable questions;
- any difficulty that could emerge from the data collation; and
- the opportunity to improve and revise for the participant, facilitator and researcher's ease of use.

The questionnaire (Appendix 7) comprised 39 items. Items 1 to 9 were related to the participant's demographics.

Items 10 to 15 gathered information about the participant's perceptions of their self-efficacy having completed the entrepreneurship education programme. The Bandura standardized scale of self-efficacy test was used to frame these items. These items were derived from the standardised scale and revised for a 15- to 18-year-old age group in South Africa, so that neither language nor school context is a limitation for the participant to understand and complete the items.

Bandura (1986, 1994, 1995, 1997, 2006) correctly argues that there is no all-purpose measure of perceived self-efficacy. The 'one measure fits all' approach usually has limited explanatory and predictive value because most of the items in an all-purpose test may have little or no relevance to the domain of functioning. Moreover, to serve all purposes, items in such a measure are usually cast in general terms divorced from the situational demands and circumstances. He further suggests that scales of perceived self-efficacy must be tailored to the domain of functioning that is the object of interest.

Bandura (2006), as cited in Chapter 3, conducted extensive research and analyses across different spheres of functioning and confirmed the influential role of perceived self-efficacy in human self-development, adaptation, and behavioural change (Boyer et al. 2000, Holden 1991, Holden, Moncher, Schinke, & Barker 1990, Moritz, Feltz, Fahrback, & Mack 2000, Multon, Brown, & Lent 1991, Sadri & Robertson 1993, Stajkovic & Luthans 1998).

A key finding from the research base cited above was concurrence with Bandura that there was a need for domain specification. In addition, the construction of sound efficacy scales relied on a good conceptual analysis of the relevant domain of functioning. Knowledge of the activity domain would specify which aspects of personal efficacy should be measured and a comprehensive self-efficacy assessment would be linked to the behavioural factors over which people can exercise some control. The conclusion was that behaviour was better predicted by people's beliefs in their capabilities to do whatever was needed to succeed than by their beliefs in only one aspect of self-efficacy relevant to the domain. Adopting that rationale, this research specified the entrepreneurial domain and tailored the general scale of self-efficacy to that domain.

Items 16 to 21 gathered information around the participant's perceptions of their inner locus of control having attended the entrepreneurship education programme. The Rotter standardised scale of locus of control test was used to frame these items. These items were derived from the standardised scale and revised for a 15- to 18-year-old age group in South Africa, so that neither

language nor school context is a limitation for the participant to understand and complete the items.

April, Dharani & Peters (2012), as cited in Chapter 3, conducted extensive research on Rotter's locus of control, where Rotter explains that humans interpret events as being either a result of their own actions or external factors. Rotter goes on to suggest that whether people believe a situation or event is under their own control will influence their reward expectancy and behaviour. Rotter developed a 23-item scale to assess whether a person tends to think situations and events are under their own control or under the control of external influences. Rotter explained that the scale is a forced-choice paradigm in which a person chooses between an internal or external interpretation. Unlike many scales that were developed later, Rotter's scale was not designed to investigate specific domains (entrepreneurial intentions) but to give peoples' inclination towards internality or externality as a personality trait, and his scale was designed to assess this more general situation.

Researchers (Lang & Tiggemann 1981, Zerega et al 1975, Tong & Wang 2006) have used the Rotter scale of locus of control extensively on the premise that a person's locus of control can be a driving influence on personality and behaviour. Research also exists (Borich & Paver 1974, Kestenbaum & Hammersla 1976, Hoffmann and Schenk 1985) that claims the unsuitability of the scale to measure this dimension. Further, while Levenson (1973, 112) as well as Reid & Ware (1973, 67) argue against the unidimensionality of the measure, and while currently locus of control is largely regarded as being a multidimensional construct, Rotter's measure continues to be used widely. It is based on the latter premise that this research will adopt the Rotter scale of locus of control.

Items 22 to 29 gathered information about the participant's perceptions of their need for achievement having attended the entrepreneurship education programme. The McClelland standardised scale of need for achievement was used to frame these items. These items were derived from the standardised scale and revised for a 15- to 18-year-old age group in South Africa, where neither language nor school context is a limitation for the participant to understand and complete the items.

For this research, it is noted that methods of assessing achievement motivation, particularly measuring achievement thoughts and behaviours, are a challenge and was not the focus of this

research. However, from research conducted by Smith (2015, 112), it has been gathered that different forms of motivation include extrinsic, intrinsic, physiological, and achievement (Atkinson 1964, Harackiewicz, Barron, Carter, Lehto, & Elliot 1997). Those researchers generally concur that achievement motivation is referred to as a need to achieve. Individuals are motivated to achieve when they are challenged and are aware that the outcome will reflect their personal success or failure.

Achievement motivation has been studied in both business and educational settings. McClelland (1961) researched the achievement behaviours of entrepreneurs, and related findings about economic development. McClelland concluded that levels of achievement motivation exhibited by leaders in business have a direct effect on the economic growth of a nation. Research conducted in business and industry also demonstrated that it was possible to increase the need to achieve in adults over a relatively short amount of time (McClelland & Winter 1969).

In subsequent studies, (Cueva 2006, DeCharms 1972, Elias & Rahman 1994, Kolb 1965, Lopez 2008, Ryals 1975, Smith 1973) researchers have found that levels of achievement motivation held by students in educational settings can be increased, and are predictors of students' success. Based on that premise, this research will adopt the McClelland scale of achievement motivation and specifically, the need for achievement.

Items 30 to 39 gathered information around the participant's entrepreneurial intent and/or predictions for entrepreneurial activity in the next three to five years having attended the entrepreneurship education programme. A standardised eScan scale was used to frame these items. The eScan is a validated self-assessment test to measure individuals' entrepreneurial competencies Oosterbeek, Van Praag & IJsselstein, 2008: 446). These items were derived from the standardised scale and revised for a 15- to 18-year-old age group in South Africa, where neither language nor school context is a limitation for the participant to understand and complete the items.

Driessen & Swart (2007: 25) suggest that the most important reason for using an objective entrepreneurship scale such as the eScan is the importance of self-knowledge for successful entrepreneurship (Timmons 1989, Van den Flier 1990, Nandram & Samson 2000) and to relate characteristics and capabilities to entrepreneurial success. Currently, there is still debate over the factors that can confirm being significant predictors for stimulating entrepreneurship. For this

research, the eScan scale will be adopted as a measure of entrepreneurial intention based on perceived traits and capabilities.

To increase validity, some other questions, especially around the entrepreneurial intention and entrepreneurial activity, were considered in the construction of the instrument for this research. The Entrepreneurial Intention Questionnaire (EIQ), based on existing and empirical literature on the application of Theory of Planned Behaviour to entrepreneurship, was referenced (Linan & Chen, 2009: 601). Linan & Chen state that the EIQ was carefully cross-checked with the instruments used by other researchers such as (Kolvereid 1996, Krueger, Reilly & Carsrud 2000, Douglas & Shepherd 2002, Souitaris, Zerbinati & Al-Laham 2007, Kuratko 2005, Lin & Chen 2010, Bidin, Shamsudin & Othman 2012, Barua 2013, Karali 2013, Fayolle & Linan 2014); as cited in Chapter 3.

All standardised scales adopted have been accepted as valid predictive tools of behaviour in the respective attitudes. The number of items per attitude was adapted to take account of specific contextual issues, most notably language barriers, participants' geographical location and mode of transfer from school to home, and the time of the programme implementation (for weekday programmes from 15:00 to 17:00). The reliability of the items was reiteratively tested by review of the original standardised scales to the items per attitude.

The primary aim of this descriptive research is to provide a description of the effect of entrepreneurship education programmes on the mind-set development of South African youth. The secondary aim of this research is to describe the influence of the entrepreneurial mind-set on entrepreneurial intent and/or predictions for entrepreneurial activity. To keep true to the major purpose of this research, the researcher kept referencing back to the constructs of self-efficacy, inner locus of control and need for achievement.

4.5.4. Reliability of the research instrument

Reliability refers to the degree of consistency or accuracy with which an instrument measures the attribute it is designed to measure (Polit & Hungler 1997: 296). Polit & Hungler further state that if a study and its results are reliable, it means that the same results would be obtained if the study were to be replicated by other researchers using the same method. A pilot test was conducted with five participants on the entrepreneurship education programme who were excluded from the

actual research but with similar characteristics to the study sample, to determine the clarity of the items and consistency of the responses.

The major concern arising was the challenge of language as English was not the mother tongue language of many participants. To mitigate this and increase the reliability of the instrument, a glossary of key terms was included in the facilitator's instructional pack to facilitate the participants' consistent comprehension of these terms (see Appendix 6).

4.5.5. Validity of the research instrument

Tichapondwa (2013, 144) suggests that an assessment of the validity of an instrument is based on whether it measures what it is supposed to measure. The instrument must demonstrate an external and internal validity.

Kimberlin & Winterstein (2008, 167) define external validity as the extent to which the results can be generalised beyond the sample used in the study. This usually depends on the degree to which the sample represents the population. Kimberlin & Winterstein further explain that low external validity in this study would imply that the results can apply only to the sample groups. The researcher mitigated this through rigorous purposive sampling to ensure that the sample groups had similar knowledge, attitudes, beliefs and characteristics as the population.

Internal validity is the extent to which factors affecting the development of the entrepreneurial mind-set are a true reflection of reality rather than the result of the effects of extraneous or chance variables, not necessarily related to factors under study with the sample groups. To mitigate this, the researcher included the question in the questionnaire whether the participant had attended or was attending any entrepreneurship education programme other than this one.

To ensure data validity and reliability, to lend credibility to this study, the researcher reiteratively focused attention on the checklist below as reflected in Table 8 and to keep true to the research hypotheses:

Table 10: Reliability and validity of measurement instruments (Kimberlin & Winterstein 2008)

Is the evidence of reliability and validity well established through reiterative testing?

Has the measure been evaluated using various types of reliability estimates and varied strategies for establishing validity?
--

Has it been validated in a population similar to the one you will be studying?
--

4.6. Data analysis

The research model was tested by conducting a survey of 800 participants from the short entrepreneurship education programme and 400 participants from the long entrepreneurship education programme. Prior to capturing the data, all the questionnaires returned by the facilitators were checked and filtered. It was ensured that the participants met the research criteria, namely completion of one entrepreneurship course at a JASA school, and all the responses were checked, missing responses were noted and blank questionnaires were discarded. This resulted in 637 usable questionnaires in Sample 1 and 381 usable questionnaires in Sample 2. The data was coded by the researcher. The data was entered into SPSS using AMOS to test the fit of the model. The data was analysed subject to descriptive and inferential analysis (Tichapondwa 2013: 170).

4.6.1 Descriptive data analysis

Mack (2010, 166) suggests that descriptive analysis transforms raw data into a form that will make them easy to understand and interpret. Descriptive analysis permits for the calculation of averages, means, standard deviations, frequency distributions, percentage distributions and finally, it summarises the data. In this research, descriptive analysis is computed to analyse the demographic characteristics that consisted of nine items, such as gender, age, race, home location, location of school and level of entrepreneurial education. This analysis was used to describe the characteristics of the participants.

4.6.2 Inferential data analysis

Factor analysis is a statistical method used to study the dimensionality of a set of variables. In factor analysis, latent variables represent unobserved constructs and are referred to as factors or dimensions. The technique used in this research is Structural Equation Modelling (SEM), to test the goodness-of-fit of the model and the hypotheses (Tichapondwa 2013: 174). Confirmatory

factory analysis (CFA) is used in this research as the researcher has some knowledge of the underlying latent variable structure (*ibid*).

Based on the knowledge of theory and empirical research, the researcher hypothesised relations between the observed constructs and then tested those statistically in the hypothesised model (Figure 13). In the figure, squares represent observed variables (self-efficacy, inner locus of control, need for achievement, entrepreneurial intent and entrepreneurial activity), ovals represent factors or latent variables (a true score that is not directly observed, unlike the observed variable which is the measurement that is directly observed).

From critical reading of Tichapondwa (2013, 178), the following was noted. A latent variable may be best described as a construct or factor that may explain observed covariance in behaviour and may be the underlying cause of multiple behaviours observed. Generally, the variance may be attributed to individual differences. For example, in this research, standard items in the questionnaire are asked of a sample that experienced the same entrepreneurship education programme, however factors such as mood, comprehension ability, home context and other factors, which are not observed, may be factors that result in variances to the responses to the items.

As a first step, the software Statistical Analysis System (SAS), an integrated software suite for advanced analytics, business intelligence, data management, and predictive analytics, was used to run frequency tables, factor analysis and test reliabilities. SAS was used because the University of Pretoria is a licensed user and SAS, as outlined on its website, would allow for the following:

- Access to the data in almost any format, including SAS tables, Microsoft Excel tables, and database files.
- Management and control of the existing data to get the data that the researcher would need. It allowed for sub-setting of data, combination of data and the creation of new columns.
- Analysis of data using statistical techniques ranging from descriptive measures like correlations to logistic regression.
- Presentation of the results of the analyses in a meaningful report that the researcher could share in the study.

- The reports that the researcher created could be saved in a wide variety of formats, including HTML and PDF.

CFA is a special form of factor analysis, most commonly used in social research. It is used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that construct (or factor). As such, the objective of confirmatory factor analysis is to test whether the data fits a hypothesised measurement model (Levine, 2005: 335) and therefore provides an indication of construct validity.

The researcher believes that CFA is a good choice for this research because it is hypothesis driven and it allowed the researcher to specify the number of factors. Also, it allowed the researcher to determine factor correlations to show the strength of the association between factors and to study the behaviour of new measurement items embedded in a previously studied measurement instrument (Bandura, Rotter, McClelland, eScan and EIQ standardised scales of measurement). Moreover, the University of Pretoria is a licensed user of AMOS, to run the CFA. As explained to the researcher by the University of Pretoria's statistician, Analysis of Moment Structures (AMOS) is a statistical software package. AMOS is specially used for SEM, path analysis and CFA. The use of AMOS allowed the researcher to manually draw the SEM model, where the following may be represented as:

:

- Observed Variable: A rectangle icon is used to draw the observed variable, that is, the items on the questionnaire (represented by V in numbers in Figure 13).
- Latent Variable: A circle icon is used to draw the unobserved variable.
- Cause Effect Relationship: A single headed arrow in AMOS is used to draw the cause effect relationship between the observed and unobserved variables.
- Covariance: A double-headed arrow is used to draw the covariance between variables.
- Error Term: In AMOS, the error term icon is next to the unobserved variable icon, and it is used to draw the latent variable (represented by E in numbers in Figure 13).
- There are other icons as well, and those icons help in drawing the SEM model graphically.

By engagement with the university statisticians, the researcher gathered that by using AMOS, the researcher would receive the following outputs:

- Variable Summary: In AMOS and its text output variable summary, the researcher can see how many variables and which variables are used for SEM analysis. The researcher can see how many observed variables and how many unobserved variables were in the model.
- Accessing the Normality: In the SEM model, data should be normally distributed. AMOS will give the text output, and the skewness, Kurtosis and Mahalanobis d-squared test will represent the normality or not of the data.
- Estimates: In AMOS text output, the estimate option will give the result for regression weight, standardised loading for factor, residual, correlation, covariance, direct effect, indirect effect, total effect and other results.
- Modification Index: In AMOS text output, the modification index (MI) result shows the reliability of the path drawn in the SEM model.
- Model Fit: In AMOS text output, model fit option will give the result for goodness of fit model statistics. It will show all the goodness of fit indexes, such as GFI, RMR, TLI, BIC, RMSEA.
- Error Message: If there is any problem during the process of drawing the model AMOS will either not calculate the result or it will give an error message.

SEM can measure the relationships among the latent and observed variables through the analysis of covariance among observable variables by forming the basis for estimating a structural relationship that describes the relationship of constructs stated in the questions. SEM software is typically used for performing confirmatory factor analysis. There are many popular software programmes, but the researcher used the AMOS package.

CFA was used as a first step to assess the proposed measurement model in a structural equation model. Many of the rules of interpretation regarding assessment of model fit and model modification in SEM apply equally to CFA. CFA is distinguished from SEM by the fact that in CFA, there are no directed arrows between latent factors. In other words, while in CFA factors are not presumed to directly cause one another, SEM often does specify factors and variables to be causal in nature. In the context of SEM, the CFA is often called the measurement model, while the relations between latent variables (with directed arrows) are called the structural model (Muthen & Muthen, 2008: 58).

It is widely accepted within the social science field of study that SEM is a powerful quantitative data analytical technique which estimates and tests theoretical relationships between and among

latent and/or observed variables and combines regression and/or factor analysis (Abu Saleh, 2006: 96). SEM is also a path analytical method for handling multiple relationships and assessing relationships in confirmatory factor analysis. SEM is therefore a justified choice for this research which aims to do that as it will show path links amongst variables as represented in the conceptual framework.

Abu Saleh (2006, 98) also provided insight to justify the researcher's selection of SEM; that the research was conducted using a non-experimental design and SEM is commonly used in such design. Critical to this research, SEM allowed the researcher to test the research hypotheses with its non-experimental data. It would allow the researcher to test whether the factor structure of, for example, self-efficacy perceptions amongst participants in Gauteng are the same as self-efficacy perceptions amongst participants in KwaZulu-Natal. Also, the researcher could test quantitative predictions against data.

The first part of the SEM analysis was to conceptualise the structural model based on the theoretical causal relationship hypothesised amongst the latent variables developed from the review of the literature and the observed variables discussed in chapters 2 and 3. The SEM model consists of the measurement model that links observed variables to latent variables, and the structural model that shows the relationships between the latent variables. See Appendix 8 for the full SEM model and the competing SEM model.

4.7. Ethical considerations

Researchers face ethical dilemmas in their research when people are used as study in an investigation. Researchers need to exercise care that the rights of individuals and institutions are safeguarded (Kimberlin & Winterstein 2008: 120). The researcher observed all care to duty to retain the rights of the participants and the schools they attended.

4.7.1. Permission to conduct the study

Permission to conduct the study was requested and granted by Junior Achievement South Africa (Appendix 1). The programme facilitators were informed of the study and the JASA management's and Board's permission was requested for participants to complete questionnaires at the end of the programme. The schools' principals were informed of the study and the JASA management's

and Board's permission was requested for participants to complete questionnaires at the end of the programme. They were assured that the names of their schools would remain anonymous.

The researcher undertook not to cause any disruption to the functions and functioning of the schools in the implementation of the survey. The learners and their parents (most learners were minors) were informed of and about the study and the JASA management's and Board's permission to request participants to complete questionnaires at the end of the programme. They were assured that their names would be withheld even though their responses would be reported on. All parents were requested to sign a consent form for their children to participate in the study (Appendix 2). All individual forms were retained by JASA and will be made available on request. The researcher took heed of and adhered to the university's ethical clearance procedures and completed all necessary steps therein – applied for ethical clearance from the University of Pretoria (Appendix 3)

4.7.2. Principles of research ethics

The principles of beneficence and respect for human dignity were observed during data collection and was best outlined as below (Kimberlin & Winterton 2008: 156):

The principle of beneficence encompasses freedom from harm and exploitation. No physical harm resulted from participants completing the questionnaires. Based on the pilot, the researcher could confirm that no discomfort was experienced relating to the nature of the questions. The researcher also briefed all facilitators to act as guides to any participant who might have shown signs of discomfort and to advise the respondent to answer only the items they felt comfortable with. The completeness of the responses and the response rate demonstrate that the researcher's assumption was valid.

The principle of respect for human dignity includes the right to self-determination and to full disclosure (Kimberlin & Winterton 2008: 170). Participants' rights to self-determination were upheld because participants could decide independently, without any coercion, whether to participate in the study; they had the right not to answer any questions that caused discomfort; to disclose or not to disclose personal information and to ask for clarification about any aspect that caused some uncertainty.

The right to full disclosure was respected because the researcher described the nature of the study as well as the participants' rights to participate in or to refuse to participate in the study. This was done in the briefing to the facilitator. Each participant's parent/guardian voluntarily signed a consent form. The signed consent form was collected at the commencement of the entrepreneurship education programme. Confidentiality was assured because participants were specifically informed that no names would be disclosed in the research report. Any participant, parent, school principal, facilitator, JASA member of management or the Board who wished to obtain a research report could contact the researcher, who would supply such a report.

4.8. Conclusion

This chapter discussed the research methodology of the study: the research paradigm, the research strategy and the research design, population, sample, data-collection instrument, piloting the instrument, establishing the reliability and validity of the instrument and ethical considerations. Each sub-section was carefully grounded in theory and the researcher justified the selection of methodology and methods for each and why the researcher thought that each selection was most appropriate.

Chapter 5 will cover the data analysis. It will aim to examine the collection of preliminary data, discuss the data-screening procedures adopted, analyse the descriptive statistics and the application of confirmatory factor analysis in SEM on the sample data to test the goodness-of-fit of the hypothetical model and the hypotheses.

Chapter 5: Data analysis

5.1. Introduction

Chapter One of the research provided the context of, background to, importance, relevance and the significance of this research. It identified the research problem, the research question and the general and specific objectives and formulated the research hypotheses. It also provided a definition of the key words for this research.

Chapter Two focused on a literature review to connect to the existing body of knowledge previously researched and published by other academics and scholars as well as empirical theory. This review will focus on research/studies conducted in the field both globally and locally to provide a global view of the significance of entrepreneurship as a possible solution to youth unemployment. Research gaps were identified in the literature review. This identification resulted in a theoretical framework design to validate the hypotheses for the research.

Chapter Three focused on theoretical perspectives adopted in this research to validate its assertions and to add robustness to the significance of the research. It used the theoretical framework to demonstrate that an entrepreneurial mind-set can be motivated by the antecedents and exposure to an entrepreneurship education programme. The key consideration was how to influence the development of an entrepreneurial mind-set with the intent of stimulating entrepreneurial intentions amongst South African youth.

Chapter Four focused on a description of the methodology and method adopted in this research. It was guided by the knowledge that all research is based on underlying philosophical assumptions about what constitutes valid research, that is, the controls the researcher adopts in conducting the study in such that maximum control will be exercised over factors that could interfere with the validity of the research results. The chapter also focused on which research method or a combination of methods might be best suited to the development of knowledge of that study.

This chapter will present the results of the data analysis relating to responses from the participants who received either the short or the long entrepreneurship education programme and who completed the questionnaire.

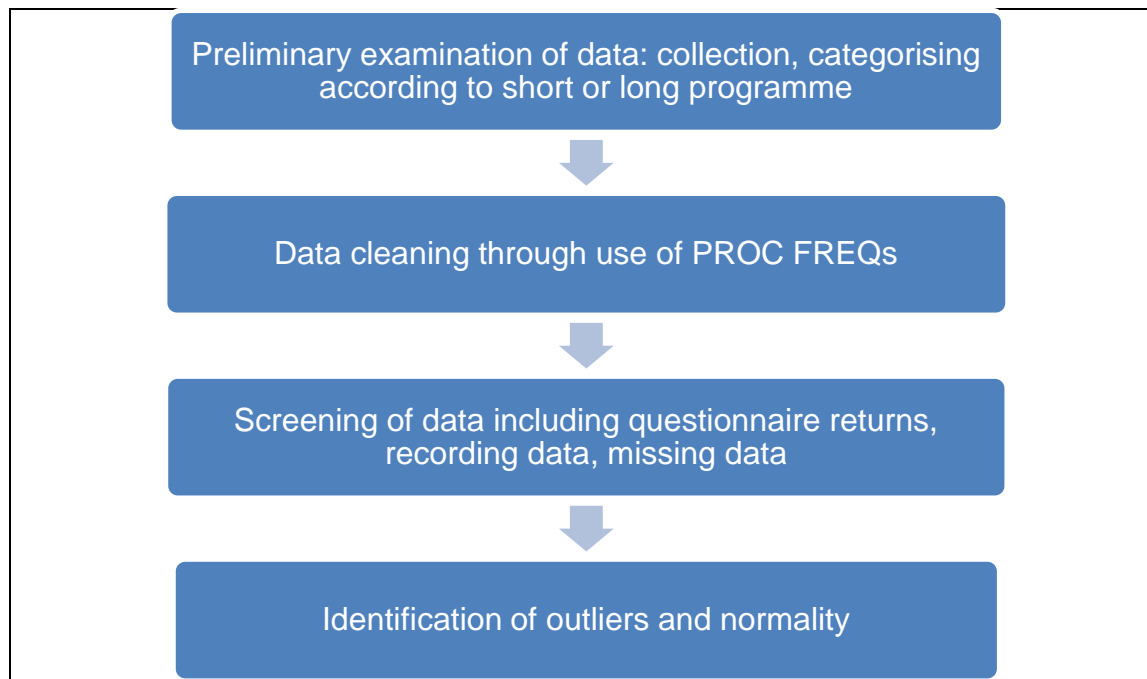
This chapter will further comprise the following sections:

- A description of the preliminary examination of data, data cleaning, screening of data including questionnaire return, recoding data, missing data, outliers and normality
- A discussion of confirmatory factor analysis
- A descriptive analysis of the profile of the participants derived from items 1 to 9 in the questionnaire
- Model testing using CFA
- Presentation of an overview of the content of the short entrepreneurship education programme and the long entrepreneurship education programme
- Conclusion

5.2. Preliminary data examination

This sub-section aims to provide a description of the preliminary examination of data, data cleaning, screening of data including questionnaire return, recoding data, missing data, outliers and normality as represented in Figure 10 below:

Figure 10: Preliminary data examination process



The preliminary examination of data entailed the collection and labelling of the questionnaires from the various provinces. The researcher then sorted and counted according to short and long programmes. To mitigate for and minimise the expected non-response rate, the researcher gave instructions to the facilitators as to the significance of participants completing the questionnaire as well as completing it correctly.

General feedback from the facilitators pointed to queries about item 19 (V20, which read: In the programme, when targets are not met, I look to find someone in the team to blame) and item 33 (V34, which read: I want to be an entrepreneur because I have no other means of making an income). The researcher flagged V20 and V34 for closer examination when analysing the kurtosis values of all items. The researcher then conducted an examination of the completeness of the questionnaire. Some questionnaires were deemed to be incomplete; in those cases, the overall questionnaire was incomplete, ranging from 20% to 50%. After these steps, it was determined that of the 1 300 questionnaires distributed, a total of 1 018 were returned (78%), which would not deter the reliability of the study (Macmillan & Schumacher 2006: 40).

This resulted in 637 usable questionnaires in Sample 1 and 381 usable questionnaires in Sample 2. The data was coded by the researcher using the coding: V1-34. The researcher was comfortable with this number per sample. Urban (2004, 198) suggests that with principal component analysis (PCA) for the results of an analysis to be reliable, the minimum number of observations in a sample should be at least five times the number of variables. The questionnaire had 39 items, assessed five variables and thus satisfied the PCA criterion for analysis reliability.

The data cleaning was undertaken by statisticians allocated to the research at the University of Pretoria's Statistics Department. The frequency procedure was used to verify that data values were correct and conformed to identifying the missing frequencies. It was run per variable and it was useful to run the data through this data checking operation using AMOS as it gave the researcher a view of the missing values. This step provided an internal validity check.

Arising from the run of the frequency procedure, the researcher noted that some questionnaires had missing data, but this was randomly located within the questionnaire. The missing data, not

more than 10%, was not deemed to be to the detriment of the database and thus those questionnaires were retained in moving towards normality and outliers.

Rengiah (2013, 195) by citation of Tabachnick & Fidell (2001, 145) suggests that outliers are unreasonable observations with extreme values on one variable, or combination of variables, that are distinct from the rest of the data set. The statisticians used AMOS to measure the Mahalanobis distance. The reported results of the Mahalanobis distance analysis showed that there were no outliers and thus 1 018 questionnaires were to be analysed for the study using Structural Equation Modelling.

The researcher assumed data normality. On advice from the statisticians allocated to the research at the University of Pretoria (see Appendix 4), variables that presented a high kurtosis value were indicative of non-normality. It was further explained that non-normality might be the case of an outlier in the data set. V20, which had been flagged for closer examination, on examination, yielded a kurtosis of -0.531 and V34 yielded a kurtosis value of -1.36, which were inordinately high relative to the other values and furthest from 0, the ideal fit.

V20, on closer examination, was found to be inconsistently worded with the general characteristics of internal locus of control. V20 was thus identified as an outlier and removed without limitation to the generalisability of the findings. V34, on closer examination, was found to be ambiguously worded and could have had two outcomes as to why a participant may have wanted to be an entrepreneur. V34 was thus identified as an outlier and removed without limitation to the generalisability of the findings. All other variables, except for V20 and V34, were accepted as normally distributed. This step provided an indication of an emerging competing model to the earlier hypothesised model (Figure 13).

In summary, through preliminary data examination, the accuracy of data collection, sorting and input were ensured and the observations were entered accurately for analysis. The issues of incomplete questionnaires, missing responses, outliers and normality were identified and addressed accordingly. A return rate of 78% was recorded and sample sizes of 637 and 381 were received for Sample 1 and Sample 2 respectively. The steps taken and the statistics received all point to reliability of the data to be analysed.

5.3. The rationale for the use of confirmatory factor analysis

Little (2013, 164) suggests that confirmatory factor analysis (CFA) is a multivariate statistical procedure that is used to show how well the measured variables represent the number of constructs. CFA allows the research to specify the number of factors required in the data collection process and which measured variable is related to which latent variable. CFA allows the researcher to test the measurement model and once that is satisfied, the research may conceptualize the structural model (which will be discussed in Chapter 6). For this specific reason, the researcher found the use of the CFA most suitable for this study; it would be able to confirm the measurement tool that was adopted for this study.

In addition, the researcher found that the measurement tool used in the research satisfied many of the principles guiding the use of CFA, such as (Little: 2013, 167):

- defining the individual constructs;
- meeting and surpassing the construct and item minimum (at least four constructs and three items per construct);
- meeting and surpassing the minimum sample size of 200; and
- meeting the measurement model specification: one loading estimate per construct.

Further, CFA allowed the researcher to assess the validity of the measurement model validity where the loading should be greater than 0.7. The chi-square test and other goodness-of-fit statistics like CMIN, GFI, AGFI, CFI and RMSEA support the measurement of the model validity.

In addition, adopting the CFA allowed the researcher to justifiably state that the five constructs and the various factors per construct in the questionnaire were clearly identifiable. Also, it enabled the researcher to assert that the factors per construct did in deed accurately measure that factor. Where there were concerns, those factors which were identified as outliers, were left out of the CFA model. The researcher was satisfied that adopting CFA was a satisfactory approach for this study.

5.3.1. Establishing the reliability and validity of the model

In this research, the measurement model necessitated evaluation like any other CFA model, using goodness-of-fit measures. There was no point in proceeding to the structural model until the researcher was satisfied that the measurement model was valid.

The measurement model used was the confirmatory factor analysis. The purpose of the measurement model was to specify the relationships between observed variables and latent variables. In evaluating the fit of the measurement model, the researcher was required to assess the fit of the entire model. The AMOS programme provides several fit indices. This study used the following major indices: CMIN/DF (normed Chi-Square/df), GFI (Goodness-of-fit), AGFI (Adjusted Goodness-of-fit), CFI (Comparative Fit Index) and Root Mean Square Error of Approximation (RMSEA). These indices are explained below:

The traditional fit index is the Chi-Square χ^2 test and it is the only statistical test of significance in SEM. A non-significant Chi-Square value indicates that the hypothesised model fits the sample data well. Little (2013, 172) specified that following important fit indices to note:

- The GFI and AGFI are like squared multiple correlations. Those indicate the relative amount of sample variance and covariance explained by the model. The AGFI differs from the GFI in that it adjusts for the number of degree of freedom in the specified model. Both indices range from zero to one, with values exceeding .90 indicating a good fit model (Byrne, 2001: 167).
- The CFI compares the fit of the hypothesised model to an independent model or null model. Its value ranges from zero to one, with values above .90 indicating a good fit.
- The RMSEA represents the discrepancy per degree of freedom between the population data and the hypothesised model. Byrne (2001, 169) suggests that RMSEA values of less than or equal to .05 can be considered as good fit, values between .05 and .08 as an adequate fit, and values between .08 and .10 as a mediocre fit, whereas values more than .10 are not acceptable.

When all or most of the fit indices did not indicate an acceptable level of fit, the model was modified until the fit indices achieved an acceptable level. In this study, leaving out V20 and V34 provided a better fit in all indices. The indices are reflected in the table below.

Table 11: Model fit indices

Model indicator	Value with V20 and V34	Value without V20 and V34	Values for good fit
Chi-square (CMIN)	3.19	2.94	Smaller value = better fit
Goodness-to-fit (GFI)	0.89	0.9	Exceeding .90
Adjusted Goodness-to-fit (AGFI)	0.87	0.88	Exceeding .90
Comparative Fit Index (CFI)	0.87	0.89	Exceeding .90
Root Mean Square Error of Approximation (RMSEA)	0.54	0.62	Values between .05 and .08

In addition, the path co-efficients and variances of the structural model as reflected in the table below point to the following:

- All the critical ratio (CR) values (parameter estimate divided by its standard error) excluding E₁₀ and E₂₄) are greater than 1.96, which indicates that all the estimates are statistically different from zero.
- There are no negative error variances or standardised parameter estimations that exceed 1.0. This suggests that there are no outliers, no under-identification or mis-specified models or sampling problems (Byrne 2010, 198).

Table 12: Path co-efficients and variances of the path model

Variable	Estimate	S.E.	C.R.	P
V11 ←----- SE	1			
V12 ←----- SE	0.85	0.06	14.02	***
V13 ←----- SE	0.77	0.07	10.36	***
V14 ←----- SE	0.69	0.05	14.11	***
V15 ←----- SE	0.73	0.05	13.55	***
V16 ←----- SE	0.86	0.06	13.64	***
V17 ←----- LoC	1			
V18 ←----- LoC	1.04	0.09	11.61	***
V19 ←----- LoC	1.09	0.08	13.55	***
V21 ←----- LoC	0.88	0.07	12.81	***
V22 ←----- LoC	1.1	0.08	13.24	***
V23 ←----- NfA	1			
V24 ←----- NfA	1.03	0.1	10.74	***
V25 ←----- NfA	1.1	0.12	9.23	***
V26 ←----- NfA	1.25	0.12	10.72	***
V27 ←----- NfA	1.13	0.1	10.67	***
V28 ←----- NfA	1.17	0.1	11.03	***
V29 ←----- NfA	1.23	0.11	11.02	***
V30 ←----- NfA	1.15	0.11	10.48	***
V31 ←----- EI	1			
V32 ←----- EI	0.97	0.05	20.34	***
V33 ←----- EI	0.94	0.05	19.14	***
V35 ←----- EI	0.76	0.05	14.19	***
V36 ←----- EA	1			
V37 ←----- EA	0.94	0.09	10.34	***
V38 ←----- EA	0.93	0.09	10.32	***
V39 ←----- EA	0.92	0.08	10.72	***
V40 ←----- EA	0.87	0.08	11.09	***

The measurement model collectively fit the data well. The model was over-identified with 395 degrees of freedom at $p = 0.0$. The sample size was adequate for CFA. The current study data related to the constructs of the entrepreneurial mind-set and as noted previously, it had some outliers (participants in Grade 12 but older than 18 years). Given that there some outliers to the age group the study was interested in, the decision was to retain those since it was only 17% of the total of the sample. Those outliers did not cause any problem for the model fit.

In addition, the researcher adopted the Chi-Square test to ensure the goodness of fit. The Chi-Square enabled the researcher to determine how well the observed distribution of data fitted with the expected variables (the short and the long entrepreneurship education programmes) at $\alpha 0.1$ and if the variables were independent.

The Chi-Square allowed the researcher to test whether the variables (the short and the long programmes) were independent. In testing the observed distributed data according to the expectation that the variables are independent; where the observed data did not fit the model, there was more likelihood that the variables were dependent. In conducting the Chi-Square test, the researcher was satisfied that the measurement model was valid: with the removal of V20 and V34. The table below presents the results.

Table 13: Results of the Chi-Square test

V	Construct	Total [LP + SP]	Chi-Square Value	Sig/Not sig at α 0.1	Reject Null Hypothesis: no significant difference between observed and expected at α 0.1	Accept Null Hypothesis: no significant difference between observed and expected at α 0.1	Variables: LP and SP
11	Self- efficacy	1005 [377/628]	0.01	Sig	Reject		90% confident that programme duration does influence level of increase in SE
12		1004 [377/627]	0.01	Sig	Reject		90% confident that programme duration does influence level of increase in SE
13		996 [377/619]	0.16	Not Sig		Accept	90% confident that programme duration does not influence level of increase in SE
14		996 [376/620]	0.00	Sig	Reject		90% confident that programme duration does influence level of increase in SE
15		999 [377/622]	0.07	Sig	Reject		90% confident that programme duration does influence level of increase in SE
16		993 [376/ 617]	0.05	Sig	Reject		90% confident that programme duration does influence level of increase in SE
17	Locus of control	994 [376/618]	0.22	Not Sig		Accept	90% confident that programme duration does not influence level of increase in LoC
18		982 [373/ 609]	0.37	Not Sig		Accept	90% confident that programme duration does not influence level of increase in LoC
19		990 [372/618]	0.35	Not Sig		Accept	90% confident that programme duration does not influence level of increase in LoC
21		991 [375/616]	0.9	Not sig		Accept	90% confident that programme duration does not influence level of increase in LoC
22		988 [369/619]	0.03	Sig	Reject		90% confident that programme duration does influence level of increase in LoC

23	Need for achievement	1001 [376/625]	0.1	Sig	Reject		90% confident that programme duration does influence level of increase in NfA
24		989 [372/617]	0.5	Not sig		Accept	90% confident that programme duration does not influence level of increase in NfA
25		985 [366/619]	0.00	Sig	Reject		90% confident that programme duration does influence level of increase in NfA
26		1002 [380/622]	0.6	Not sig		Accept	90% confident that programme duration does not influence level of increase in NfA
27		997 [375/622]	0.6	Not sig		Accept	90% confident that programme duration does not influence level of increase in NfA
28		977 [371/608]	0.2	Not sig		Accept	90% confident that programme duration does not influence level of increase in NfA
29		988 [373/615]	0.04	Sig	Reject		90% confident that programme duration does influence level of increase in NfA
30		995 [375/620]	0.00	Sig	Reject		90% confident that programme duration does influence level of increase in NfA
31	EI	1004 [378/626]	0.03	Sig	Reject		90% confident that programme duration does influence level of increase in EI
32		1004 [380/624]	0.16	Not sig		Accept	90% confident that programme duration does not influence level of increase in EI
33		1000 [378/622]	0.02	Sig	Reject		90% confident that programme duration does influence level of increase in EI
35		1002 [377/625]	0.6	Not sig		Accept	90% confident that programme duration does not influence level of increase in EI
36	EA	1002 [376/626]	0	Sig	Reject		90% confident that programme duration does influence level of increase in EA
37		1003 [380/623]	0.65	Not Sig		Accept	90% confident that programme duration does not influence level of increase in EA
38		998 [374/624]	0.23	Not Sig		Accept	90% confident that programme duration does not influence level of increase in EA
39		998 [377/621]	0.21	Not Sig		Accept	90% confident that programme duration does not influence level of increase in EA

40		1002 [378/624]	0.76	Not Sig		Accept	90% confident that programme duration does not influence level of increase in EA
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To test for reliability, the Cronbach's alpha is the most common measure of internal consistency. It is most commonly used when the study has used a multiple Likert-type question in a survey/questionnaire that forms a scale and the researcher wishes to determine if the scale is reliable (Nunnally 1978: 120). The internal reliability indicates how strong the measuring items are holding together in measuring the respective construct. The measuring items would have been developed from summated scales that would have been a collation of inter-related items so determining its internal reliability was important.

It was of importance to show that if the same set of items were used in another questionnaire with the same respondents, it would elicit the same responses even if the questions were reworded. In being able to show the reliability of the questionnaire: that the same instrument provides stable and reliable responses over several administrations. That reliability is achieved when the value of Cronbach's Alpha exceeds 0.7 (calculated in AMOS). The Composite Reliability (CR) indicates the reliability and internal consistency of a latent construct. A value of $CR > 0.6$ is required to achieve composite reliability for a construct.

In this research, the ALPHA option in PROC CORR was conducted. PROC CORR is regarded an effective tool for measuring Cronbach's Alpha, a numerical co-efficient of reliability, that is, computation of alpha based on the reliability of a test relative to other tests with the same number of items and measuring the same construct of interest (Nunnally, 1978: 122).

To demonstrate the reliability of the PROC CORR application, V20 and V34, which were regarded poorly selected items (due to negative and/or ambiguous wording) on the summated scale, were restored to show that they affected the value of the alpha and why it was necessary to remove those items from the structure model.

The table below provides the results of the Cronbach Alpha and Composite Reliability of each construct with V20 and V34 removed. From the representation below, it may be asserted that internal and composite reliability are established.

Table 14: Cronbach Alpha and Composite Reliability per variable

Variable	Raw CA	Standardised CA > 0.7 =Reliable	CR ≥ 0.6 =Reliable
SE	0.72	0.73	
11			1
12			14.02
13			10.36
14			14.11
15			13.55
16			13.64
LoC	0.55	0.61	
17			1
18			11.61
19			13.55
21			12.81
22			13.24
NfA	0.77	0.78	
23			1
24			10.74
25			9.23
26			10.72
27			10.68
28			11.03
29			11.02
30			10.48
EI	0.70	0.73	
31			1
32			20.34
33			19.14
35			14.19
EA	0.69	0.70	
36			1
37			10.34
38			10.32
39			10.72
40			11.09

The output of the PROC CORR is tabled below and includes V20 and V34. It allowed the researcher to show how the removal of V20 and V34 improved the Cronbach alpha.

Table 15: The CORR Procedure

Self-efficacy 6 Variables: V11, V12, V13, V14, V15, V16						
Cronbach Co-efficient Alpha with deleted Variable (where applicable)						
Deleted Variable	Raw Variables		Standardised Variables			
	Correlation with total	Alpha	Correlation with total	Alpha	Label	
V11	0.5	0.67	0.5	0.69	V11	
V12	0.51	0.67	0.51	0.69	V12	
V13	0.35	0.72	0.35	0.73	V13	
V14	0.49	0.68	0.5	0.69	V14	
V15	0.46	0.68	0.47	0.7	V15	
V16	0.49	0.67	0.5	0.7	V16	
Inner Locus of Control 6 Variables: V17, V18, V19, V20, V21, V22						
Cronbach Co-efficient Alpha with deleted Variable (where applicable)						
Deleted Variable	Raw Variables		Standardised Variables			
	Correlation with total	Alpha	Correlation with total	Alpha	Label	
V17	0.43	0.45	0.47	0.51	V17	
V18	0.4	0.45	0.4	0.55	V18	
V19	0.41	0.46	0.44	0.53	V19	
V20	-0.004	0.7	-0.01	0.7	V20	
V21	0.3	0.5	0.34	0.57	V21	
V22	0.44	0.43	0.47	0.52	V22	
Need for Achievement 8 Variables: V23, V24, V25, V26, V27, V28, V29, V30						
Cronbach Co-efficient Alpha with deleted Variable (where applicable)						
Deleted Variable	Raw Variables		Standardised Variables			
	Correlation with total	Alpha	Correlation with total	Alpha	Label	
V23	0.37	0.77	0.37	0.77	V23	
V24	0.53	0.73	0.53	0.74	V24	
V25	0.42	0.76	0.42	0.76	V25	
V26	0.5	0.74	0.5	0.75	V26	
V27	0.52	0.74	0.52	0.75	V27	
V28	0.53	0.74	0.53	0.75	V28	
V29	0.53	0.74	0.53	0.74	V29	
V30	0.43	0.76	0.43	0.76	V30	
Entrepreneurial Intention 5 Variables: V31, V32, V33, V34, V35						
Cronbach Co-efficient Alpha with deleted Variable (where applicable)						
Deleted Variable	Raw Variables		Standardised Variables			
	Correlation with total	Alpha	Correlation with total	Alpha	Label	
V31	0.55	0.61	0.59	0.65	V31	
V32	0.57	0.61	0.6	0.65	V32	
V33	0.56	0.61	0.59	0.65	V33	
V34	0.23	0.78	0.23	0.77	V34	
V35	0.49	0.63	0.49	0.69	V35	
Entrepreneurial Activity 5 Variables: V36, V37, V38, V39, V40						
Cronbach Co-efficient Alpha with deleted Variable (where applicable)						
Deleted Variable	Raw Variables		Standardised Variables			
	Correlation with total	Alpha	Correlation with total	Alpha	Label	
V36	0.38	0.69	0.38	0.69	V36	
V37	0.47	0.63	0.47	0.65	V37	
V38	0.45	0.64	0.45	0.66	V38	
V39	0.48	0.63	0.5	0.64	V39	
V40	0.49	0.63	0.5	0.64	V40	

Little (2013, 189) suggests that validity is the most important issue in selecting a test, where validity refers to what characteristic the test measures and how well the test measures that characteristic. In this research and informed by the explanation derived from Little, validity would tell the researcher that:

- The characteristic being measured by the test is related to entrepreneurial mind-set development.
- A linkage exists between entrepreneurship education programmes and the development of the entrepreneurial mind-set. Further, if the test has been demonstrated to be a valid predictor of entrepreneurial mind-set development through entrepreneurship education programmes, then the researcher may conclude that participants scoring highly on the test are more likely to have participated in the long entrepreneurship education programme than participants who score lower and would have most likely participated in the short entrepreneurship education programme.
- Validity also describes the degree to which you can make specific conclusions or predictions about people based on their test scores. In other words, it indicates the usefulness of the test. In the case of this research, it would allow the researcher to make conclusions about the duration of the entrepreneurship education programme.

In this research, assessment procedures and the primary instruments from which the questions were derived, have been demonstrated to be valid for the specific research of understanding the relationship between entrepreneurship education, the development of the entrepreneurial mind-set (specifically self-efficacy, inner locus of control and need for achievement), entrepreneurial intention and predictions for entrepreneurial activity.

In this research, the test is valid for the specific purpose of testing whether entrepreneurship education may influence the development of the entrepreneurial mind-set; as antecedent to entrepreneurial intention and predictions for entrepreneurial activity. In addition, the specific purpose is to differentiate between that influence based on the duration and the content of a short and a long entrepreneurship education programme.

Also, the test's validity is established about specific groups called the reference groups. This same test may not be valid for different groups. For example, this test was designed to predict the entrepreneurial activity of the participants in the referred groups of the short and the long

entrepreneurship education programmes of a specific content design, learning outcomes and methodology. Thus, the test results may not be valid for participants from referred groups who participate in other entrepreneurship education programmes. Generalisability of the test results may therefore be limited to 15- to 18-year-olds who access the specific entrepreneurship education programmes. This tool is however appropriate for the target group of this research.

As advised by the university statisticians, this research adopted the construct-related validation method which required a demonstration that the test measured the construct or characteristic it claimed to measure, and that this characteristic is important to successful entrepreneurial mind-set development, entrepreneurial intention and predictions for entrepreneurial activity. In this research, the factors were subject to tests of principle components with a Varimax rotation, and once extracted, the research used the Eigenvalue 1 rule. The closer to the eigenvalue of 1, the more confident the researcher was about the construct validity of the factor. From the test, all five factors developed for the research were deemed valid and should therefore be retained as valid constructs. The tables below present the results of the construct-related validation.

Table 16: Construct-related validation

Eigenvalues of the Reduced Correlation Matrix:				
Total =10.649 Average = 0.354				
	Eigenvalue	Difference	Proportion	Cumulative
11	0.11	0.03	0.01	1.17
12	0.08	0.02	0	1.18
13	0.06	0.01	0.01	1.19
14	0.05	0.02	0	1.2
15	0.02	0.03	0	1.19
16	-0.01	0.02	-0.001	1.19
17	-0.03	0	-0.01	1.18
18	-0.03	0.03	-0.003	1.18
19	-0.65	0.01	-0.01	1.18
20	-0.07	0.01	-0.01	1.17
21	-0.09	0.03	-0.01	1.16
22	-0.12	0.01	-0.01	1.15
23	-0.14	0.01	-0.01	1.1
24	-0.15	0.01	-0.01	1.12
25	-0.17	0.03	-0.01	1.1
26	-0.2	0.01	-0.01	1.09
27	-0.21	0.02	-0.01	1.07
28	-0.23	0.01	-0.02	1.04
29	-0.24	0.04	-0.02	1.02
30	-0.28	0	-0.03	1

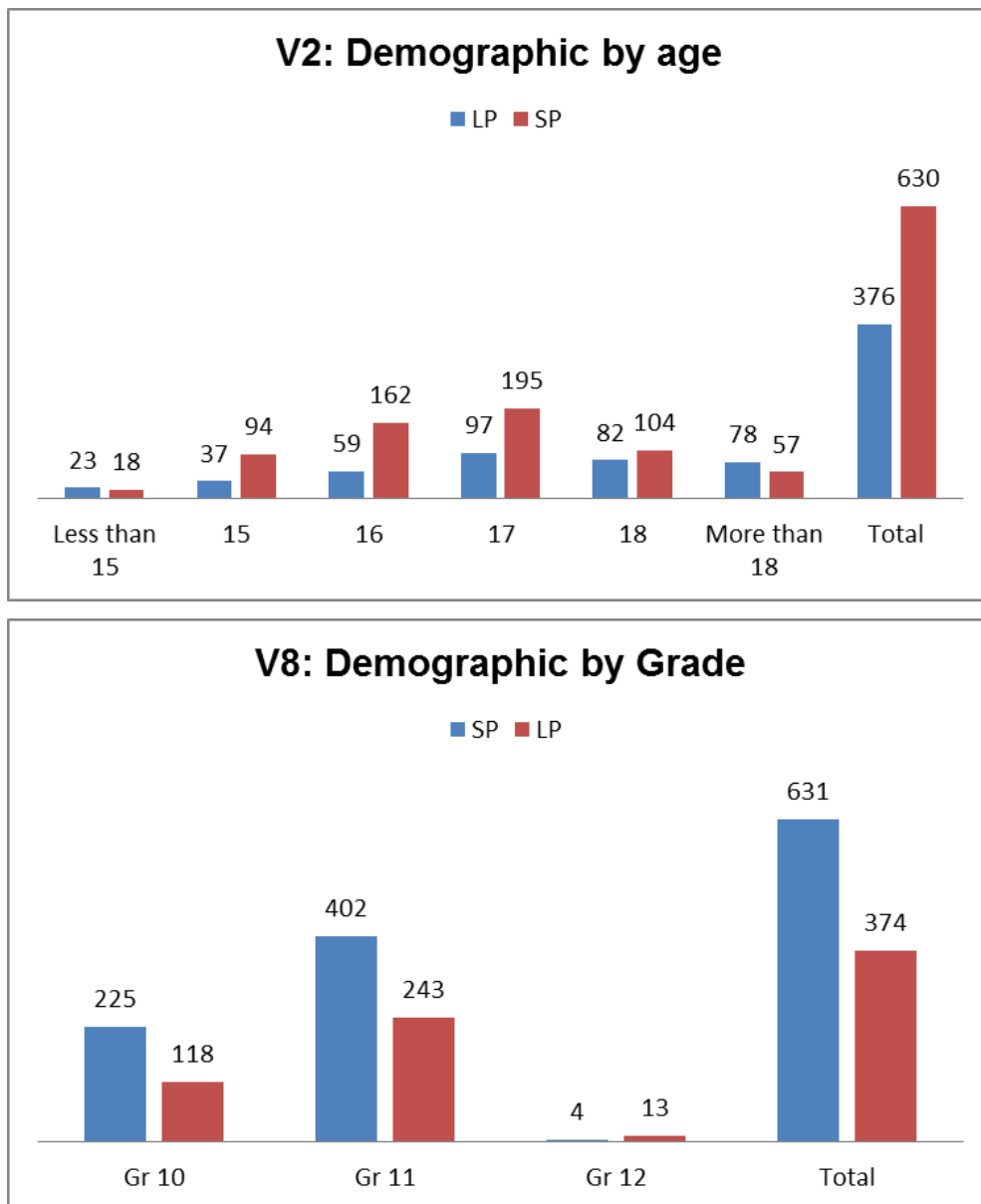
Having established the validity and reliability of the measurement model, the researcher was satisfied to conceptualise the structural model. The researcher adopted one more test for reliability and that was to establish the sample demographics.

5.4. Participants' characteristics and profile

This sub-section seeks to provide the sample demographics using descriptive statistics. The responses received were wide and varied and whilst these demographic variables have no effect on the level of the analysis of this study, it would reinforce the reliability of the study: that the study did indeed reach the profile of the individual it stated at the outset: individuals in grades 10 to 12, in the normative age group 15 to 18 and in schools across South Africa in schools ranging from quintiles 1 to 5.

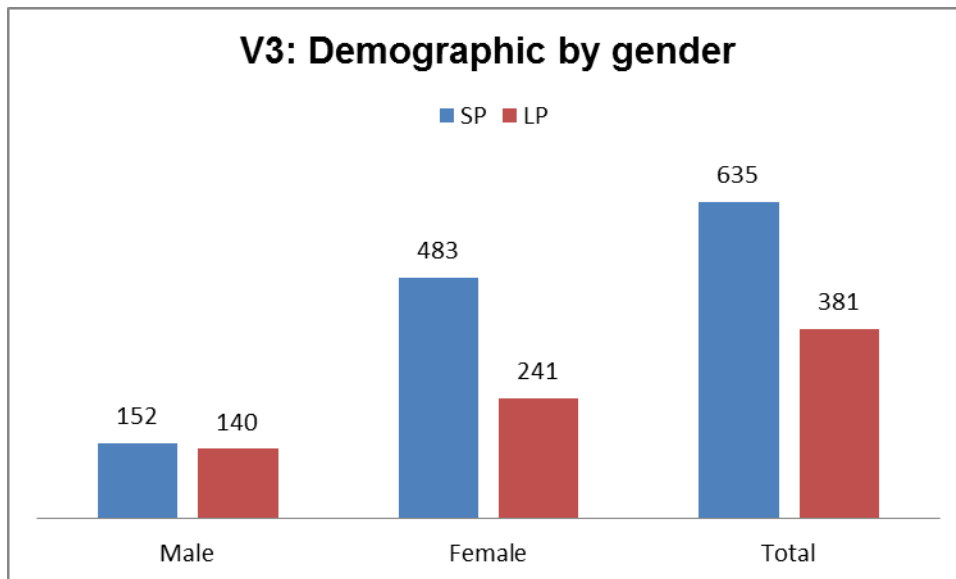
The demographic variables measured in the study consisted of nine items, namely; age, gender, race, home location, school location, access to any other entrepreneurship education programme, grade at school, home province and school province. The nine items that provided the profile of the participants were analysed using descriptive statistics. The profile included a total of 1 018 response: Sample 1 yielded 637 responses and Sample 2 yielded 381 responses. The figures to follow will provide an overview of the itemised sample demographic.

Figure 11: Demographics by age and grade



From the data spread as represented by Figure 11 it is evident that the majority of the participants were in the age group the study was interested in: 15 to 18. A minor percentage of participants fell outside that parameter. Forty-one were less than 15 years and 135 were more than 18 years, however they were within the school grades that the research was interested in. Cumulatively, they represented 17% of the samples and would not deter the generalisability of the findings. It should also be noted that all participants fell with the parameter of Grades 10 to 12. The small percentage in Grade 12 (a total of 17 of 1 018), may be rationalised as the priority placed in the Grade 12 examination resulting in few Grade 12s being selected for the entrepreneurship education programme, which is implemented as an extracurricular activity. There were no participants who fell outside this parameter of grade at school.

Figure 12: Demographic by gender



As reflected in Figure 12 the spread of participants across the gender demographic was higher on female representation on both the short and long programmes. Whilst this study did not interrogate criteria related to gender selection, this output may be of interest to future studies relating to the effect of gender on entrepreneurship and entrepreneurship education.

As reflected in Figure 13 below, the programmes, both the short and the long, had an intake of mostly black participants. The spread ranged from 906 black, 6 Caucasian, 86 Coloured and 16 Indian participants. This study does not focus on the description of this demographic variable.

However, this could form the basis of a future study on the description of the effect of entrepreneurship education programmes on the mind-set of specifically black South African youth. This has a basis for interest and exploration because of the amount of black youth in South Africa, as explained in Chapter 1, who remain unemployed.

Figure 13: Demographic by race

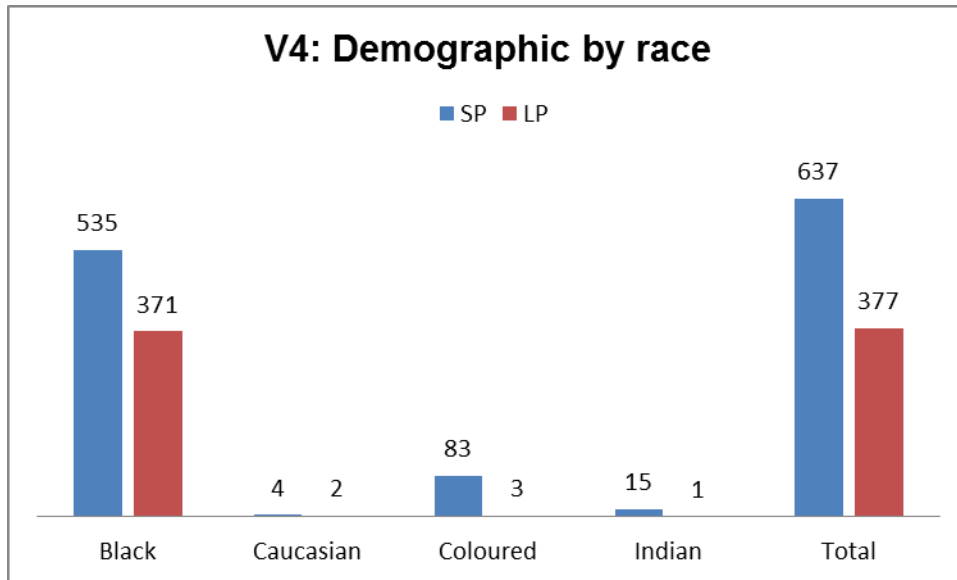
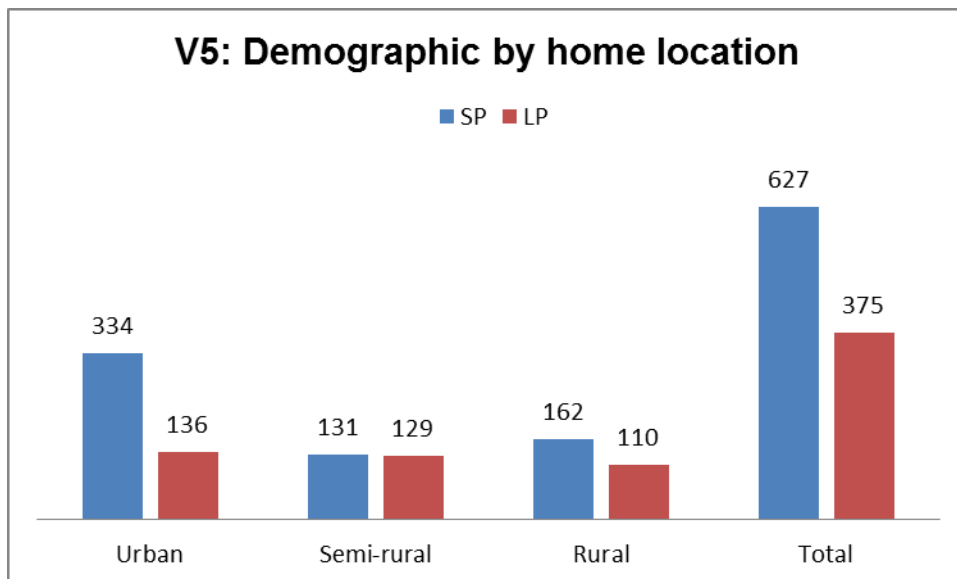
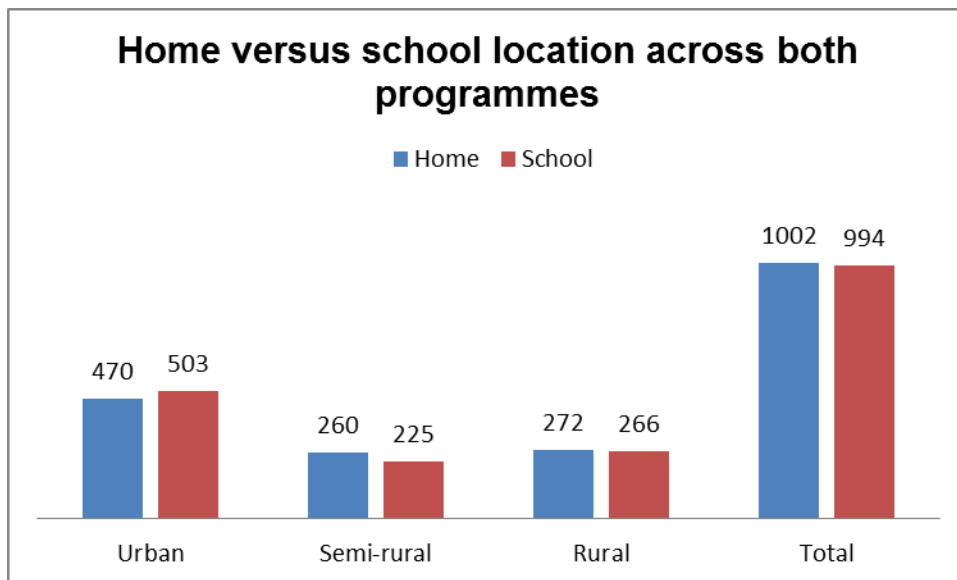
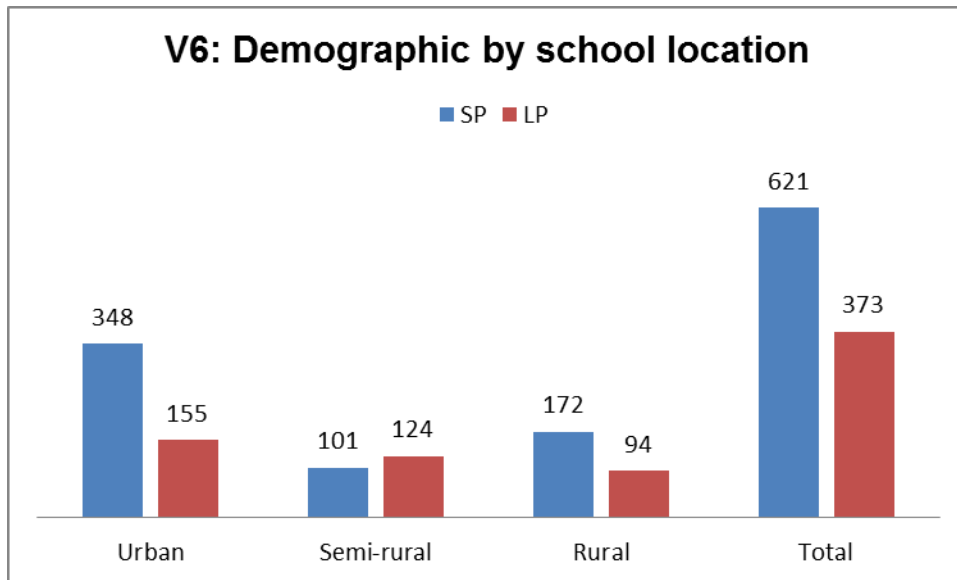


Figure 14: Demographic of home and school location





The analysis as reflected in Figure 14 above reveals that there is consistency amongst the participants who are urban, semi-rural and rural home dwellers and urban, semi-rural and rural school-goers. There are some minor shifts to be noted in all three locations. The study did not probe this question to be able to provide reasons for this movement and nor is it within the scope of this study.

Figure 15 reflects participants' responses to the question: Have you attended any other entrepreneurship education programme? The overwhelming response across both samples was

in the negative. The positive responses were not probed to ascertain which other entrepreneurship education programmes were attended and details thereof. The analysis shows that for most the participants, this was their first access to entrepreneurship education programmes. This insight may have significance around the question as to how these programmes influence the development of the said constructs of this research.

Figure 15: Access to any other entrepreneurship education programme

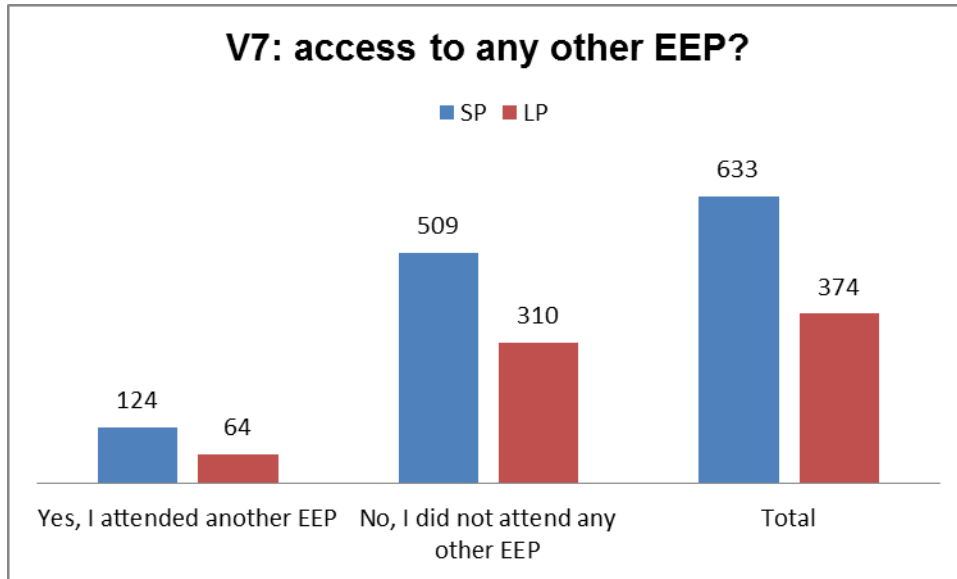


Figure 16 below represents the participants' home and school province per programme. The interest in this demographic was to monitor the consistency between the home and school location. These items were not probed and the study can therefore not provide reasons for the movement. It can be stated, however, that the most stable provinces (that is, where both the home and school province are the same) were KwaZulu-Natal and North West in the short programme and Mpumalanga, Northern Cape and North West in the long programme. The most instability was observed in Gauteng, Limpopo, Northern Cape and Western Cape in the short programme and Eastern Cape, North West and Gauteng in the long programme.

Figure 16: Demographic of home and school province per programme type

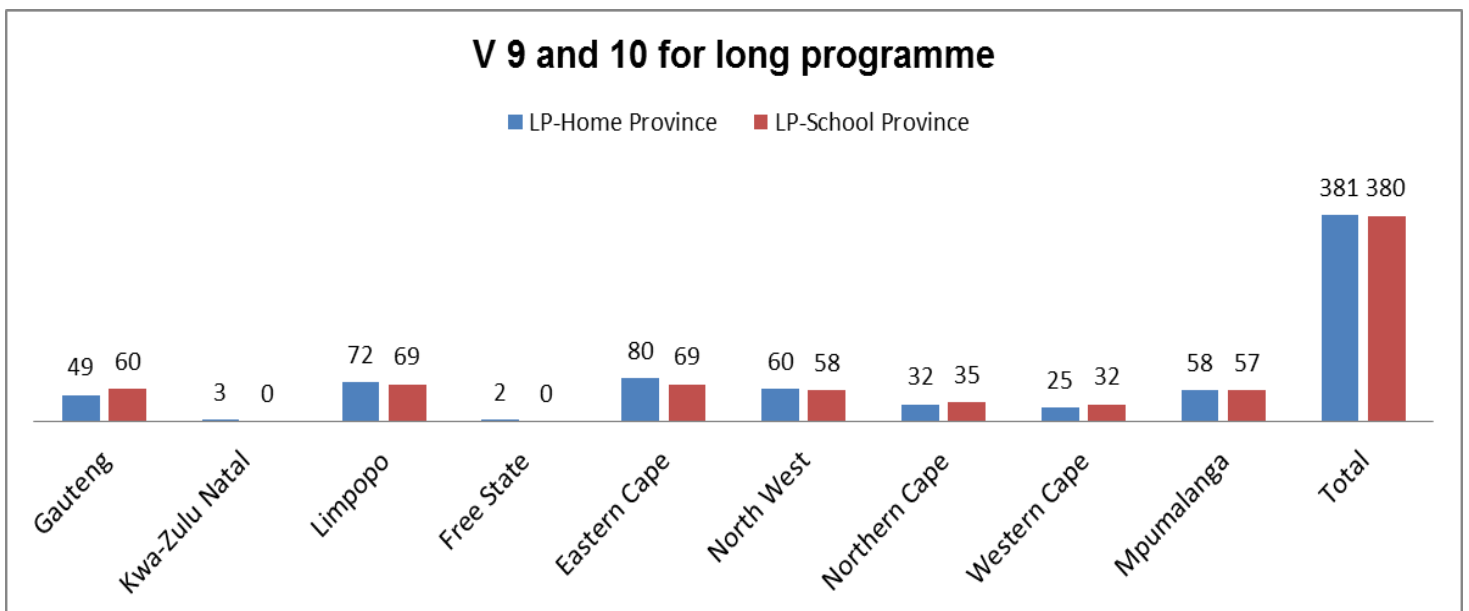
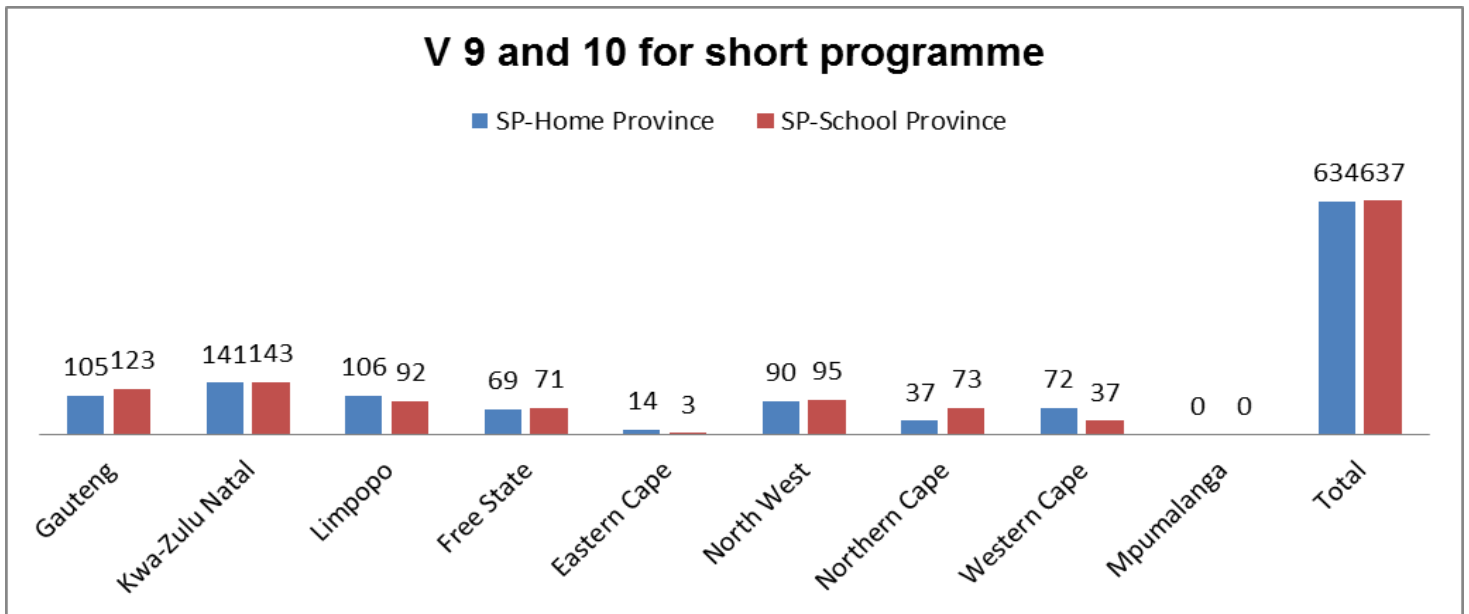
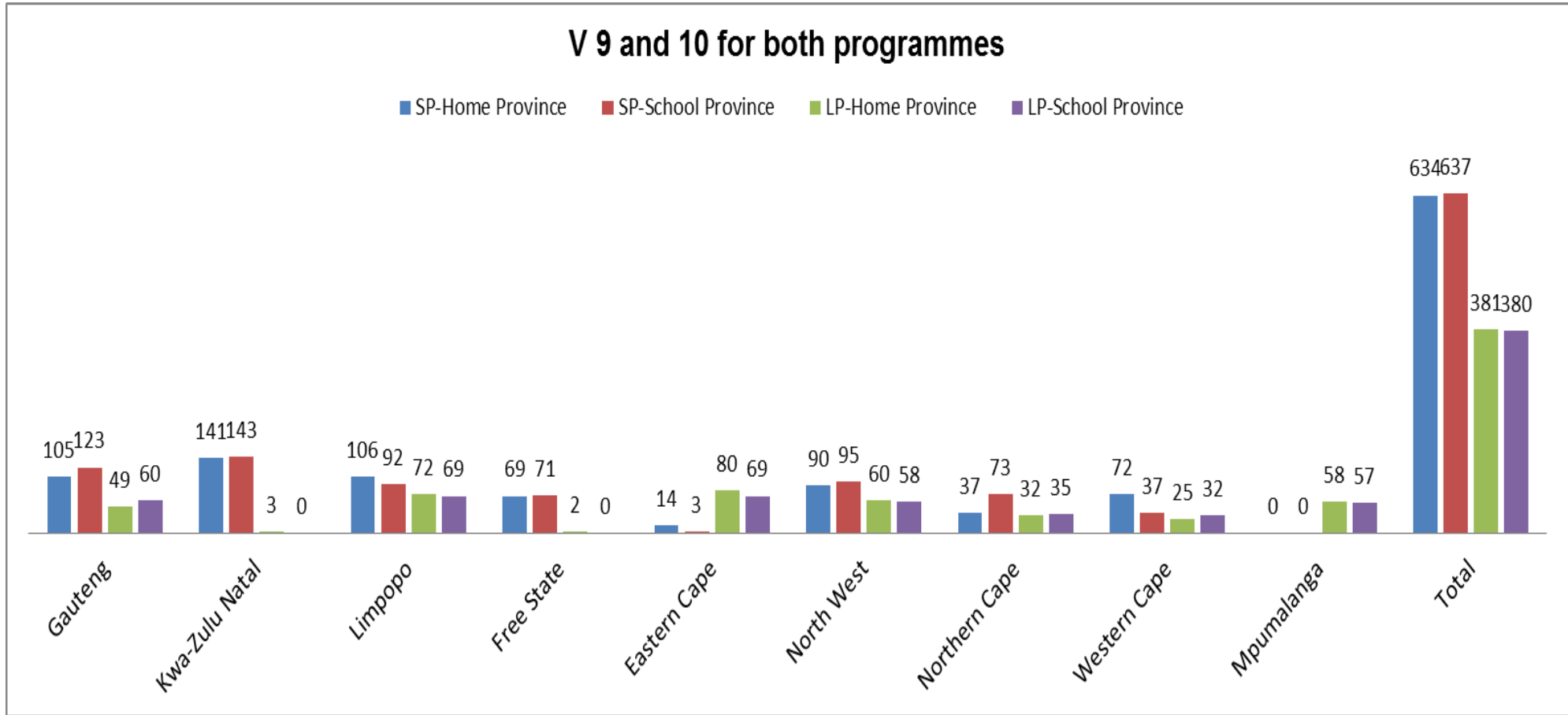


Figure 17: Home and school province across programme types



5.5. Hypotheses testing

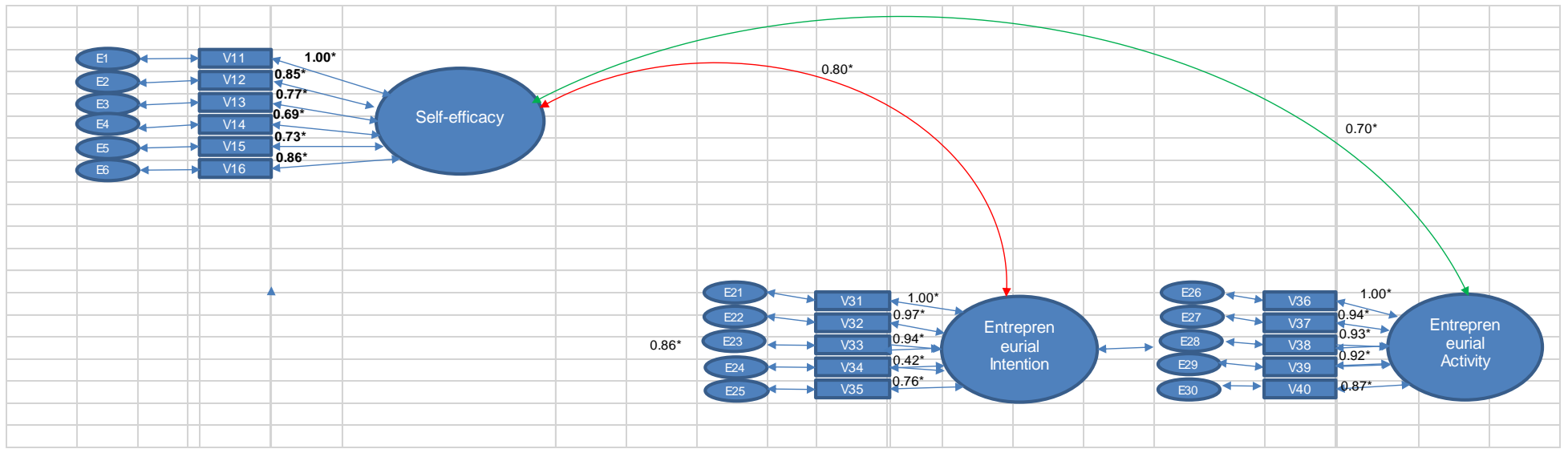
Once the researcher was satisfied that the measurement model was acceptable, the researcher was ready to conduct a CFA analysis on each hypothesis.

Each hypothesis was then tested in CFA. The full hypothesised CFA model with V20 and V34 may be accessed as Appendix 8.

5.5.1. CFA on hypotheses relating to self-efficacy

The CFA on self-efficacy is illustrated in the figure below. The result of the CFA on self-efficacy is reflected in the table below. The model fit indices show that the data fit of the measurement model fit at acceptable levels, indicating a good fit of the variable self-efficacy. The result considers the actual factor loadings rather than assuming that each item is equally weighted in the composite load determination.

Figure 18: CFA on self-efficacy



*Significant

Table 17: CFA on self-efficacy and good-to-fit

Exogenous Variable	Dependent Variable	Construct 6	V =	Standardised Weight	Regression
Entrepreneurial Education Programme	Self-efficacy	V11		0.62	
		V12		0.62	
		V13		0.43	
		V14		0.62	
		V15		0.60	
		V16		0.60	
General Model Fit Indices					
CMIN					1082.27
DF					367
CMIN/DF					2.95
P	Value				0.00
GFI					0.9
RMSEA			0.62		

The CFA on self-efficacy was conducted on the six items. The regression results showed that all the standardised regression weightings exceeded 0.5, except for item V13, which was 0.43. In conducting the regression, the *f*-value and significance level of that *f*-value was the output (Little 2013: 56). The *f*-value is said to be statistically significant when $p < 0.5$, which means that the model did a satisfactory job of predicting the outcome variable and that there is a significant relationship between the set of predictors and the dependent variable.

The data fitted the model acceptably as described by the measurement model fit indices explained earlier. In addition, the factor CFA loadings per factor may be represented below. The bold text

indicates the factor correlation between self-efficacy, entrepreneurial intention and entrepreneurial activity.

Table 18: Self-efficacy factor loadings

Variable	Factor description	Loading
Self Efficacy		
11	Anything to be an entrepreneur	1
12	Acquired knowledge and skills to be an entrepreneur	0.85
13	Seek further knowledge outside the programme, if needed	0.97
14	Confidence to be an entrepreneur	0.69
15	Skill to accurately evaluate my strengths and weaknesses	0.73
16	Perceive all things, even failure, as an opportunity to improve	0.86
Self efficacy	<-----> Entrepreneurial Intention	0.71
Self efficacy	<-----> Entrepreneurial Activity	0.7

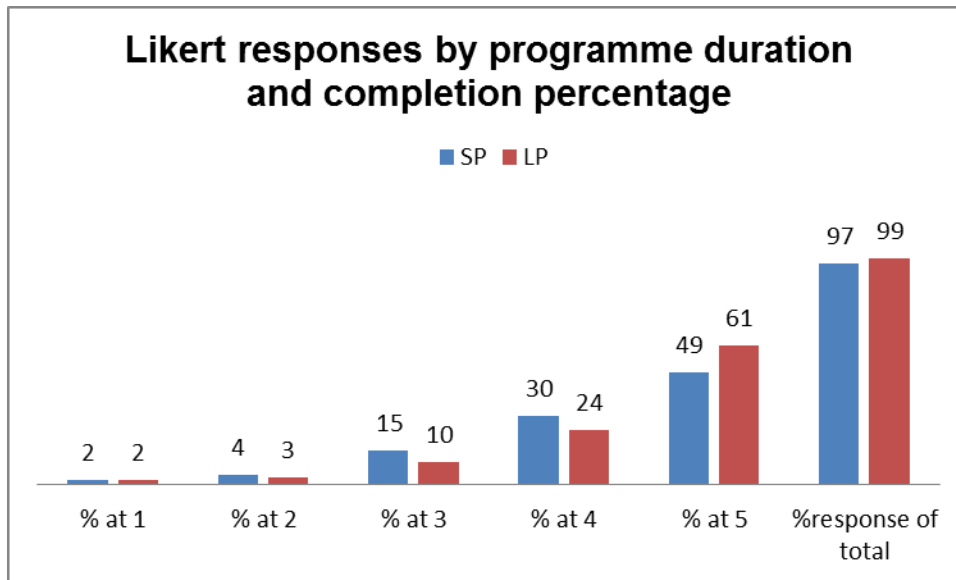
The CFA constructs were stated on the questionnaire as reflected below. The Likert scale used was provided as reflected below as well.

Questions 10 to 15 test measures of self-efficacy (this reflects the belief in one's own ability, that is, self-confidence. Successful entrepreneurs are usually convinced that they can bring every activity to a successful end. Also, they feel that they can control their own success, which does not depend on others)						
I am prepared to enable anything (opportunity) to become an entrepreneur	1	2	3	4	5	V11
I believe that I have acquired the required knowledge and skills to become an entrepreneur through the programme	1	2	3	4	5	V12
I will seek further knowledge and skills through other entrepreneurship education if the programme does not fulfil this need.	1	2	3	4	5	V13
The programme has taught me to have confidence in myself to succeed in the future.	1	2	3	4	5	V14
The programme has taught me to accurately evaluate my strengths and weaknesses.	1	2	3	4	5	V15
The programme has taught me to see all things I do, even failure, as an opportunity to improve.	1	2	3	4	5	V16

The Likert scale was provided as:
Not at all=1
Somewhat=2
Moderately=3
To a large extent=4
Completely=5

Graphically, the participants' responses to the six items were reflected as per Figure 19 below which depicts the influence of the entrepreneurial education programmes on the participants' self-efficacy by programme duration and by total response rate per programme.

Figure 19: Participants' responses to items V11-16

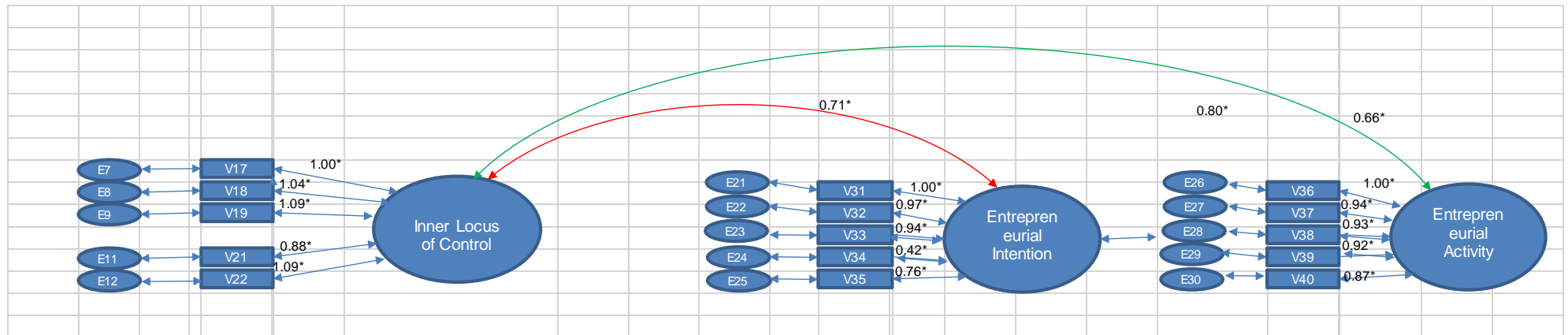


From Figure 19 above, it can be stated that for this self-efficacy construct, there was a 97% completion rate of all six items for the short programme and a 99% completion rate of all six items for the long programme. Figure 19, also points to most responses across both programmes clustering towards ratings of 4 and 5.

5.5.2. CFA on hypotheses relating to inner locus of control

The CFA on inner locus of control is illustrated in Figure 20 below. The result of CFA on inner locus of control is reflected in the table below. The model fit indices show that the data fit of the measurement model fit at acceptable levels indicating a good fit of the variable inner locus of control. The result considers the actual factor loadings rather than assuming that each item is equally weighted in the composite load determination. The full competing SEM may be accessed as Appendix 9.

Figure 20: CFA on inner locus of control



*Significant

Table 19: CFA on inner locus of control and good-to-fit

Exogenous Variable	Dependent Variable	Construct 5	V =	Standardised Weight	Regression
Entrepreneurial Education Programme	Inner locus of control	V17		0.62	
		V18		0.50	
		V19		0.60	
		V20		0.01	
		V21		0.60	
		V22		0.60	
General Model Fit Indices					
CMIN					1082.27
DF					367
CMIN/DF					2.95
P	Value				0.00
GFI					0.9
RMSEA			0.62		

The CFA on inner locus of control was conducted on the five items. The regression results showed that the all standardised regression weightings exceeded 0.5 except for item V18, which equalled 0.5. In conducting the regression, the *f*-value and significance level of that *f*-value was the output (Little 2013: 56). The *f*-value is said to be statistically significant when $p < 0.5$, which means that the model did a satisfactory job of predicting the outcome variable and that there is a significant relationship between the set of predictors and the dependent variable. The standardised regression weight for V20 was 0.01, which was an outlier and was therefore left out of the final model.

The data fitted the model acceptably as described by the measurement model fit indices explained earlier. In addition, the factor CFA loadings per factor may be represented below. The bold text

indicates the factor correlation between inner locus of control, entrepreneurial intention and entrepreneurial activity.

Table 20: Locus of control factor loadings

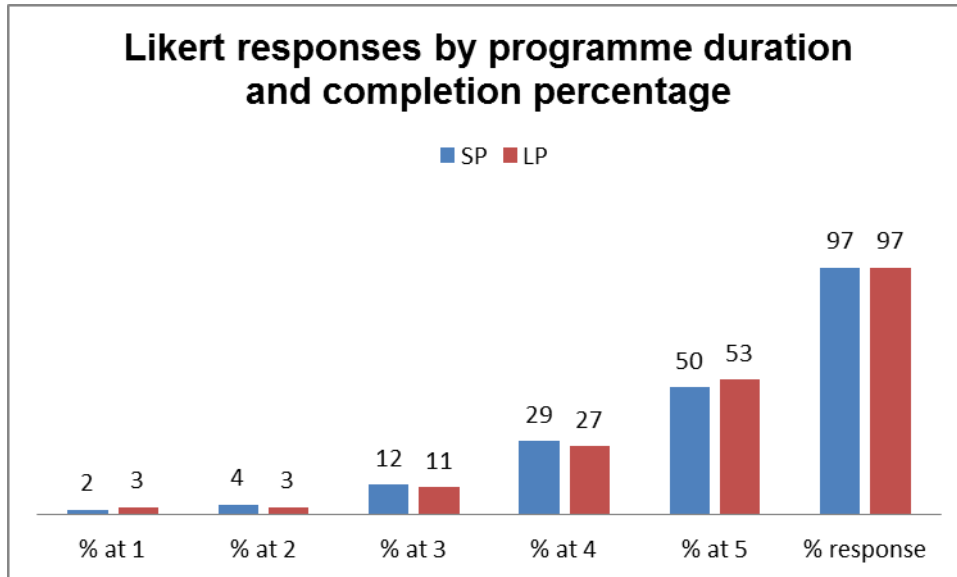
Locus of Control		
17	Take responsibility for successes and failures	1
18	Things I do personally, not those around me, influences my life	1.04
19	Being a leader depends mostly on my potential	1.09
20	Look to blame someone else when targets are not met	0.03
21	When I achieve, it is because I worked hard for it	0.88
22	Learnt to overcome fear of failure	1.1
Inner locus of control <-----> Entrepreneurial Intention		0.71
Inner locus of control <-----> Entrepreneurial Activity		0.8

The CFA constructs were stated on the questionnaire as reflected below. The Likert scale, with the rating interpretation as stated above, was used as well. The constructs below include V20 for the reader's reference and point of comparison as to how it was worded negatively as opposed to the other items. The wording of the item may or may not have contributed to the responses received.

Questions 16 to 21 test measures of inner locus of control (this reflects independent decision making, the ability to resolve problems and take personal responsibility for successes or failures)							
16	The programme has taught me to take responsibility for both my successes and failures.	1	2	3	4	5	V17
17	The programme has taught me that my life is influenced by the things I do personally and not of those around me.	1	2	3	4	5	V18
18	The programme has taught me that to be a leader depends mostly on my potential.	1	2	3	4	5	V19
19	In the programme, when targets are not met, I look to find someone in the team to blame.	1	2	3	4	5	V20
20	The programme has taught me that when I achieve what I set out to do, it is because I have worked hard for it.	1	2	3	4	5	V21
21	The programme has taught me to overcome my fear of failure	1	2	3	4	5	V22

The figure below represents the graphic illustration of the influence of the entrepreneurial education programmes on the participants' inner locus of control by programme duration and by total response rate per programme.

Figure 21: Participants' responses to items V17-22 (excluding V20)

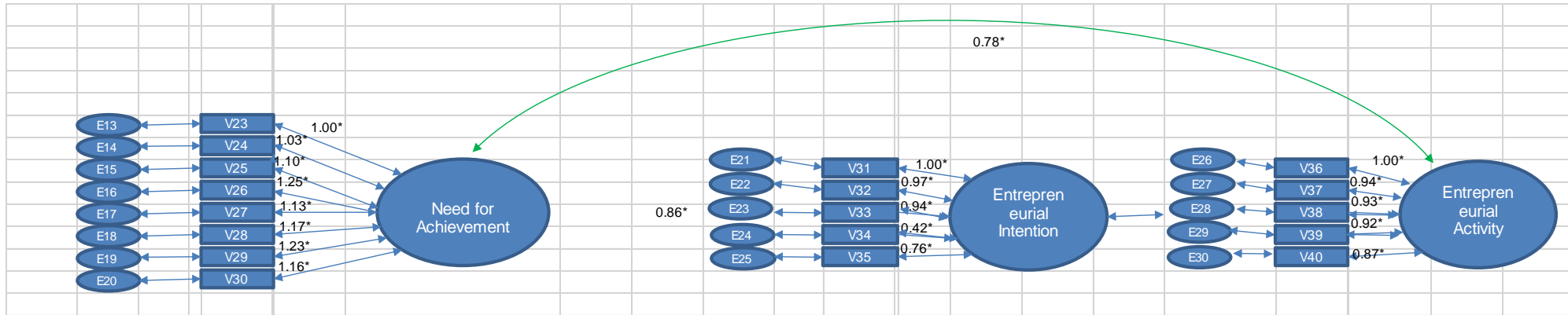


From Figure 21 above, it can be stated that for this inner locus of control construct, there was a 97% completion rate of all five items for the short programme and the long programme. In addition, it may be seen that most responses across both programmes tended in the majority towards ratings of 4 and 5.

5.5.3. CFA on hypotheses relating to need for achievement

The CFA on need for achievement is illustrated in Figure 22 below. The result of CFA on need for achievement is reflected in the table below. The model fit indices show that the data fit of the measurement model fit at acceptable levels indicating a good fit of the variable need for achievement. The result considers the actual factor loadings rather than assuming that each item is equally weighted in the composite load determination. The full competing SEM may be accessed as Appendix 9.

Figure 22: CFA on need for achievement



*Significant

Table 21: CFA on need for achievement and good-to-fit

Exogenous Variable	Dependent Variable	Construct 8	V =	Standardised Weight	Regression
Entrepreneurial Education Programme	Need for Achievement	V23		0.50	
		V24		0.60	
		V25		0.50	
		V26		0.60	
		V27		0.60	
		V28		0.60	
		V29		0.60	
		V30		0.60	
General Model Fit Indices					
CMIN					1082.27
DF					367
CMIN/DF					2.95
P Value					0.00
GFI					0.9
RMSEA					0.62

The CFA on need for achievement was conducted on the eight items. The regression results showed that all the standardised regression weightings exceeded 0.5 except for items V23 and V25, which equalled to 0.5. In conducting the regression, the *f*-value and significance level of that *f*-value was the output (Little 2013: 56). The *f*-value is said to be statistically significant when $p < 0.5$, which means that the model did a satisfactory job of predicting the outcome variable and that there is a significant relationship between the set of predictors and the dependent variable.

The data fitted the model acceptably as described by the measurement model fit indices explained earlier. In addition, the factor CFA loadings per factor may be represented below. The bold text indicates the factor correlation between need for achievement, entrepreneurial intention and entrepreneurial activity.

Table 22: Need for achievement factor loadings

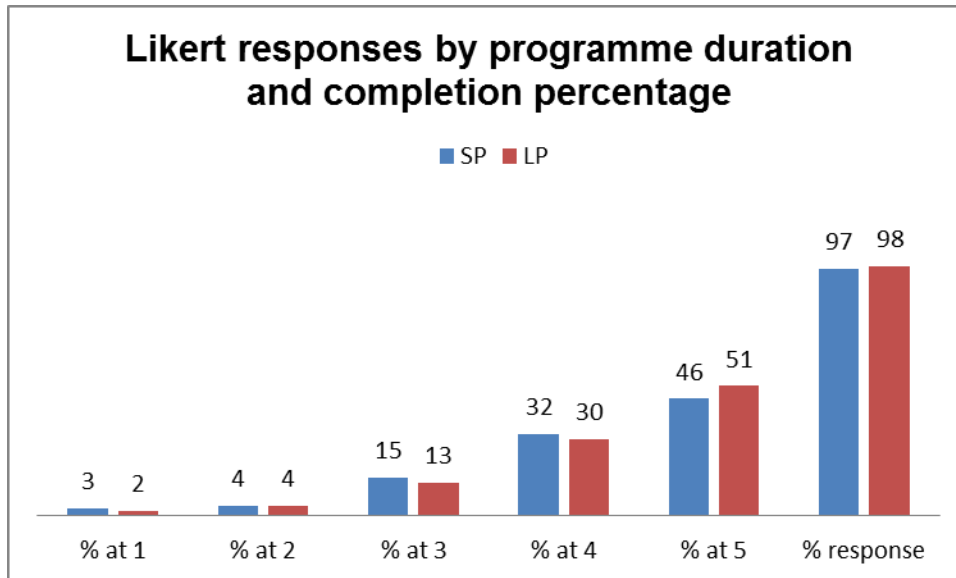
Variable	Factor description	Loading
Need for Achievement		
23	Learnt to see failure as a motivation	1
24	Want to succeed at all cost	1.03
25	Enjoy being on top and receiving credit	1.1
26	Want to be an entrepreneur to make profit and increase my status	1.25
27	Set challenging yet attainable personal goals	1.13
28	Welcome personal accountability	1.17
29	Desire performance feedback	1.23
30	Take calculated risks for goal accomplishment	1.15
Need for Achievement	<-----> Entrepreneurial Intention	0.76
Need for Achievement	<-----> Entrepreneurial Activity	0.78

The CFA constructs were stated on the questionnaire as reflected below. The Likert scale, with the rating interpretation as stated above, was used as well.

Questions 22 to 29 test measures for need for achievement (this is reflected by setting and striving for high target levels and putting in much effort to reach them)							
22	Through the programme I have learnt to see my failure as a motivation.	1	2	3	4	5	V23
23	Through the programme, I have learnt that I want to succeed at all cost.	1	2	3	4	5	V24
24	The programme has shown me that I enjoy being on top and receiving credit	1	2	3	4	5	V25
25	Through the programme, I have learnt that I want to succeed at being an entrepreneur to make profit and increase my status.	1	2	3	4	5	V26
26	Through the programme, I have learnt that I welcome personal accountability.	1	2	3	4	5	V27
27	Through the programme, I have learnt that I set challenging, yet attainable, goals for myself.	1	2	3	4	5	V28
28	Through the programme, I have learnt that I desire performance feedback.	1	2	3	4	5	V29
29	The programme has taught me that I will take calculated risks to accomplish my goal.	1	2	3	4	5	V30

The figure below represents the graphic illustration of the influence of the entrepreneurial education programmes on the participants' need for achievement by programme duration and by total response rate per programme.

Figure 23: Participants' responses to items V23 to V30



From Figure 23 above, it can be stated that for this need for achievement construct, there was a 97% completion rate of all five items for the short programme and a 98% completion rate of all five items for the long programme. In addition, it may be seen that most responses across both programmes tended in the majority towards ratings of 4 and 5.

5.5.4. CFA on hypotheses relating to entrepreneurial intention

The CFA on entrepreneurial intention is illustrated in Figure 24 below. The result of the CFA on entrepreneurial intention is reflected in the table below. The model fit indices show that the data fit of the measurement model fit at acceptable levels indicating a good fit of the variable entrepreneurial intention. The result considers the actual factor loadings rather than assuming that each item is equally weighted in the composite load determination. The full competing SEM may be accessed as Appendix 9.

Figure 24: CFA on entrepreneurial intention

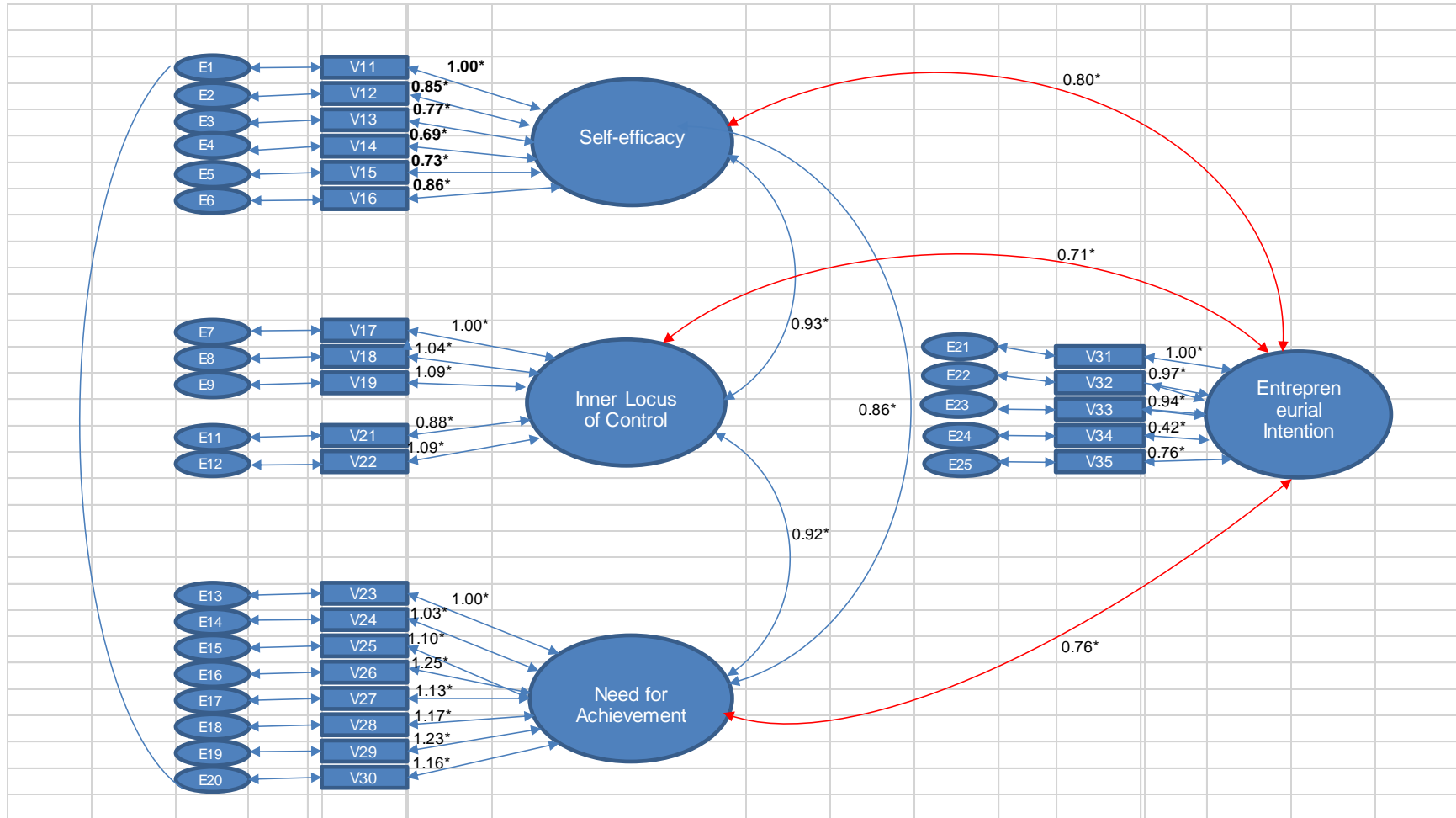


Table 23: CFA on entrepreneurial intention and good-to-fit

Exogenous Variable	Dependent Variable	Construct V = 4	Standardised Regression Weight
Entrepreneurial Education Programme	Entrepreneurial intention	V31	0.75
		V32	0.79
		V33	0.74
		V34	0.22
		V35	0.60
General Model Fit Indices			
CMIN			1082.27
DF			367
CMIN/DF			2.95
P	Value		0.00
GFI			0.9
RMSEA			0.62

The CFA on entrepreneurial intention was conducted on the five items. The regression results showed that the all standardised regression weightings exceeded 0.5 The data fitted the model acceptably as described by the measurement model fit indices. The standardised regression weight for V34 was 0.22, which thus makes it an outlier. It was therefore left out of the model. In conducting the regression, the f -value and significance level of that f -value was the output (Little 2013: 56). The f -value is said to be statistically significant when $p < 0.5$, which means that the model did a satisfactory job of predicting the outcome variable and that there is a significant relationship between the set of predictors and the dependent variable.

The data fitted the model acceptably as described by the measurement model fit indices explained earlier. In addition, the factor CFA loadings per factor may be represented below. The bold text

indicates the factor correlation between self-efficacy, inner locus of control, need for achievement and entrepreneurial intention.

Table 24: Entrepreneurial intention factor loadings

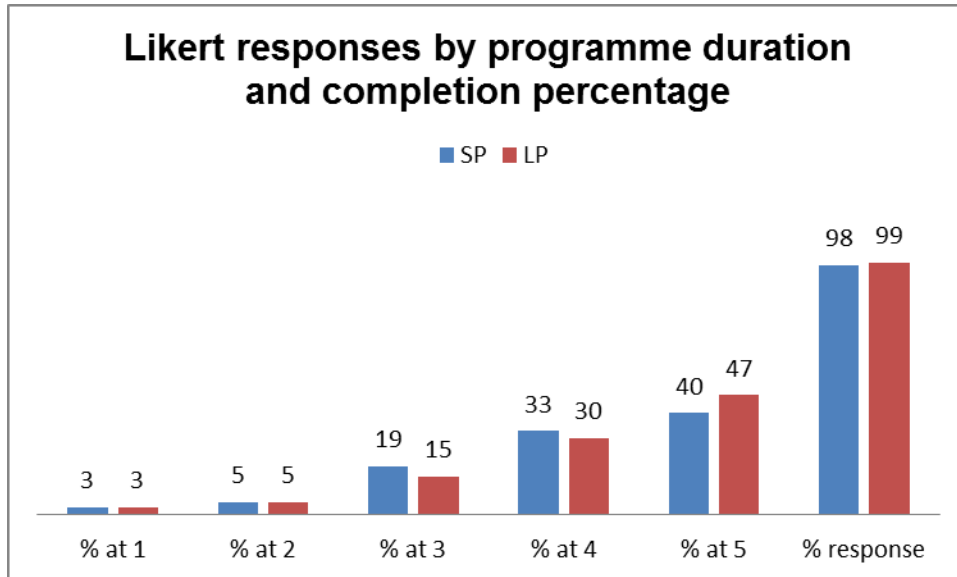
Variable	Factor description	Loading
Entrepreneurial Intention		
31	I have the competencies to be an entrepreneur	1
32	I have the skills to be an entrepreneur	0.97
33	I have the knowledge to be an entrepreneur	0.94
35	I spot opportunities to be an entrepreneur	0.76
Self efficacy	←-----> Entrepreneurial Intention	0.71
Inner locus of control	←-----> Entrepreneurial Intention	0.71
Need for Achievement	←-----> Entrepreneurial Intention	0.76

The CFA constructs were stated on the questionnaire as reflected below. The Likert scale, with the rating interpretation as stated above, was used as well. The constructs below include V34 for the reader's reference and point of comparison as to how it was worded ambiguously. The wording of the item may or may not have contributed to the responses received.

Questions 30 to 34 test measures for entrepreneurial intention (intention to start a business within three years to five years)						
I want to be an entrepreneur because I have the competencies to become one	1	2	3	4	5	V31
I want to be an entrepreneur because I have acquired the skills to become one.	1	2	3	4	5	V32
I want to be an entrepreneur because I have the knowledge to become one.	1	2	3	4	5	V33
I want to be an entrepreneur because I have no other means of making an income	1	2	3	4	5	V34
I want to be an entrepreneur because I tend to spot opportunities to become one.	1	2	3	4	5	V35

The figure below represents the graphic illustration of the influence of the entrepreneurial education programmes on the participants' entrepreneurial intention by programme duration and by total response rate per programme.

Figure 25: Participants' responses to items V31 to V35; not including V34

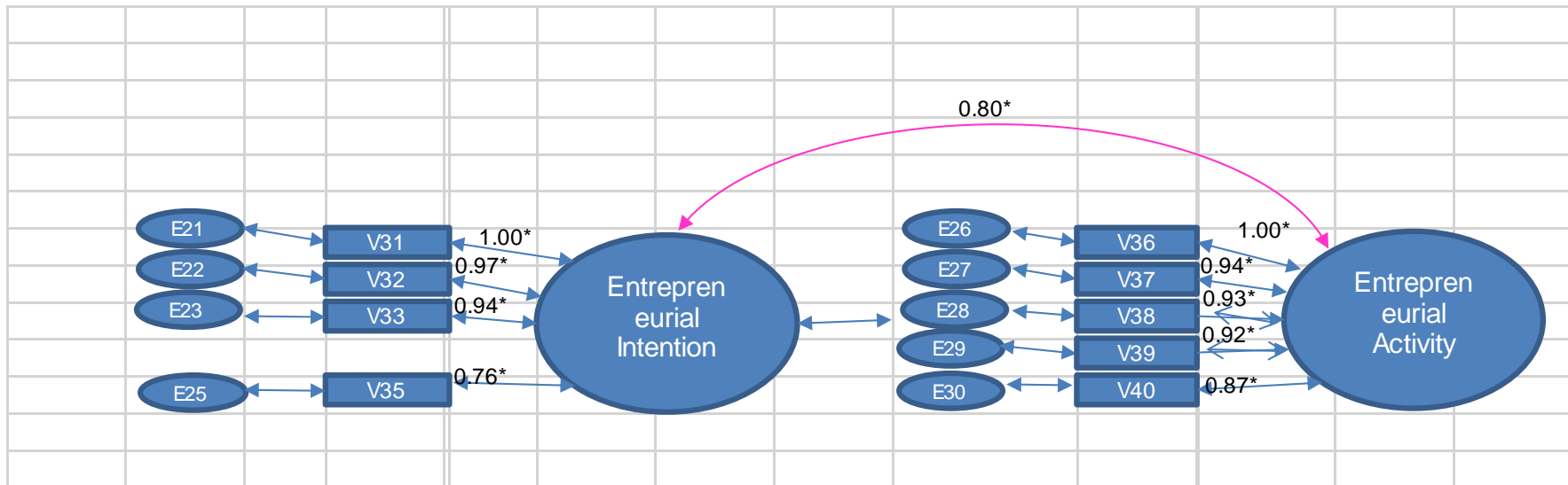


From Figure 25 above, it can be stated that for this entrepreneurial intention construct, there was a 97% completion rate of all five items for the short programme and a 99% completion rate of all five items for the long programme. In addition, it may be seen that most responses across both programmes tended in the majority towards ratings of 4 and 5. The influence of the ambiguous wording of V34 may be observed as the potential reason that the ratings of the 4 and 5 were high on this construct but not as high as in all other constructs.

5.4.5. CFA on hypotheses relating to prediction for entrepreneurial activity

The CFA on entrepreneurial activity is illustrated below. The result of CFA on entrepreneurial activity is reflected in the table below. The model fit indices show that the data fit of the measurement model fit at acceptable levels indicating a good fit of the variable entrepreneurial activity. The result considers the actual factor loadings rather than assuming that each item is equally weighted in the composite load determination. The full competing SEM may be accessed as Appendix 9.

Figure 26: CFA on entrepreneurial activity



*Significant

Table 25: CFA on entrepreneurial activity and good-to-fit

Exogenous Variable	Dependent Variable	Construct 5	V =	Standardised Weight	Regression
Entrepreneurial Education Programme	Entrepreneurial activity	V36		0.50	
		V37		0.60	
		V38		0.60	
		V39		0.60	
		V40		0.70	
General Model Fit Indices					
CMIN					1082.27
DF					367
CMIN/DF					2.95
P	Value				0.00
GFI					0.9
RMSEA					0.62

The CFA on entrepreneurial activity was conducted on the five items. The regression results showed that the all standardized regression weights exceeded 0.5 except for item V36, which equalled to 0.50. The data fitted the model acceptably as described by the measurement model fit indices.

CFA on entrepreneurial intention was conducted on the five items. In conducting the regression, the *f*-value and significance level of that *f*-value was the output (Little: 2013, 56). The *f*-value is said to be statistically significant when $p < 0.5$, which means that the model did a satisfactory job of predicting the outcome variable and that there is a significant relationship between the set of predictors and the dependent variable.

In addition, the factor CFA loadings per factor may be represented below. The bold text indicates the factor correlation between self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and entrepreneurial activity.

Table 26: Entrepreneurial activity factor loadings

Variable	Factor description	Loading
Entrepreneurial Activity		
36	Start entrepreneurial activity within 5 years of leaving school	1
37	Most important aim of my entrepreneurial activity is to make profit	0.94
38	Most important aim of my entrepreneurial activity is to take advantage of my skills and knowledge	0.93
39	Most important aim of my entrepreneurial activity is to create employment	0.92
40	Most important aim of my entrepreneurial activity is to grow the economy	0.87
Self efficacy	<-----> Entrepreneurial Activity	0.7
Inner locus of control	<-----> Entrepreneurial Activity	0.8
Need for Achievement	<-----> Entrepreneurial Activity	0.78
Self efficacy	<-----> Entrepreneurial Intention	0.71
Inner locus of control	<-----> Entrepreneurial Intention	0.71
Need for Achievement	<-----> Entrepreneurial Intention	0.76
Entrepreneurial Intention	<-----> Entrepreneurial Activity	0.8

The CFA constructs were stated on the questionnaire as reflected below. The Likert Scale, with the rating interpretation as stated above, was used as well.

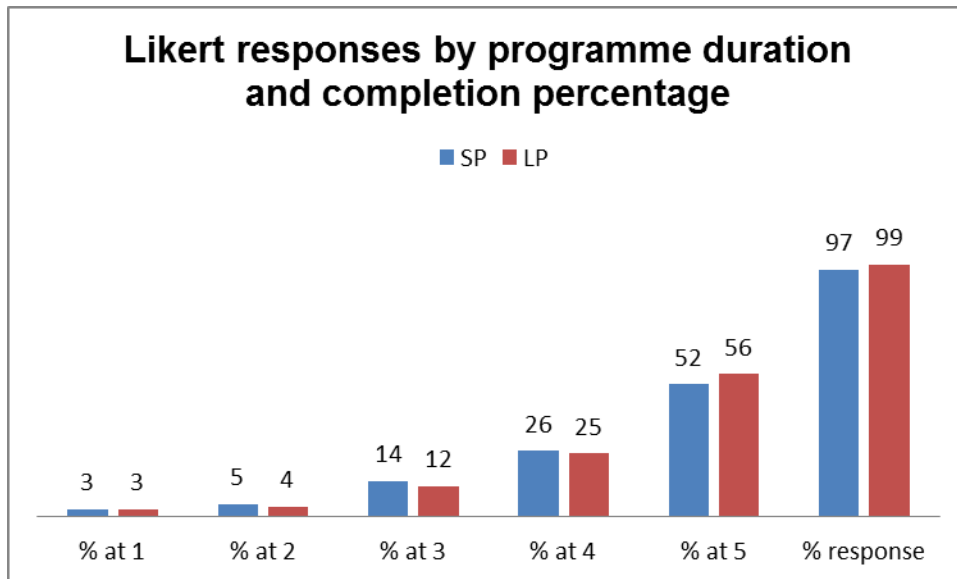
The CFA constructs were stated on the questionnaire as reflected below. The Likert Scale, with the rating interpretation as stated above, was used as well.

Questions 35 to 39 test measures for entrepreneurial activity (those who see an opportunity to start a business in order to be independent or make a profit)							
35	I want to start my entrepreneurial venture within 5 years of leaving school.	1	2	3	4	5	V36
36	The most important aim of my entrepreneurial activity will be to make a profit.	1	2	3	4	5	V37
37	The most important aim of my entrepreneurial activity will be to take advantage of my skills and knowledge.	1	2	3	4	5	V38
38	The most important aim of my entrepreneurial activity will be to create employment	1	2	3	4	5	V39

39	The most important aim of my entrepreneurial activity will be to grow the economy.	1	2	3	4	5	V40
----	--	---	---	---	---	---	-----

The figure below represents the graphic illustration of the influence of the entrepreneurial education programmes on the participants' entrepreneurial activity by programme duration and by total response rate per programme.

Figure 27: participants' responses to V36 to V40



From Figure 27 above, it can be stated that for this entrepreneurial activity construct, there was a 97% completion rate of all five items for the short programme and a 99% completion rate of all five items for the long programme. In addition, it may be seen that most responses across both programmes tended in the majority towards ratings of 4 and 5.

5.5. Conclusion

The chapter discussed the data analysis procedure. It described the preliminary examination of data involving data cleaning, screening, recording and missing responses, and identification of outliers using kurtosis values for normality tests. Out of the total of 1200 cases, only 1018 cases were found to be usable for the analysis.

Descriptive statistics were used to analyse the participants' demographic variables that comprised 9 items in the questionnaire. Reliability tests were conducted on all the composite variables and

all of them were considered to have acceptable to good reliability analyses. Validity tests were conducted through conducting a pilot study and by measuring χ^2 , degrees of freedom and the p-value which should be >0.01 for significance. Most of them supported the hypotheses for the study.

Factor analysis was the statistical procedure used for investigating relations between a set of observed and latent variables, which allowed the researcher to examine the co-variances among a set of observed variables, in order to gather information on their underlying latent constructs (factors). This research used a confirmatory factor analysis in which the relations between the observed measures and the underlying factors, a priori, was tested with the hypothesised structure statistically. The research used a path diagram.

The theoretical model developed in Chapter 2 was used as the specified model (see Appendix 8 for full SEM model). As such, the objective of confirmatory factor analysis was to test whether the data fit a hypothesized measurement model (Levine: 2005, 335-338) and therefore provided an indication of construct validity.

In the case of this study, the data fit the hypothesized measurement model well and construct validity was therefore established when the data was subjected to a CFA using AMOS, SEM software. Following the CFA, which was performed to evaluate constructs validity, all constructs were rated valid by use of the CMIN, GFI, AGFI, CFI and RMSEA values.

The CFA first order analysis resulted in the elimination of two items: V20 and V34 which resulted in a competing model. The competing model was re-confirmed following the steps adopted for the first model.

The next chapter will present the details of the findings and conclusions under three main sections.

Section 1 will discuss the structural equation model (SEM) technique.

Section 2 will provide a description of the data in terms of the participants' profiles and information of the variables that constitute the demographic profile of the sample in both referred groups. The

objective is to further use inferential statistics to generalize the findings to the population that the researcher is interested in.

The next chapter will present the details of the findings and conclusions under three main sections.

Section 1 will provide a description of the data in terms of the participants' profiles and information of the variables that constitute the demographic profile of the sample in both referred groups. The objective is to further use inferential statistics to generalize the findings to the population that the researcher is interested in.

Section 2 will provide the comparison results between the referred groups in the short and the long entrepreneurship education programmes. The results will also detail findings and conclusions on their respective entrepreneurial intentions and entrepreneurial activity.

Section 3 will report the results of the hypothesis tests. The purpose of this section is to describe the effect of the entrepreneurship education programmes on the mind-set of the participants and the ontological views of the researcher as formulated in the research hypotheses.

Finally, the chapter will revisit the research questions; discuss its contributions and its limitations.

Chapter 6: Findings and conclusions

6.1. Introduction

Chapter One of the research provided the context of, background to, importance, relevance and significance of this research. It identified the research problem, the research question and the general and specific objectives, and formulated the research hypotheses. It also provided a definition of the key words for this research.

Chapter Two focused on a literature review to connect to the existing body of knowledge previously researched and published by other academics and scholars, as well as empirical theory. This review will focus on research/studies conducted in the field, both globally and locally, to provide a global view of the significance of entrepreneurship as a possible solution to youth unemployment. Research gaps were identified in the literature review. This identification resulted in a theoretical framework design to validate the hypotheses for the research.

Chapter Three focused on theoretical perspectives adopted in this research to validate its assertions and to add robustness to the significance of the research. It used the theoretical framework to demonstrate that an entrepreneurial mind-set can be motivated by the antecedents; exposure to an entrepreneurship education programme. The key consideration was how to influence the development of an entrepreneurial mind-set with the intent of stimulating entrepreneurial intentions amongst South African youth.

Chapter Four focused on a description of the methodology and method adopted in this research. It was guided by the knowledge that all research is based on some underlying philosophical assumptions about what constitutes valid research, that is, the controls the researcher adopts in conducting the study in such that maximum control will be exercised over factors that could interfere with the validity of the research results. The chapter also focused on which research method or a combination of methods might be best suited for the development of knowledge of that study.

Chapter Five focused on the data analysis procedure and described the preliminary examination of data and the use of descriptive statistics to analyse the participants' demographic variables. The data was subjected to a CFA using AMOS, SEM software. Following the CFA, which was performed to evaluate construct validity, all constructs were rated valid by use of the CMIN, GFI,

AGFI, CFI and RMSEA values: Chi-Square, standard regression and correlation values. The CFA first-order analysis resulted in the elimination of two items, V20 and V34, which resulted in a competing model. All primary and secondary hypotheses developed for the study were subjected to CFA testing.

This chapter will present the findings and the conclusions. The chapter will be structured as follows:

- The rationale for the adoption of SEM; the initial model and the competing model
- A description of the data in terms of the participants' profiles, information on the variables of the entrepreneurship education programme on the development of the participants' entrepreneurial mind-set and the moderating effect of the duration of the programme on the mind-set development
- A provision of the results of the findings per construct
- A report of the results of the primary hypotheses tests
- A report of the results of the secondary hypotheses tests
- A revisit of the research objectives presented in Chapter 1
- A discussion of the contribution of this study
- A discussion of the limitations of this study

6.2. The rationale for the use of the structural equation model

SEM is the methodology that was deemed a best fit for this research compared to multivariate analysis procedures, as outlined in Chapter 4. Kline (2011, 7) explains that SEM is a multivariate technique that combines the aspects of multiple regression analysis (examining dependent relationship) and factor analysis (representing unmeasured concepts with multiple variables) to estimate a series of interrelated dependence relationships. The SEM methodology takes the confirmatory (hypotheses-testing) approach to analyse a structural theory bearing on some phenomenon. In having satisfied the measurement model testing, the researcher was ready to undertake the structural model.

6.2.1. The SEM technique

Little (2013, 188) suggests that SEM allows the researcher to determine the effects of systematic and random measurement error. Little explains further that the estimation of parameters in models

where measurement error is present but not explicitly represented will not provide useful estimates. Structural equation models can be accessed through separating error variance and structural prediction errors from explained variance. The benefit of using SEM procedures is that it involves both observed and latent variables.

In this study, the constructs of the entrepreneurial mindset and of entrepreneurial intentions are behavioural in nature and cannot be observed directly. Those are latent variables, which the researcher has hypothesised to be determined by several sub-constructs that are unobserved latent variables, such as attitudes. In this research, it is assumed that the degree to which the entrepreneurial mind-set, entrepreneurial intentions and predictions for entrepreneurial activity are developed, is dependent on the duration of the entrepreneurship education programme. An overview of each programme was presented in Chapter 2.

Generally, the SEM technique conveys two aspects of procedures: first, the causal processes of the study are represented by a series of structural (regression) equations, and second, these structural relations can be modelled graphically to arrive at a more robust conceptualisation of the theory under study.

From this the researcher can test the hypothesised model statistically, in an analysis of the entire system of variables to determine the extent to which it is consistent with the data. If the model fits adequately, it may be deemed fit to provide an acceptable relationship among the variables that the researcher hypothesised. Such a fit would also point to the validity of the variables.

The characteristics of the SEM model may be summarised as follows (Little 2013: 42):

- Estimation of multiple and interrelated dependence relationships
- An ability to represent unobserved concepts in these relationships and account for the measurement error in the estimation process
- Defining a model to explain the entire set of relationships

The next section describes the process employed to predict the outcomes based on the theoretical framework developed from the literature and theory reviewed in chapters 2 and 3 respectively. In this research, the SEM assumes that the sample sizes obtained are acceptable,

the distribution of the variables in the model are 63, the distribution of the observed/endogenous variables are 29 and the distribution of the unobserved/exogenous variables are 34.

6.2.2. Structural model construction

The aim in building a path diagram or other structural equation model is to find a model that fits the data well to serve as a useful representation of reality and a parsimonious explanation of the data (Little 2013: 52). The steps involved in the SEM model construction were as follows:

Informed by the explanation provided by Little (2013), the first part of the SEM analysis was conceptualising the structural model based on the theoretical causal relationship hypothesised amongst the latent variables and the indicator variables. The objective was to test the hypothesised model statistically, in an analysis of the entire system of variables to determine the extent to which it is consistent with the data. If the model fits adequately, it may be deemed to provide an acceptable relationship among the variables that the researcher hypothesised. The measurement model is adopted to specify a model with indicators to each construct to assess goodness of fit and construct validity whereas the structural model is used to develop a hypothesised model with dependence relationships between/among latent constructs.

In conducting this analysis, the researcher could statistically show an acceptable relationship amongst the variables (see Appendix 8 for full SEM model). Wide reading (Byrne 2011, Kline 2010 & Little 2013) suggest that a pure measurement model is a confirmatory factor analysis (CFA) model in which there is unmeasured covariance (two-headed arrows) between each possible pair of latent variables. There are straight arrows from the latent variables to their respective indicators, and straight arrows from the error and disturbance terms to their respective variables, but there are no direct effects (straight arrows) connecting the latent variables.

Kline (2010, 8) suggests that model specification in SEM involves formulating a statement about a set of parameters. In the SEM context, the parameters that required specification were constants that would indicate the nature of the relation between two variables. Parameters had to be specified as fixed or free parameters. Fixed parameters were not estimated from the data and their value was fixed at zero. Free parameters were estimated from the data and those the researcher believed to be non-zero. Such parameters were set at 1.00.

Little (2013, 62) states that the various indices of model adequacy, especially the Chi-Square (χ^2) goodness-of-fit test indicate the degree to which the pattern of fixed and free parameters in the model are consistent with the pattern of variances and co-variances from a set of observed data. In this study, confirmatory factor analysis was used which made use of only the measurement model component of the general structural equation model. The structural model was the component that prescribed relations between latent variables and observed variables that were not indicators of latent variables. When the structural and measurement components were combined, the result was a comprehensive statistical model used to evaluate relations among variables that were confidently free of measurement error (Little, 2013: 54).

6.2.3. Model estimation

As advised by the university statisticians, after the model had been specified, the next step was model estimation. The structural equation model represents a series of hypotheses of how the variables are generated and related. The parameters are fundamental in interpreting the model, but they are not known and need to be estimated from the data. This process of estimation determines the statistical test of the adequacy of the model, or the goodness-of-fit test statistics. There are many estimation and testing methods, but this research adopted the maximum likelihood index (MLI) method, which is the most commonly used approach in SEM and it is suitable for a large sample size (200 to 500). The approach used for the choice of model estimation was to have a good fit and relations among variables that are plausible. If the model does not have a good fit, it is rejected (Rengiah, 2013: 178).

6.2.4. Model identification

The process of model identification ensures that all models are tested statistically in the research. A model is identified if it is theoretically possible to calculate a unique value for each free parameter that can be obtained from the observed data. The basic requirements are identifying the structural and the measurement models, where there should be at least as many observations as free parameters that each variable has a scale (Byrne, 2001: 121). For this research, the requirements were met when tested by AMOS 16. The table below reflects the parameter summary of the structural model. It shows that no standardised parameters estimate exceeds the value of 1.00.

Table 27: Parameter weights

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	34	0	0	0	0	34
Labelled	0	0	0	0	0	0
Unlabelled	24	10	34	0	0	68
Total	58	10	34	0	0	102

6.2.5. Sample size

The sample size in SEM analysis must be sufficiently big to obtain stable and meaningful parameter estimates. Guidelines are given for absolute sample sizes available. There are no clear guidelines as to the adequate sample size in SEM, but it is proposed in the literature cited by Rengiah (2013, 132) that a sample size of 200 and more, but not exceeding 500, is appropriate. In this research, the minimum and maximum measures exceeded where Sample 1 equated 637 and Sample 2 equated 381.

6.2.6. Input of data

Byrne (2001, 145) suggests that the appropriate input of data in SEM research is covariance matrix relating to all variables specified in the hypothesised model compared to a correlation matrix. The covariance matrix has been recommended by many researchers, because it can deal adequately with differences in variability across the samples (Rengiah 2013: 184). The SEM approach focuses on multivariate relationships; thus, a covariance matrix was used as the input in this research. The table below presents the results of the covariances and correlation matrices.

Each path in the structural model between the latent variables represents a specific hypothesis. Hypotheses are usually tested in the form of a null hypothesis H_0 where no relationship exists or an estimate equals zero. The null hypotheses will either not be rejected or be rejected depending on the significance level (P value) of the standardised co-efficient of the research parameters. If that P value is less than the significant level (in the case of this research it is $P \leq 0.1$), there will be evidence to reject the null hypothesis, and if the P value is greater than the significant level (in the case of this research it is $P > 0.1$), no evidence will exist to reject the null hypothesis (Byrne 2010: 167).

The levels of significance that are employed in the current study are: ≤ 0.1 . The lower the significance level, the more the data must deviate from the null hypothesis (estimate equals zero). In this study, a significance level less than 0.1 ($P \leq 0.1$) is considered a weak significance level, however there is support that this value be deemed an acceptable significance level (Creswell 2007: 123, Byrne 2010: 68).

Table 28: Tables of covariance and correlation

Covariance	Estimate	S.E.	C.R.	P
Entrepreneurial Intention <-----> Entrepreneurial Activity	0.37	0.04	9.59	
Need for Achievement <-----> Entrepreneurial Activity	0.22	0.03	8.01	***
Inner locus of control <-----> Entrepreneurial Activity	0.2	0.03	8.36	***
Self efficacy <-----> Entrepreneurial Activity	0.26	0.03	8.61	***
Need for Achievement <-----> Entrepreneurial Intention	0.27	0.03	9.46	***
Inner locus of control <-----> Entrepreneurial Intention	0.28	0.03	10.69	***
Self efficacy <-----> Entrepreneurial Intention	0.38	0.03	11.43	
Self efficacy <-----> Need for achievement	0.25	0.03	9.25	***
Inner locus of control <-----> Need for achievement	0.22	0.02	9.39	***
Self efficacy <-----> Inner locus of control	0.29	0.03	11.08	***

Correlation	Estimate
Entrepreneurial Intention <-----> Entrepreneurial Activity	0.8
Need for Achievement <-----> Entrepreneurial Activity	0.78
Inner locus of control <-----> Entrepreneurial Activity	0.66
Self efficacy <-----> Entrepreneurial Activity	0.69
Need for Achievement <-----> Entrepreneurial Intention	0.76
Inner locus of control <-----> Entrepreneurial Intention	0.71
Self efficacy <-----> Entrepreneurial Intention	0.8
Self efficacy <-----> Need for achievement	0.86
Inner locus of control <-----> Need for achievement	0.92
Self efficacy <-----> Inner locus of control	0.93

6.2.7. Approach used in model estimation

As stated earlier, SEM is composed of two models: the measurement model and the structural model. The measurement model defines relations between observed and unobserved (latent) variables, whereas the structural model defines relations among the unobserved variables. Little (2010, 68) suggests that the single stage approach with simultaneous estimation of structural and measurement model is appropriate only if the model has a strong theoretical rationale and high

reliable measures. This research adopted a two-step structural equation modelling procedure for estimating parameters: a measurement model followed by a structural model.

This sub-section sought to explain the rationale for the adoption of the SEM technique in this study. It provided an overview of the two main components of the technique: that is, satisfying the measurement model and the structural model. Both those components were achieved satisfactorily and the researcher is now confident that the data is reliable and valid to test the hypotheses of the study by reference to the competing structural model (see Appendix 11).

6.3. Descriptive data

This sub-section will provide a description of the data in terms of the participants' profiles, information on the variables of the entrepreneurship education programme on the entrepreneurial mind-set of the participants and the moderating effect of the duration of the programme on the mind-set development. Descriptive statistics are just descriptive of the sample and do not involve generalising beyond the data available. It does, however, enable the generalisability of the data to the population. The general idea in this section is to describe the sample and through the use of inferential data analysis, to generalise to the population.

Descriptive statistics will be adopted to explain the characteristics of the sample; assess each variable against a central tendency measure such as the mean and the variability of the data through use of standard deviation. Urban (2004, 145) suggests that descriptive statistics provide information to assist in deciding whether the central location value can be regarded as a reliable, representative value of all the observations in data and that by calculating the standard deviation of the theoretical distribution of sample means (the standard error of mean) one is able to predict, with varying degrees of confidence (90% in this case), how far the sample mean lies from population mean.

6.2.1. Description of the participants' profiles

The first nine items on the questionnaire were intended to elicit information on the participants' demographic profile. Those nine items were tabled as below:

Table 29: Items 1 to 9 to elicit participants' demographic information

1	In what age group are you?					
---	----------------------------	--	--	--	--	--

	Less than 15		1				
	15		2				
	16		3				V2
	17		4				
	More than 18		5				
2	Your gender?						
	Male		1				V3
	Female		2				
3	Race						
	Black		1				
	Caucasian		2				
	Coloured		3				V4
	Indian		4				
	Other (please specify) _____						
4	Which option best describes your home location?						
	Urban		1				
	Semi-Rural		2				V5
	Rural		3				
5	Which option best describes your school location?						
	Urban		1				
	Semi-Rural		2				V6
	Rural		3				
6	Have you attended any other entrepreneurship education programme other than this current JASA one?						
	Yes		1				
	No		2				V7

7	What grade are you currently in?						
	Grade 10		1				
	Grade 11		2				V8
	Grade 12		3				

8	What is your home province?						
	Gauteng		1				
	KwaZulu-Natal		2				
	Limpopo		3				
	Free State		4				
	Eastern Cape		5				V9
	North West		6				
	Northern Cape		7				
	Western Cape		8				
	Mpumalanga		9				
9	What is your school province?						
	Gauteng		1				
	KwaZulu-Natal		2				
	Limpopo		3				
	Free State		4				
	Eastern Cape		5				V10
	North West		6				
	Western Cape		7				
	Northern Cape		8				
	Mpumalanga		9				

The research stated in Chapter 1 that, based on the statistics available, the 15- to 18-year-old age group were in the highest category of risk/vulnerability of unemployment. Also, given that that group was closest to school leaving, they were in the most immediate category of having to make employment decisions. The items above were elicited to confirm that the research had indeed surveyed participants in the referred group. From the data analysis provided in Chapter 5, it is the finding and conclusion of the research that the correct individuals were indeed selected for and participated in the research.

From these items, the most evident findings to be reported are noted below:

- Of the participants surveyed in both referred groups, most participants were 17-year-olds: 292 were 17-year-olds. The other categories were represented as follows: 41 were less than 15 years old, 131 were 15 years old, 221 were 16 years old, 186 were 18 years old and 135 were more than 18 years old.

- Of the participants surveyed in both referred groups, most participants were in Grade 11: 645 were in Grade 11. The other categories were represented as follows: 343 were in Grade 10 and 17 were in Grade 12.
- Of the participants surveyed in both referred groups, both males and females were represented. There were an overwhelming number of 724 females as opposed to 292 males.
- Of the participants surveyed in both referred groups, there was representation across all recognized race groups in South Africa and were distributed as follows: 906 black, 6 white, 86 Coloured and 16 Indian participants.
- Of the participants surveyed in both referred groups, all home locations were represented and were distributed as follows: 470 were urban, 260 were semi-rural and 272 were rural in terms of their home location.
- Of the participants surveyed in both referred groups, all school locations were represented and were distributed as follows: 503 were urban, 225 were semi-rural and 266 were rural in terms of their school location.
- Of the participants surveyed in both referred groups, 188 participants had had access to other entrepreneurship education programmes and 819 participants had had no other access to entrepreneurship education programmes.
- Of the participants surveyed in both referred groups, all provinces in terms of home location were represented and were distributed as follows:

	GT	KZN	LIM	FS	EC	NW	NC	WC	MP
Home Province	154	144	178	71	94	150	69	97	80
School Province	183	143	161	71	72	153	108	69	115

The use of descriptive statistics allowed the researcher to describe and summarise the data on participants' profile demographics in a meaningful and conclusive way. It also enabled the researcher to show the central position of the frequency distribution for this group of data so the researcher could see the emerging patterns that ought to be described. Further, the researcher could describe how the scores were spread for age, grade, home and school location and province.

From an analysis of the participants' descriptive data, it may be concluded that this research surveyed South African youth who are at high school, distributed across grades 10 to 12, in the

age groups less than 15 to more than 18, at schools located in all nine provinces in South Africa and across urban, semi-rural and rural locations. This research also surveyed participants in both referred groups to determine their previous access to any other form of entrepreneurship education programmes.

In describing this sample, this research will be able to use inferential statistics to generalise the findings and make suitable educational recommendations for youth in this age/grade group in South Africa. Such recommendations will be the unique contribution of this research especially if the research can prove its hypotheses. In this sub-section, the researcher aimed to demonstrate that the research reached the profile of the participant it aimed to and did this from the descriptive statistics provided.

Further, the researcher did not have access to the whole population (15- to 18-year-olds in Grades 10 to 12 in South African high schools undergoing study of this entrepreneurship education programme), which the researcher is interested in studying. The researcher did however have access to a sample of the population which could be used to represent the population. Inferential statistics enabled the researcher to use the samples to make generalisations about the population from which the sample was drawn.

6.2.2. Descriptive statistics of the constructs

The researcher used the MEANS procedure to present the descriptive statistics of the constructs. The factors were subject to the Principle component with Varimax rotation tests to create a single view. The table below presents the findings of the process.

Table 30: Descriptive statistics of the constructs

Variable	Label	N	Mean	Std Dev	Lower		Upper		Minimum	Maximum
					Quartile	Median	Quartile	Median		
SE	Self Efficacy	1017	4.28	0.63	4	4.4	4.8	1	5	
LoC	Inner locus of control	1012	4.25	0.64	4.4	4.4	4.8	1	5	
NfA	Need for Achievement	1010	4.15	0.62	4.29	4.29	4.57	1	5	
EI	Entrepreneurial Intention	1012	4.11	0.84	4.33	4.33	4.67	1	5	
EA	Entrepreneurial Activity	1011	4.22	0.68	4.4	4.4	4.8	1	5	
SE_LoC_NfA	Self efficacy, inner locus of control, need for achievement	1020	4.24	0.54	4	4.33	4.61	1	5	

From the small standard deviations noted, the researcher notes that this may be a limitation to the study. The use of purposive sampling, that is, the exclusive selective of participants who attended an entrepreneurship education programme, may have resulted in a homogenous data set. The limitation to the generalizability of the findings is that these findings may only be generalized to a population who have accessed this specific entrepreneurship education programme. This limitation does not, however, deter from the conclusions and recommendations this study can make about the effect of entrepreneurship education programmes on the mind-set of South African youth.

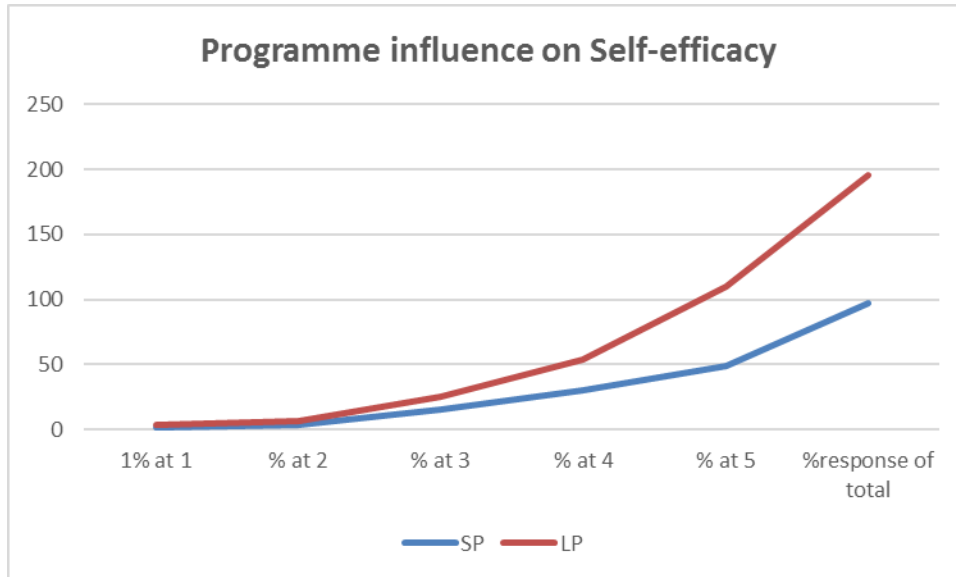
6.4. Findings per construct

This sub-section aims to provide the results between the referred groups in the short and long entrepreneurship education programmes. The results will detail findings and conclusions on the general influence of the entrepreneurship education programmes on the mind-set of the participants in terms of: self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and predictions for entrepreneurial activity.

6.4.1. Findings and conclusions on self-efficacy

From the graph below, it is the finding that of the 97 percent completed responses from the short entrepreneurship education programme, there was a positive influence on participants' perceptions of self-efficacy. Of the 99 percent completed response from the long entrepreneurship education programme, the finding is that there was a positive influence on participants' self-efficacy. The conclusion that may be arrived at is that there was a positive influence on all participants' perceptions of their self-efficacy, whether they had accessed the short or the long entrepreneurship education programme.

Figure 28: Programme influence on self-efficacy



From the finding noted above, this research may conclude that access to entrepreneurship education programmes will yield a positive influence on participants' self-efficacy. The literature reviewed in Chapter 2 generally corroborated the positive relationship between entrepreneurship education and the development of self-efficacy. As reviewed in Chapter 2, there was widespread support for entrepreneurship education programmes to positively influence the mind-set of its recipients, with specific reference to the positive correlation between the entrepreneurship education programme and self-efficacy (Lorz 2011: 167). In keeping with their findings, this research also finds that entrepreneurship education programmes will exert a positive influence on participants' perceptions of their self-efficacy.

Further, the literature reviewed in Chapter 3 concurred that self-efficacy has been indicated as an important motivational behaviour by human behaviour research: that higher levels of self-efficacy led to better performance in tasks (Hasheminasab, Zarandi, Azizi & Zadeh 2014: 44); where people possessed the ability to perform successfully, then that task would be attempted (Bandura 1997: 66, Tenaw 2013: 187, Mahyuddin et al. 2006: 98); that people's self-efficacy beliefs about their capabilities and about the outcomes of their efforts are particularly predictive of actual behaviour (Tsang, Hui & Law 2012: 56); and that the well-being of young people could be fostered by improving their self-efficacy (Pajares 2005: 26).

In keeping with the findings above and building onto the Theory of Planned Behaviour, which was discussed in Chapter 3, and which suggested that entrepreneurial behaviour (EB) is a construct of entrepreneurial intentions (EI) and may be demonstrated as: Attitudes = Motivation = Intentions = Behaviour (EA), it follows that entrepreneurial activity could be motivated by the antecedents, intentions, motivation and attitudes that stimulate and encourage entrepreneurial activity. The finding in this research pointed to positive correlations between entrepreneurship education programmes, self-efficacy, entrepreneurial intention and the prediction of entrepreneurial activity/behaviour. Drawing on the Theory of Planned Behaviour, the participants' positive perceptions of their self-efficacy may have bearing on their behavioural and control beliefs and consequently, positively influence their behavioural intentions and/or actual behaviour with the competence to successfully perform the behaviour.

Moreover, the literature reviewed in Chapter 3 found that self-efficacy was a critical determinant of the life choices people made and of the courses of action they pursued, typically engaging in activities in which they felt competent. The findings of this research are that when participants acquired knowledge through the entrepreneurship education programmes, they acquired those feelings of competency as evidenced in their ratings of the various items surveyed under this construct. The conclusion of this finding is that it is significant that participants acquired such competencies as early as in high school because deriving from findings cited above, it would influence their positive perceptions of competency in a behaviour.

Based on participants' positive responses to predictions for entrepreneurial activity, it may be fairly concluded that the participants did acquire cognitive processes through the entrepreneurship education to equip them to manage their mental processes to think and enact processes linked with entrepreneurship (Baron 2006: 48). The finding is significant to this research which seeks to describe the effect of entrepreneurship education, which promotes skills, knowledge and competencies that are lacking in the current provision of formal education, and will contribute to the recommendations it will make.

The finding of an analysis of the short and long entrepreneurship education programmes in terms of self-efficacy, based on the participants' positive perceptions thereof, is that entrepreneurial activity would be amongst the choices they would consider upon leaving school. Chapter 3 noted that the entrepreneurial infrastructure in South Africa is at an immature level and could therefore be inhibitive. However, the participants' increased belief in their capabilities could become more

significant to enhancing their accomplishment for success in each task, specifically entrepreneurial activity.

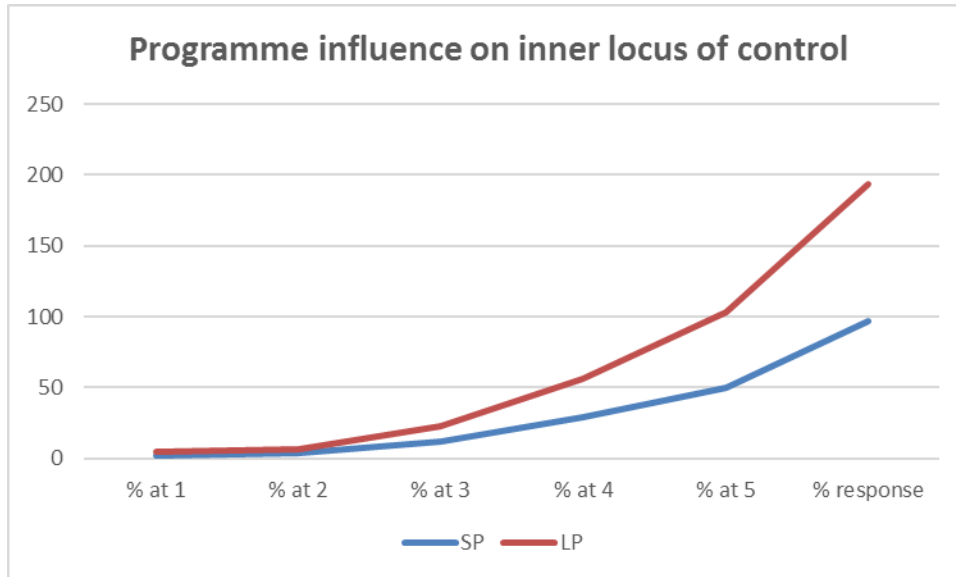
From the findings, this research may conclude that in South Africa and from the samples in both referred groups, irrespective of age, gender, grade, school/home location and province and of access to previous entrepreneurship education programmes or not, participants who accessed the entrepreneurship education programmes demonstrated a positive influence regarding their perceptions of their self-efficacy and the research may thus infer that the participants had positive perceptions of the entrepreneurship education programmes to teach them about self-efficacy – both as an attitude and as a cognitive process. The conclusions about the related secondary hypotheses will be presented in the last section of this chapter.

This finding and conclusion will contribute to the current understanding and description of the effect of entrepreneurship education programmes on the mind-set of South African youth and will add practical value by making relevant recommendations in the following chapter.

6.4.2. Findings and conclusions on inner locus of control

From the graph below, the finding is that of the 97 percent completed responses from the short and long entrepreneurship education programmes, there was a positive influence on the participants' perceptions of their inner locus of control. The conclusion that may be arrived at is that there was a positive influence on all participants' perceptions of their inner locus of control when they accessed the entrepreneurship education programme.

Figure 29: Programme influence on locus of control



From the finding noted above, this research may conclude that access to entrepreneurship education programmes will yield a positive influence on the participants' perceptions of their inner locus of control. The literature reviewed in Chapter 3 generally corroborated the positive relationship between entrepreneurship education and the development of inner locus of control. As reviewed in Chapter 3, there was widespread support for entrepreneurship education programmes to positively influence the mind-set of its recipients, with specific reference to the positive correlation between the entrepreneurship education programme and inner locus of control (Lorz 2011: 142, Urban 2010: 115; Bruwer 2012: 68). In keeping with their findings, this research also finds that entrepreneurship education programmes will exert a positive influence on participants' perceptions of their inner locus of control.

Further, the literature reviewed in Chapter 3 generally found that inner locus of control has a critical role to play in people's belief that the responsibility for whether they get reinforced ultimately lies with them. Extant literature generally corroborates the relationship between an inner locus of control and faith in self-ability and transforming the environment (April, Dharani & Peters 2012: 124, Klein & Wasserstein-Warnet 1999: 55, Connolly 1980: 156, McClelland 1961: 178).

In keeping with the findings above and building onto the Theory of Planned Behaviour, which was discussed in Chapter 3, and which suggested that entrepreneurial behaviour (EB) is a construct of entrepreneurial intentions (EI) and may be demonstrated as: Attitudes = Motivation = Intentions

= Behaviour (EA), it follows that entrepreneurial activity could be motivated by the antecedents, intentions, motivation and attitudes that stimulate and encourage entrepreneurial activity.

Based on the participants' positive responses with regard to predictions of entrepreneurial activity, it may be fairly concluded that the participants did acquire cognitive processes through the entrepreneurship education to equip them to manage their mental processes to think and enact processes linked with entrepreneurship (Baron 2006: 48). The finding is significant to this research which seeks to describe the effect of entrepreneurship education, which promotes skills, knowledge and competencies that are lacking in the current provision of formal education, and contribute to the recommendations the research will make.

The finding of an analysis of the short and long entrepreneurship education programmes in terms of inner locus of control, based on the participants' positive perceptions thereof, is that entrepreneurial activity would be amongst the choices they would consider upon leaving school. Chapter 3 noted that the entrepreneurial infrastructure in South Africa is at an immature level and could therefore be inhibitive. However, the participants' increased belief in their capabilities could become more significant to enhancing their accomplishment for success in a given task, specifically entrepreneurial activity.

From the findings, this research may conclude that in South Africa and from the samples in both referred groups, irrespective of age, gender, grade, school/home location and province and of access to previous entrepreneurship education programmes or not, participants who accessed the entrepreneurship education programmes demonstrated that it had a positive influence on their perceptions of their inner locus of control and the research may thus infer that the participants had positive perceptions of the entrepreneurship education programmes to teach them about inner locus of control – both as an attitude and as a cognitive process.

The finding in this research pointed to positive correlations between entrepreneurship education programmes, inner locus of control, entrepreneurial intention and the prediction of entrepreneurial activity/behaviour. Drawing on the Theory of Planned Behaviour, the participants' positive perceptions of their inner locus of control may have bearing on their subjective norms and perceived behavioural control and consequently, positively influence their behavioural intentions and/or actual behaviour about faith in self-ability and transforming the environment.

Moreover, the literature reviewed in Chapter 3 found that by changing the environment, a change in a person's behaviour should follow; where the person has an inner locus of control. The findings of this research are that when participants accessed the entrepreneurship education programmes, they had positive perceptions of their inner locus of control. Ugwoke, Kalu & Laretta (2013, 57) suggest that entrepreneurs who may become successful must be internally driven, which they found was especially true in a country where the entrepreneurial infrastructure may be inhibitive or not yet mature. Given the immature South African entrepreneurial infrastructure that was discoursed earlier, the rationale and logic for the development of an internal locus of control amongst South African youth was established. In their study and by wide citation of corroborating research (Neill 2006, Gerrig & Zimbardo 2005, Inegbenebor 2007, Halim, Muda & Amin 2011) they also found that internal individuals tended to be achievement oriented, being bold, ready, original, enthusiastic and willing to explore their talents as well as any opportunity or circumstance that presents itself.

The conclusion of this research, based on the participants' responses about their perceptions of inner locus of control, entrepreneurial intention and predictions of entrepreneurial activity, is that the participants in this research had positive perceptions of their inner locus of control through having accessed the entrepreneurship education programmes in this research.

From the findings, this research may conclude that in South Africa and from the samples in both referred groups, irrespective of age, gender, grade, school/home location and province and of access to previous entrepreneurship education programmes or not, participants who accessed the entrepreneurship education programme demonstrated that it had a positive influence on their perceptions of their inner locus of control. The findings of the secondary hypotheses related to this construct will be presented in the last section of this chapter.

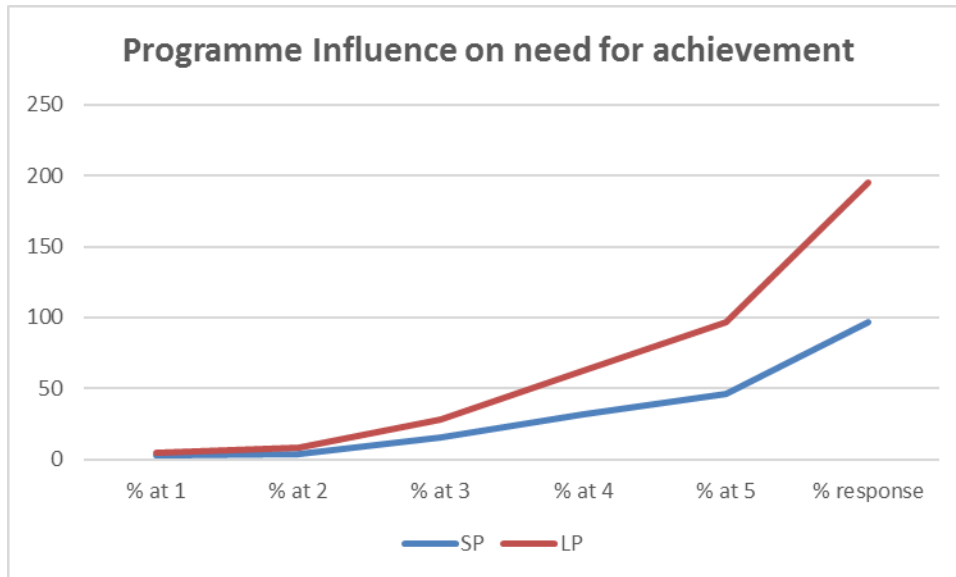
This finding and conclusion will contribute to the current understanding and description of the effect of entrepreneurship education programmes on the mind-set of South African youth and will add practical value by making relevant recommendations in the following chapter.

6.4.3. Findings and conclusions on need for achievement

From the graph below, the finding is that of the 97 percent completed responses from the short and 98 percent completed responses from the long entrepreneurship education programme, there

was a positive influence on the participants' need for achievement. The conclusion that may be arrived at is that there was a positive influence on all participants' perceptions of their need for achievement when they accessed the entrepreneurship education programme.

Figure 30: Programme influence on need for achievement



From the finding noted above, this research may conclude that access to entrepreneurship education programmes will yield a positive influence on the participants' perceptions of their need for achievement. The literature reviewed in Chapter 2 generally corroborated the positive relationship between entrepreneurship education and the development of a need for achievement. As reviewed in Chapter 2, there was widespread support for entrepreneurship education programmes to positively influence the mind-set of the participants, with specific reference to the positive correlation between the entrepreneurship education programme and a need for achievement (Lorz 2011: 145, Njongeri 2010: 160). In keeping with their findings, this research also finds that entrepreneurship education programmes will exert a positive influence on the participants' perceptions of their need for achievement.

Further, the literature reviewed in Chapter 3 generally found that people with a high need for achievement are more likely to engage in energetic and innovative activities that require planning for the future and entail an individual's responsibility for task outcomes, that they preferred tasks that involved skill and effort, provided clear performance feedback, and that entrepreneurial positions had more of those characteristics than any other types of positions (McClelland 1961:

178). Other studies had similar findings (Moore, Grabsch & Rotter 2010, Simpeh 2011, Johnson 1990, Shaver & Scott, 1991) and generally concurred that a need for achievement showed a positive correlation with entrepreneurship and is a good predictor of entrepreneurship, as was also found in studies by Okhomina (2013), Shaver & Scott (1991), Johnson (1990), Miner, Smits and Bracker (1989) and Begley & Boyd (1987).

In keeping with the findings above and building onto the Theory of Planned Behaviour, which was discoursed in Chapter 3 and which suggested that entrepreneurial behaviour (EB) is a construct of entrepreneurial intentions (EI) and may be demonstrated as: Attitudes = Motivation = Intentions = Behaviour (EA), it follows that entrepreneurial activity could be motivated by the antecedents, intentions, motivation and attitudes that stimulate and encourage entrepreneurial activity. The finding in this research pointed to positive correlations between entrepreneurship education programmes, need for achievement, entrepreneurial intention and the prediction of entrepreneurial activity/behaviour. Drawing on the Theory of Planned Behaviour, the participants' positive perceptions of their need for achievement may have bearing on their behavioural beliefs, subjective norms, social norms and perceived behavioural control and consequently, positively influence their behavioural intentions and/or actual behaviour, as their high need for achievement inspires them to engage in energetic and innovative activities that require planning for the future and entail an individual's responsibility for task outcomes.

Moreover, the literature reviewed in Chapter 3 found that achievement motivation and specifically the need for achievement was a good predictor of individuals success (Tatum 2012, Bakker, 2011, Hansford & Hattie 1982, Harrison, Newman & Roth 2006) and that the need for achievement was related to persistence and later career success (Hustinx, Kuyper, Van der Werf & Dijkstra 2009, Mandel & Marcus 1988, McCall, Evahn & Kratzer 1992) and finds correlation with McClelland's study that determined that a number of behaviours (including the need for achievement) correlated strongly with entrepreneurial success (McClelland 1961, 1965a, Shaver & Scott 1991, Johnson 1990, Miner, Smits & Bracker 1989, Begley & Boyd 1987). The findings of this research are that when participants accessed the entrepreneurship education programmes, they had positive perceptions of their need for achievement.

Based on the participants' positive responses about predictions of entrepreneurial activity, it may be fairly concluded that the participants did acquire cognitive processes through the entrepreneurship education to equip them to manage their mental processes to think and enact

processes linked with entrepreneurship (Baron 2006: 48). The finding is significant to this research which seeks to describe the effect of entrepreneurship education, which promotes skills, knowledge and competencies that are lacking in the current provision of formal education, and will contribute to the recommendations it will make.

The finding of an analysis of the short and long entrepreneurship education programmes in terms of need for achievement, based on the participants' positive perceptions thereof, is that entrepreneurial activity would be amongst the choices they would consider upon leaving school. Chapter 3 noted that the entrepreneurial infrastructure in South Africa is at an immature level and could therefore be inhibitive. However, the participants' increased belief in their capabilities could become more significant to enhancing their accomplishment of success in each task, specifically entrepreneurial activity.

From the findings, this research may conclude that in South Africa and from the samples in both referred groups, irrespective of age, gender, grade, school/home location and province and of access to previous entrepreneurship education programmes or not, participants who accessed the entrepreneurship education programmes demonstrated that it had a positive influence on their perceptions of their need for achievement, and the research may thus infer that the participants had positive perceptions of the entrepreneurship education programmes teaching them about the need for achievement: both as an attitude and as a cognitive process.

The conclusion of this research based on the participants' responses for the need for achievement, entrepreneurial intention and predictions of entrepreneurial activity is that the participants in this research had positive perceptions of their need for achievement in having accessed entrepreneurship education programmes in this research. The findings of the secondary hypotheses related to this construct will be presented in the last section of this chapter.

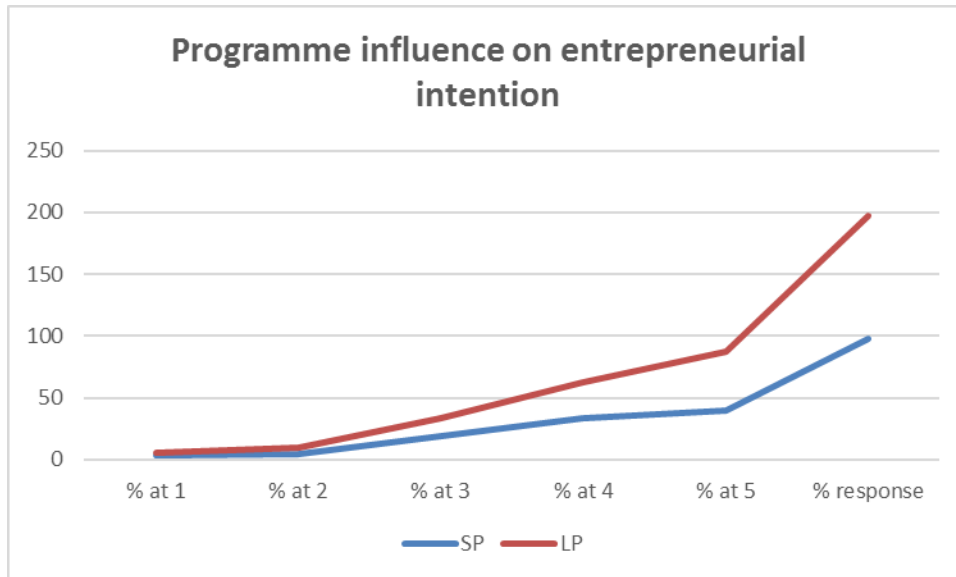
This finding and conclusion will contribute to the current understanding and description of the effect of entrepreneurship education programmes on the mind-set of South African youth and will add practical value by making relevant recommendations in the following chapter.

6.4.4. Findings and conclusions on entrepreneurial intention

From the graph below, the finding is that of the 98 percent completed responses from the short and 99 percent completed responses from the long entrepreneurship education programme, there

was a positive influence on the participants' entrepreneurial intention. The conclusion that may be arrived at is that there was a positive influence on all the participants' perceptions of their entrepreneurial intention when they accessed the entrepreneurship education programme.

Figure 31: Programme influence on entrepreneurial intention



From the finding noted above, this research may conclude that access to entrepreneurship education programmes will yield a positive influence on participants' entrepreneurial intention. The literature reviewed in Chapter 2 generally corroborated the positive relationship between entrepreneurship education and entrepreneurial intention. As reviewed in Chapter 2, there was widespread support for entrepreneurship education programmes to positively influence the mind-set of its recipients, with specific reference to the positive correlation between the entrepreneurship education programme and entrepreneurial intention (Lorz, 2011: 25, Raposo & do Paco, 2012: 209, Amoros & Bosma, 2013: 44). In keeping with their findings, this research also finds that entrepreneurship education programmes will exert a positive influence on participants' perceptions of their entrepreneurial intention.

Further, the literature reviewed in Chapter 3 generally found strong correlations between entrepreneurship education, the entrepreneurial mind-set, entrepreneurial intention and entrepreneurial activity (Mitra 2010: 144; Murphy 2010: 12, El Harbi & Anderson 2010: 89, The European Competitiveness Report 2014: 68, Valerio, Parton & Rob 2014: 90).

In keeping with the findings above and building onto the Theory of Planned Behaviour, which was discussed in Chapter 3, and which suggested that entrepreneurial behaviour (EB) is a construct of entrepreneurial intentions (EI) and may be demonstrated as: Attitudes = Motivation = Intentions = Behaviour (EA), it follows that entrepreneurial activity could be motivated by the antecedents, intentions, motivation and attitudes that stimulate and encourage entrepreneurial activity.

The finding in this research pointed to positive correlations between entrepreneurship education programmes, the entrepreneurial mind-set, entrepreneurial intention and the prediction of entrepreneurial activity/behaviour. Drawing on the Theory of Planned Behaviour, the participants' positive perceptions of their entrepreneurial intentions may be the result of their positive perceptions of their self-efficacy, inner locus of control and need for achievement which cumulatively and consequently may be the positive influence on their behavioural intentions and/or actual behaviour.

The conclusion of this research based on participants' responses to entrepreneurial intention and predictions of entrepreneurial activity is that the participants in this research had positive perceptions of their entrepreneurial intention from having accessed entrepreneurship education programmes. In addition, the finding and conclusion that emerges is that the entrepreneurship education programme was successful in promoting and fostering such positive perceptions.

From the findings, this research may conclude that in South Africa and from the samples in both referred groups, irrespective of age, gender, grade, school/home location and province and of access to previous entrepreneurship education programmes or not, participants who accessed the entrepreneurship education programme demonstrated that it had a positive influence on their perceptions of entrepreneurial intention. The findings of the secondary hypotheses related to this construct will be presented in the last section of this chapter.

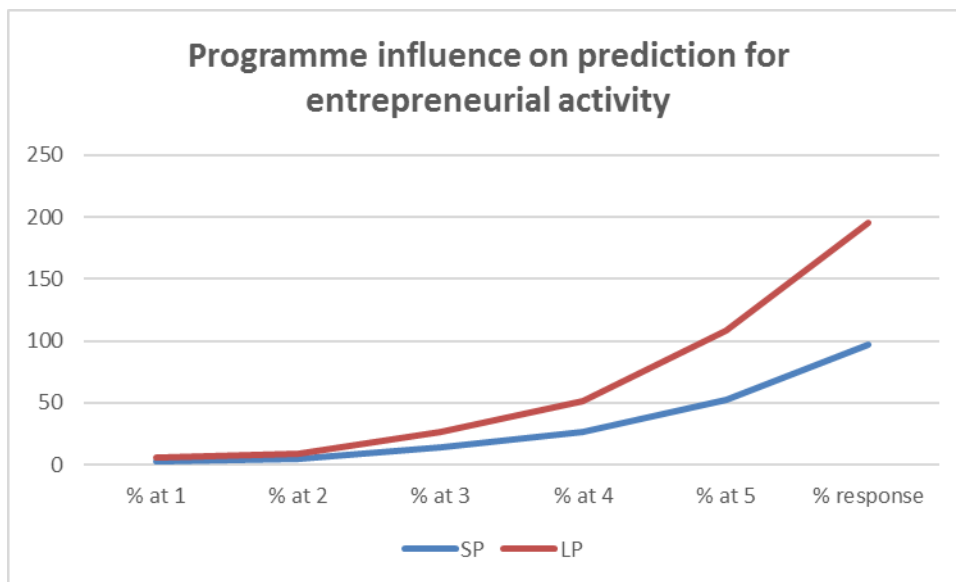
This finding and conclusion will contribute to the current understanding and description of the effect of entrepreneurship education programmes on the mind-set of South African youth and will add practical value by making relevant recommendations in the following chapter.

6.4.5. Findings and conclusions on predictions of entrepreneurial activity

From the graph below, the finding is that of the 97 percent completed responses from the short and 99 percentage completed responses from the long entrepreneurship education programme,

there was a positive influence on the participants’ prediction of entrepreneurial activity. The conclusion that may be arrived at is that there was a positive influence on all participants’ perceptions of their predicted entrepreneurial activity when they accessed the entrepreneurship education programme.

Figure 32: Programme influence on prediction of entrepreneurial activity



From the finding noted above, this research may conclude that access to entrepreneurship education programmes will yield a positive influence on the participants’ prediction of entrepreneurial activity. The literature reviewed in Chapter 2 generally corroborated the positive relationship between entrepreneurship education, entrepreneurial intention and entrepreneurial activity. As reviewed in Chapter 2, there was widespread support for entrepreneurship education programmes to positively influence the mind-set of its recipients, with specific reference to the positive correlation between the entrepreneurship education programme and entrepreneurial activity (Lorz 2011: 25, Viviers, Solomon & Venter 2013: 90, Vanevenhoven 2013: 105, Garud & Giuliani 2013: 56, Sanchez 2013: 77). In keeping with their findings, this research also finds that entrepreneurship education programmes will exert a positive influence on participants’ perceptions of their predicted entrepreneurial activity.

Further, the literature reviewed in Chapter 3 generally found strong correlations between entrepreneurship education, the entrepreneurial mind-set, entrepreneurial intention and entrepreneurial activity. Vanevenhoven (2013, 68) and Garud & Giuliani (2013, 90) in their

respective studies found evidence to support the relationship between entrepreneurship education and entrepreneurship activity: the desired/ideal outcome of this research. Their research also found support for the relationship between entrepreneurship education and the development of entrepreneurial 'sub-processes', which intersects with the entrepreneurial mind-set as defined in this research.

In keeping with the findings above and building onto the Theory of Planned Behaviour, which was discoursed in Chapter 3, and which suggested that entrepreneurial behaviour (EB) is a construct of entrepreneurial intentions (EI) and may be demonstrated as: Attitudes = Motivation = Intentions = Behaviour (EA), it follows that entrepreneurial activity could be motivated by the antecedents, intentions, motivation and attitudes that stimulate and encourage entrepreneurial activity. The finding in this research pointed to positive correlations between entrepreneurship education programmes, the entrepreneurial mind-set, entrepreneurial intention and the prediction of entrepreneurial activity/behaviour.

Drawing on the Theory of Planned Behaviour, the participants' positive perceptions of their predictions of entrepreneurial activity may be the result of their positive perceptions of their self-efficacy, inner locus of control and need for achievement which cumulatively and consequently may be due to the positive influence on their behavioural intentions and/or actual behaviour. From this finding and conclusion this research shows support for the Theory of Planned Behaviour.

The conclusion of this research based on the participants' responses about predictions for entrepreneurial activity is that the participants in this research had positive perceptions of their predicted entrepreneurial activity in having accessed entrepreneurship education programmes. A further finding and conclusion is that the participants derived learning value that influenced their cognitive experience from having accessed either the short or the long entrepreneurship education programme, which would have contributed to their positive perceptions of predictions of entrepreneurial activity.

From the findings this research may conclude that in South Africa and from the samples in both referred groups, irrespective of age, gender, grade, school/home location and province and of access to previous entrepreneurship education programmes or not, participants who accessed the entrepreneurship education programme demonstrated that it had a positive influence on their

perceptions of predicted entrepreneurial activity. Findings of the secondary hypotheses related to this construct will be presented in the last section of this chapter.

This finding and conclusion will contribute to the current understanding and description of the effect of entrepreneurship education programmes on the mind-set of South African youth and will add practical value by making relevant recommendations in the following chapter.

6.5. Primary hypotheses testing by moderating variable of programme duration

This sub-section aims to provide a report of the results of the primary hypotheses tests. The purpose of this section is to describe the effect of the entrepreneurship education programmes by programme duration on the mind-set of the participants in terms of: self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and prediction of entrepreneurial activity.

6.5.1. Testing of Hypothesis 1

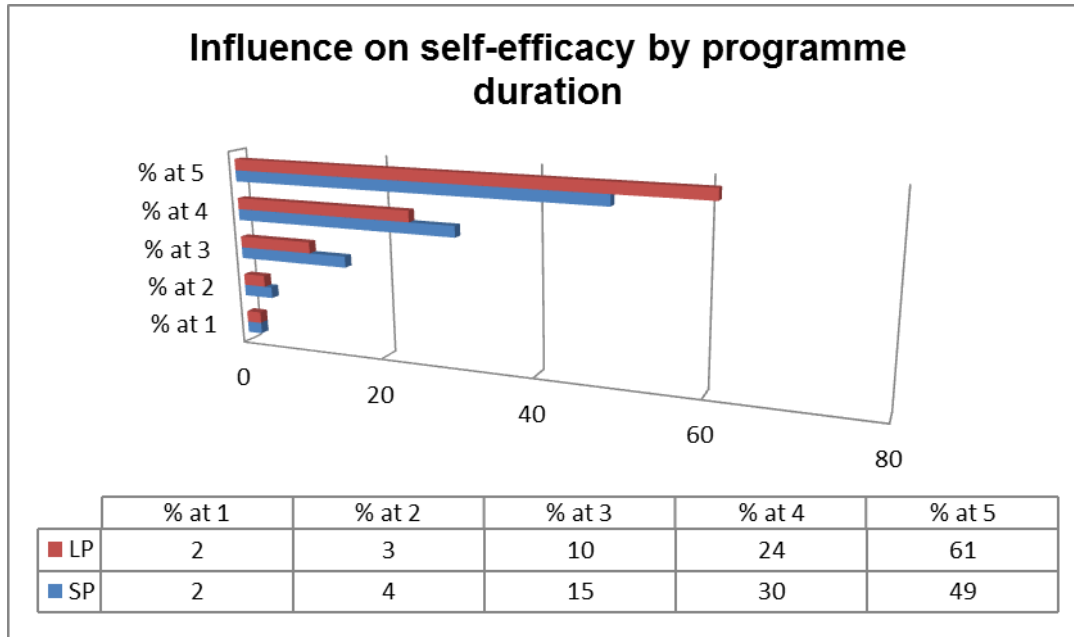
In Chapter 1, Hypothesis 1 and its null hypothesis was introduced. It was stated as:

H₁: Participants who have accessed the long entrepreneurship education programme (EEP) will demonstrate higher levels of self-efficacy than participants who accessed the short entrepreneurship education programme.

H₀: Participants who have accessed the short entrepreneurship education programme (EEP) will demonstrate equal levels of self-efficacy as participants who accessed the long entrepreneurship education programme.

By reference to the graph below, it may be observed that positive perceptions of self-efficacy was higher for participants in the long entrepreneurship education programme than for participants in the short entrepreneurship education programme.

Figure 33: Influence on self-efficacy by programme duration



In addition, the descriptive statistics of the construct self-efficacy by programme duration yielded the following outcome:

Table 31: Descriptive statistics of increase in self-efficacy by programme duration

V1	N	Mean	Std Dev	Std Err	t-value	Pr > t	Minimum	Maximum
LP	383	4.37	0.59	0.03			1	5
SP	634	4.22	0.64	0.02			1	5
Diff (1-2) Pooled		0.14	0.62		3.51	0.0005		
Diff (1-2) Satterthwaite		0.14			3.58	0.0004		

The research found support for a significant difference between the long entrepreneurship education programme and the short entrepreneurship education programme with regards to self-efficacy, where $p < 0.1$. Participants in the long programme displayed higher levels of self-efficacy as evidenced by the mean difference of 0.1414. While the difference may be small, it is significant. The interpretation of the statistics is that the mean of long programme minus the mean of the short programme is positive; therefore, participants in the long programme scored higher in the self-efficacy construct than the participants in the short programme. Again, the difference in numerical terms is small but significant (and significance is what matters).

The finding of this research is that there is support for H_1 that participants who have accessed the long entrepreneurship education programme (EEP) will demonstrate higher levels of perceptions for self-efficacy than did participants who accessed the short entrepreneurship education programme.

The conclusion of this research is that there is support for the hypothesis and this research will thus accept as valid that:

H_1 : Participants who have accessed the long entrepreneurship education programme (EEP) will demonstrate higher levels of self-efficacy than participants who accessed the short entrepreneurship education programme.

6.5.2. Testing of Hypothesis 2

In Chapter 1, Hypothesis 2 and its null hypothesis was introduced. It was stated as:

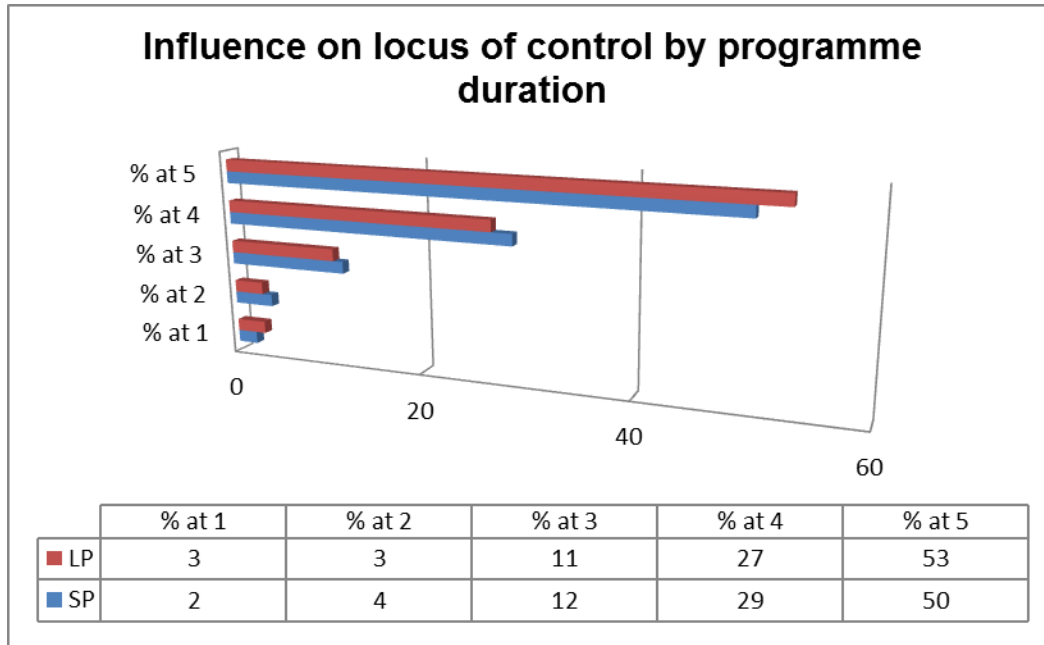
H_2 : Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of locus of control than participants who accessed the short entrepreneurship education programme.

H_0 : Participants who have accessed the short entrepreneurship education programme will demonstrate equal levels of locus of control as participants who accessed the long entrepreneurship education programme.

From the previous sub-section, the research could find and conclude that participants who accessed either the short or long entrepreneurship education programme could demonstrate positive perceptions of their locus of control.

By reference to the graph below, it may be observed that positive perceptions for locus of control were similar for participants in the long entrepreneurship education programme and for participants in the short entrepreneurship education programme.

Figure 34: Influence on locus of control by programme duration



In addition, the descriptive statistics of the construct inner locus of control by programme duration yielded the following outcome:

Table 32: Descriptive statistics of increase in inner locus of control by programme duration

V1	N	Mean	Std Dev	Std Err	t-value	Pr > t	Minimum	Maximum
LP	382	4.26	0.65	0.03			1	5
SP	630	4.24	0.63	0.02			1	5
Diff (1-2) Pooled		0.02	-0.0612		0.49	0.6229		
Diff (1-2) Satterthwaite		0.02			0.49	0.6254		

The results of the descriptive statistics above indicate that there is no statistically significant difference between the long programme and short programme on the dimension of locus of control, $p > 0.1$.

The finding of this research is that there is no support for H_2 that participants who have accessed the long entrepreneurship education programme (EEP) will demonstrate higher positive perceptions of locus of control than participants who accessed the short entrepreneurship education programme.

The conclusion of this research in terms of H_2 is that the long entrepreneurship education programme yields the same levels of positive perceptions for locus of control than does the short entrepreneurship education programme. On the testing of this hypothesis, the null hypothesis is accepted as valid that:

H_0 : Participants who have accessed the short entrepreneurship education programme will demonstrate equal levels of locus of control as participants who accessed the long entrepreneurship education programme.

6.5.3. Testing of Hypothesis 3

In Chapter 1, Hypothesis 3 and its null hypothesis was introduced. It was stated as:

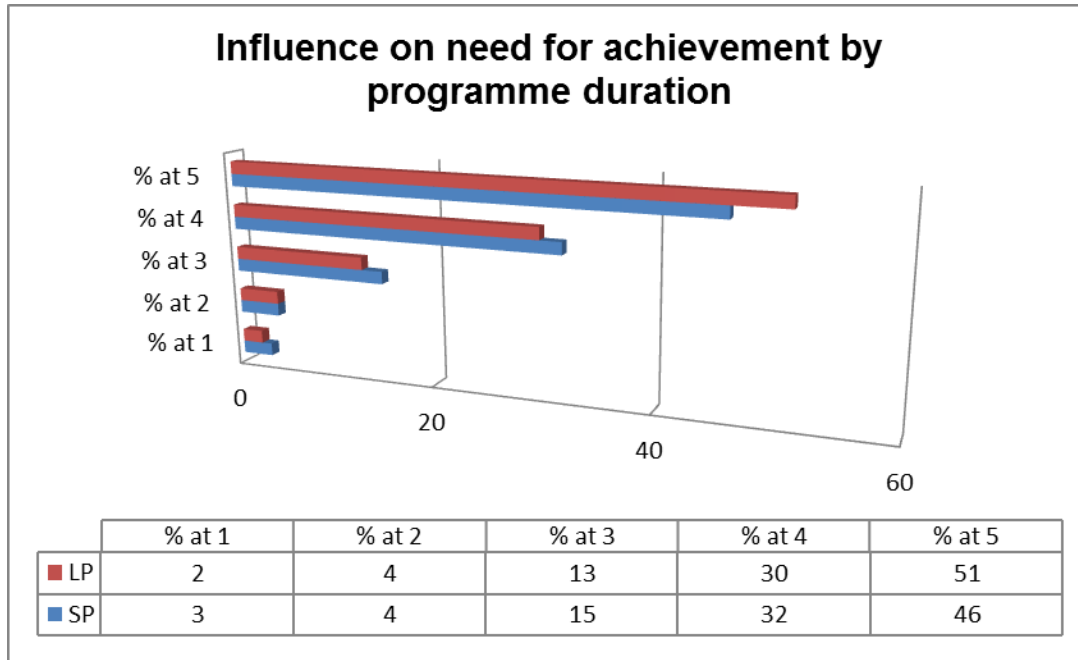
H_3 : Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of need for achievement than participants who accessed the short entrepreneurship education programme.

H_0 : Participants who have accessed the short entrepreneurship education programme will demonstrate equal levels of need for achievement as participants who accessed the long entrepreneurship education programme.

From the sub-section above, the research could find and conclude that participants who accessed either the short or long entrepreneurship education programme could demonstrate increased perceptions of their need for achievement.

By reference to the graph below, it may be observed that the positive perceptions in the need for achievement was higher for participants in the long entrepreneurship education programme than for participants in the short entrepreneurship education programme.

Figure 35: Influence on need for achievement by programme duration



In addition, the descriptive statistics of the construct need for achievement by programme duration yielded the following results:

Table 33: Descriptive statistics of increase in need for achievement by programme duration

V1	N	Mean	Std Dev	Std Err	t-value	Pr > t	Minimum	Maximum
LP	381	4.2	0.61	0.03			1	5
SP	629	4.12	0.62	0.02			1	5
Diff (1-2) Pooled		0.08	0.61		2.03	0.0423		
Diff (1-2) Satterthwaite		0.08			2.04	0.0418		

The research found that there was a significant difference between the long programme and short programme with regards to the need for achievement, where $p < 0.1$. Participants on the long programme displayed higher levels of the need for achievement compared to the participants on the short entrepreneurship education programme, as evidenced by the mean difference of 0.08. While the difference may be small, it is significant. Hence, the conclusion is that the mean of the long programme minus the mean of the short programme is positive. Therefore, participants in the long programme scored higher in the need for achievement construct than the participants in

the short programme. Again, the difference in numerical terms is small but significant (and significance determines the finding and conclusion).

The finding of this research is that there is support for H₃ that participants who have accessed the long entrepreneurship education programme (EEP) will demonstrate higher increased levels of the need for achievement than participants who accessed the short entrepreneurship education programme.

The conclusion of this research is that there is support for this hypothesis and thus accepts H₃ as valid that:

H₃: Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of need for achievement than participants who accessed the short entrepreneurship education programme.

6.5.4. Testing of Hypothesis 4

In Chapter 1, Hypothesis 4 and its null hypothesis was introduced. It was stated as:

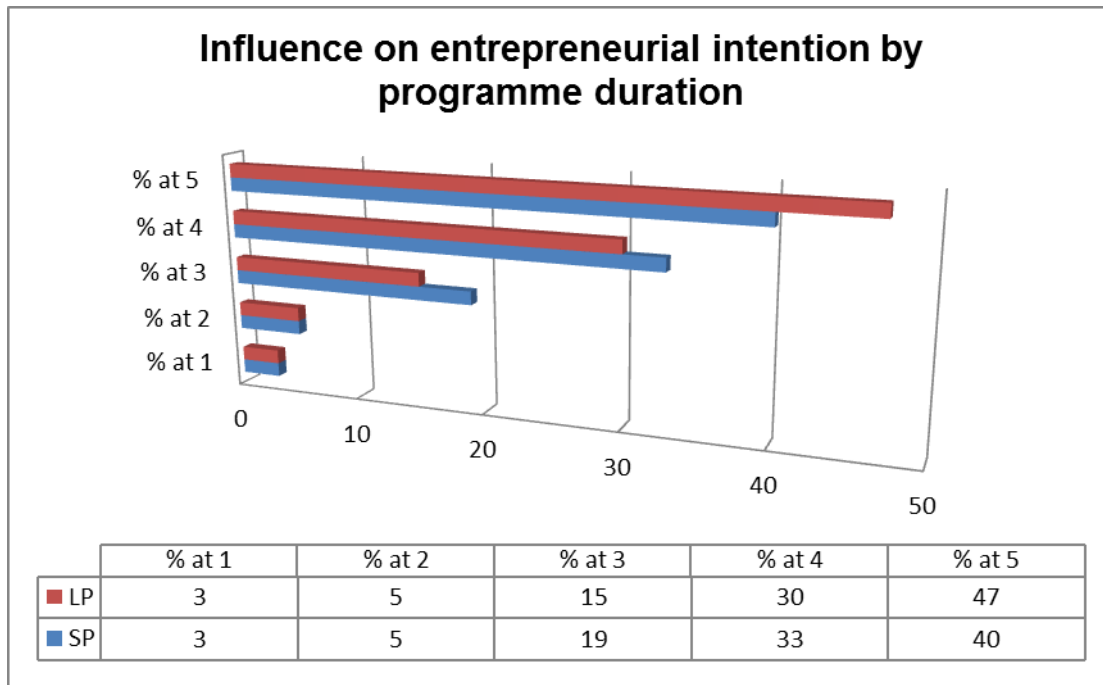
H₄: Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of entrepreneurial intention than participants who accessed the short entrepreneurship education programme.

H₀: Participants who have accessed the short entrepreneurship education programme will demonstrate equal levels of entrepreneurial intention as participants who accessed the long entrepreneurship education programme.

From the sub-section above, the research could find and conclude that participants who accessed either the short or long entrepreneurship education programme were able to demonstrate increased perceptions of their entrepreneurial intention.

By reference to the graph below, it may be observed that the general increase in entrepreneurial intention was higher for participants in the long entrepreneurship education programme than for participants in the short entrepreneurship education programme.

Figure 36: Influence on entrepreneurial intention by programme duration



In addition, the descriptive statistics of the construct entrepreneurial intention by programme duration yielded the following results:

Table 34: Descriptive statistics of increase in entrepreneurial intention by programme duration

V1	N	Mean	Std Dev	Std Err	t-value	Pr > t	Minimum	Maximum
LP	381	4.19	0.83	0.04			1	5
SP	631	4.04	0.84	0.03			1	5
Diff (1-2) Pooled		0.1489	0.84		2.73	0.0065		
Diff (1-2) Satterthwaite		0.1489			2.74	0.0063		

The research found that there was a significant difference between the long programme and the short programme about entrepreneurial intention, where $p < 0.1$. Participants in the long programme displayed higher levels of entrepreneurial intention compared to those on the short programme and this was evidenced by the mean difference of 0.1489. While the difference may be small, it is significant. The interpretation is that the mean of the long programme minus the mean of the short programme is positive; therefore, participants in the long programme scored higher in the entrepreneurial intention construct than the participants in the short programme. Again, the difference in numerical terms is small but significant.

The finding of this research is that there is support for H₄ that participants who have accessed the long entrepreneurship education programme (EEP) will demonstrate higher levels of entrepreneurial intention than participants who accessed the short entrepreneurship education programme.

The conclusion of this research in terms of H₄ is therefore to accept the hypothesis as valid that:

H₄: Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of entrepreneurial intention than participants who accessed the short entrepreneurship education programme.

6.5.5. Testing of Hypothesis 5

In Chapter 1, Hypothesis 5 and its null hypothesis was introduced. It was stated as:

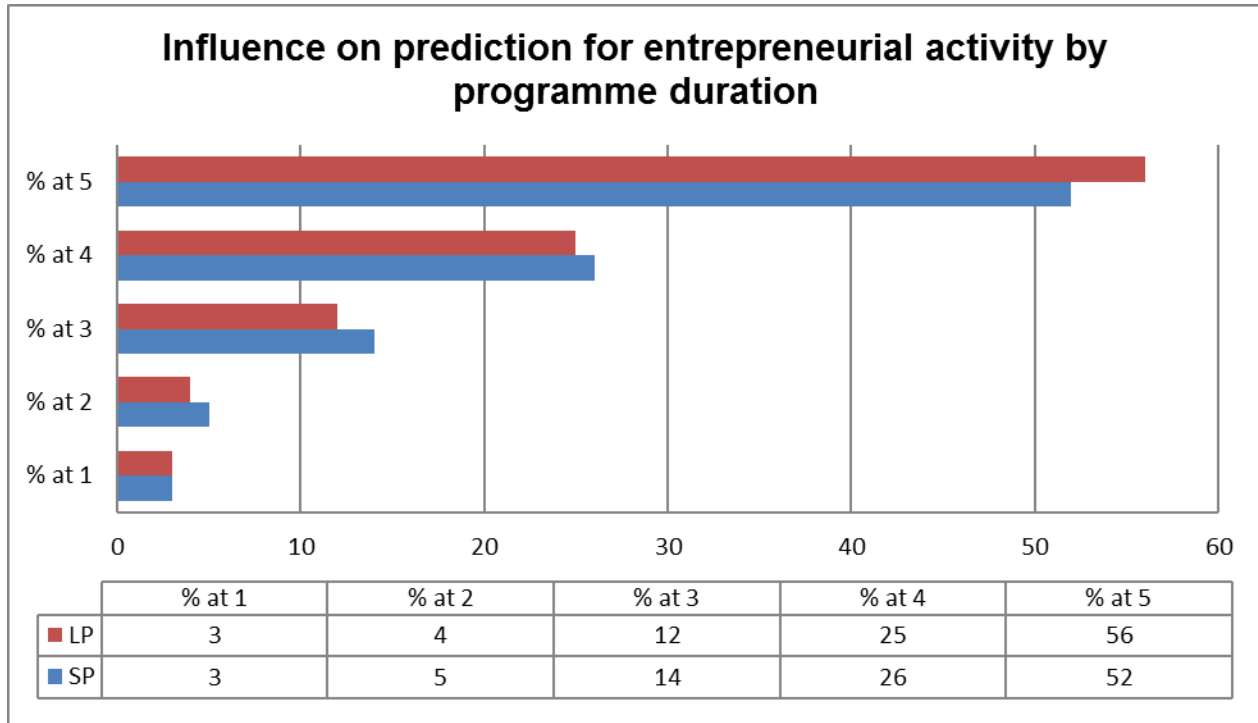
H₅: Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of predictions for entrepreneurial activity than participants who accessed the short entrepreneurship education programme.

H₀: Participants who have accessed the short entrepreneurship education programme will demonstrate equal levels of predictions for entrepreneurial activity as participants who accessed the long entrepreneurship education programme.

From the sub-section above, the research was able to find and conclude that participants who accessed either the short or long entrepreneurship education programme were able to demonstrate increased perceptions of their predicted entrepreneurial activity.

By reference to the graph below, it may be observed that the general increase in predicted entrepreneurial activity was higher for participants in the long entrepreneurship education programme than for participants in the short entrepreneurship education programme.

Figure 37: Influence on prediction of entrepreneurial activity by programme duration



In addition, the descriptive statistics of the construct entrepreneurial activity by programme duration yielded the following results:

Table 35: Descriptive statistics of increase in predictions of entrepreneurial activity by programme duration

V1	N	Mean	Std Dev	Std Err	t-value	Pr > t	Minimum	Maximum
LP	381	4,26	0,68	0,03			1	5
SP	630	4,18	0,68	0,02			1	5
Diff (1-2) Pooled		0.08	0,68		1,67	0,0962		
Diff (1-2) Satterthwaite		0.08			1,66	0,0965		

The research found that there was a significant difference between the long programme and the short programme about predictions of entrepreneurial activity, where $p < 0.1$. Participants in the long programme displayed higher levels of predictions of entrepreneurial activity compared to those on the short programme and as was evidenced by the mean difference of 0.0838. While the difference may be small, it is significant. The interpretation is that the mean of the long programme minus the mean of the short programme is positive; therefore, participants in the long programme scored the higher in the predictions of entrepreneurial activity construct than the

participants in the short programme. Again, the difference in numerical terms is small but significant.

The finding of this research is that there is support for H₅ that participants who have accessed the long entrepreneurship education programme (EEP) will demonstrate higher levels of predicted entrepreneurial activity than participants who accessed the short entrepreneurship education programme.

The conclusion of this research is thus to accept H₅ as valid that:

H₅: Participants who have accessed the long entrepreneurship education programme will demonstrate higher levels of predictions for entrepreneurial activity than participants who accessed the short entrepreneurship education programme.

6.6. Secondary hypotheses testing

The research formulated 30 secondary hypotheses. This sub-section will present the findings and conclusions of these secondary hypotheses as each relates to the five main constructs: self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and predictions of entrepreneurial activity. In presenting the findings and conclusions, the research will refer to information presented in sub-sections 6.4 and 5.5.

The secondary hypotheses for the research were presented in Chapter 1 as:

H₁₁: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of enabling anything (opportunities) to become an entrepreneur. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of enabling anything (opportunities) to become an entrepreneur.

H₁₂: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of having acquired the required knowledge and skills to become an entrepreneur. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of having acquired the required knowledge and skills to become an entrepreneur.

H₁₃: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of seeking further knowledge and skills through other entrepreneurship education if this programme did not fulfil the need. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of seeking further knowledge and skills through other entrepreneurship education if this programme did not fulfil the need.

H₁₄: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of self-confidence to succeed in the future. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of self-confidence to succeed in the future.

H₁₅: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of accurately evaluating their strengths and weaknesses. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of accurately evaluating their strengths and weaknesses.

H₁₆: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of all things, even failure, as an opportunity to improve. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of all things, even failure, as an opportunity to improve.

H₁₇: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of taking responsibility for both successes and failures. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of taking responsibility for both successes and failures.

H₁₈: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of life being influenced by things they do personally and not of those around them. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of life being influenced by things they do personally and not of those around them.

H₁₉: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of being a leader as they are mostly dependent on their potential. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of being a leader as they mostly dependent on their potential.

V20 was removed.

H₂₁: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of achieving what they set out to do as this is due to be their hard work. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of achieving what they set out to do as this is due to their hard work.

H₂₂: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of overcoming fear of failure. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of overcoming fear of failure.

H₂₃: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of failure as a motivation. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of failure as a motivation.

H₂₄: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to succeed at all cost. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to succeed at all cost.

H₂₅: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of being on top and receiving credit. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of being on top and receiving credit.

H₂₆: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to succeed at being an entrepreneur to make profit and increase their status. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to succeed at being an entrepreneur to make profit and increase their status.

H₂₇: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of welcoming personal accountability. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of welcoming personal accountability.

H₂₈: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of setting challenging yet attainable goals for themselves. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of setting challenging yet attainable goals for themselves.

H₂₉: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of receiving performance feedback. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of receiving performance feedback.

H₃₀: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of taking calculated risks to accomplish their goals.

Accepted as valid.

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of taking calculated risks to accomplish their goals.

H₃₁: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to be an entrepreneur because they have the competencies to become one. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to be an entrepreneur because they have the competencies to become one.

H₃₂: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to be an entrepreneur because they have acquired the skills to become one. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to be an entrepreneur because they have acquired the skills to become one.

H₃₃: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to be an entrepreneur because they have the knowledge to become one. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to be an entrepreneur because they have the knowledge to become one.

V34 was removed

H₃₅: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of wanting to be an entrepreneur because they tend to spot opportunities to become one. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of wanting to be an entrepreneur because they tend to spot opportunities to become one.

H₃₆: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of starting their entrepreneurial venture within five years of leaving school. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of starting their entrepreneurial venture within five years of leaving school.

H₃₇: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to make a profit. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to make a profit.

H₃₈: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to take advantage of their skills and knowledge. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to take advantage of their skills and knowledge.

H₃₉: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to create employment. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to create employment.

H₄₀: Participants who have accessed the long and short entrepreneurship education programme will demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to grow the economy. **Accepted as valid.**

H₀: Participants who accessed the short and long entrepreneurship education programme will not demonstrate positive perceptions of the most important aim of their entrepreneurial activity being to grow the economy.

6. 7. A revisit of the research objectives

The research presented its objectives in Chapter 1 as:

The primary aim of this study is to conduct an assessment of entrepreneurship education programmes on participants in the Grades 10 to 12, in the normative age group of 15 to 18. The primary objective is to describe if the participants' experience of the entrepreneurship education programme (moderated by the programme duration) in the referred group led to their positive perceptions of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and entrepreneurial predictions of entrepreneurial activity.

The secondary aim of this study is to conduct an assessment of entrepreneurship education programmes on participants in the Grades 10 to 12, in the normative age group of 15 to 18. The secondary objective is to describe if the participants' experience of the entrepreneurship education programme in the referred group led to their positive perceptions of the factors relating to the constructs of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and entrepreneurial predictions of entrepreneurial activity.

The general aim of this research is to conduct an assessment of entrepreneurship education programmes of varying durations on participants in the Grades 10 to 12, in the normative age group of 15 to 18, at the level of secondary school to describe what influence entrepreneurship education programmes will have on the mind-set development of South African youth.

The research findings and conclusions support the primary objective to describe the participants' experience of the entrepreneurship education programme (moderated by the programme duration) in the referred group. The findings showed that participants in the long programme relative to the participants in the short programme had higher positive perceptions of self-efficacy, need for achievement, entrepreneurial intention and entrepreneurial predictions of entrepreneurial activity. The research finding is that participants in the long programme and the participants in the short programme had equal positive perceptions of inner locus of control.

In accepting four of the five primary hypotheses, there is evidence to support the conclusion that the longer the entrepreneurship education programme, the higher the increase in perceptions of self-efficacy, need for achievement, entrepreneurial intention and predictions of entrepreneurial activity.

In rejecting the one hypothesis, there is evidence to support the conclusion that programme duration has no moderating effect on the positive perceptions for inner locus of control. Participants will experience positive perceptions of inner locus of control notwithstanding the programme duration.

There is evidence to support the conclusion of this research that programme duration does have a moderating influence on the entrepreneurial mind-set development.

The research findings and conclusions support the secondary objective to describe the participants' experience of the entrepreneurship education programme in the referred group and if it influenced their positive perceptions of the factors relating to the constructs of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and entrepreneurial predictions of entrepreneurial activity. The findings showed that participants in the referred group had positive perceptions of all factors relating to the constructs: self-efficacy, need for achievement predictions for entrepreneurial activity.

In accepting twenty-eight of the twenty-eight secondary hypotheses, there is evidence to support the conclusion that participants in the referred group had 100% positive perceptions of all factors relating to the constructs: self-efficacy, locus of control, need for achievement, entrepreneurial intentions and predictions of entrepreneurial activity.

There is evidence to support the conclusion of this research that entrepreneurship education that includes the specific constructs of self-efficacy, inner locus of control and need for achievement to create entrepreneurial intention, which will influence positive predictions of entrepreneurial activity.

The findings of this research in response to the general aim of the research, which was to describe the effect of entrepreneurship education programmes on the development of the mind-set of South African youth, is that access to entrepreneurship education programme of any duration that includes the constructs of self-efficacy, inner locus of control and need for achievement will influence positive perceptions of entrepreneurial intention and predictions of entrepreneurial activity. The additional finding of this research is that the influence of the longer entrepreneurship education programme will result in higher perception levels of self-efficacy, need for achievement, entrepreneurial intention and predictions of entrepreneurial activity, compared to those perceptions levels within the short entrepreneurship education programme.

There is evidence to support the conclusion of this research that access to an entrepreneurship education programme comprising the specific constructs of self-efficacy, inner locus of control and need for achievement and its specific related factors will positively influence the development of an entrepreneurial mind-set in South African youth. There is also evidence to support the conclusion of this research that access to an entrepreneurship education programme of a longer duration comprising the specific constructs of self-efficacy, inner locus of control and need for achievement and its specific related factors will influence the development of a stronger entrepreneurial mind-set in South African youth when compared to access to an entrepreneurship education programme of a shorter duration.

The research questions posed in Chapter 1 were:

1. What will be the influence of short entrepreneurship education programmes on the mind-set of South African youth – with specific reference to self-efficacy, inner locus of control and need for achievement on their entrepreneurial intentions and as predictors of their entrepreneurial activity?
2. What will be the influence of long entrepreneurship education programmes on the mind-set of South African youth – with specific reference to self-efficacy, inner locus of control

and need for achievement on their entrepreneurial intentions and as predictors of their entrepreneurial activity?

3. Will there be a difference on the mind-set development based on the duration of the entrepreneurship education programmes– with specific reference to self-efficacy, inner locus of control and need for achievement on their entrepreneurial intentions and as predictors of their entrepreneurial activity?

In its effort to describe the effect of entrepreneurship education programmes on the mind-set of South African youth, the research may conclusively state that access to either the short or the long entrepreneurship education programme will result in participants' positive perceptions of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and predictions for entrepreneurial activity.

In the effort to describe the moderating effect of programme duration, the research may conclusively report that longer entrepreneurship education programmes will exert a stronger influence on self-efficacy, need for achievement, entrepreneurial intention and predictions for entrepreneurial activity than will shorter entrepreneurship education programmes. However, when it comes to the construct; inner locus of control, programme duration showed no significant influence as a moderating factor on the development of the entrepreneurial mind-set.

This description will find generalisability to all South African youth who had accessed either the short or the long entrepreneurship education programme, specifically, the JASA entrepreneurship education programme.

The report may thus conclude its effort to describe the effect of entrepreneurship education programmes on the mind-set development of South African youth. It may be stated that all South African youth who will access this specific programme will experience the positive development of the entrepreneurial mind-set. Where the youth access the longer programme, they will experience a stronger influence on the mind-set development in self-efficacy, need for achievement, entrepreneurial intention and predictions for entrepreneurial activity relative to those who would have accessed the short entrepreneurship education programme. All South African youth who access either a short or long entrepreneurship education programme will experience

a mind-set development in terms of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and predictions for entrepreneurial activity.

6.8. Contributions of the study

This sub-section discusses the theoretical, methodological and practical contributions of the study. The next chapter will discuss the recommendations arising.

6.8.1. Theoretical contributions

The theoretical perspectives of Ajzen, Bandura and McClelland as cited in Chapter 3 of this study would have contributed to the description of entrepreneurship education in South Africa on the mind-sets of youth between 15-18 years. It would have added to the understanding of the intersection between entrepreneurship education, the development of the entrepreneurial mind-set as antecedent to entrepreneurial intention.

This study would have specifically contributed to an understanding of the effect of entrepreneurship education on the constructs of self-efficacy, inner locus of control and need for achievement (the entrepreneurial mind-set) on South African youth between 15-18 years. It would have also contributed specifically to an understanding of the influence of the short and long entrepreneurship education programme on the development of the entrepreneurial mind-set, entrepreneurial intentions and predicted entrepreneurial activity in South African youth between 15-18 years. As noted in the limitations, the predictions for entrepreneurial intention and entrepreneurial activity were collected at a moment within the cross-sectional study. What the study cannot state is that the participants stated positive perceptions of entrepreneurial intention and predictions for entrepreneurial activity would indeed prevail beyond the point at which the study was conducted.

Most importantly, this study would have contributed to the conceptualisation of the specific constructs (self-efficacy, inner locus of control and need for achievement) and the related factors that contribute to the development of the entrepreneurial mind-set in South African youth between 15-18 years. Since this was a cross-sectional and ex-post facto study, other factors that might have had latent influences on the study results, cannot be overlooked.

This study focused on the Theory of Planned Behaviour, Social Cognitive Theory, Social Learning Theory, Achievement Motivation Theory, Cognitive Education Theory and Entrepreneurship Education Theory, which have been largely relevant in the context of Europe, as cited in Chapters 2 and 3. The research results, generally validated the theories in the South African context and thus makes a theoretical contribution. The theoretical relevance of these specific theories to the South African context and specifically to 15-18-year-olds, might benefit from further investigation.

6.8.2. Methodological contributions

The instruments developed by Bandura (self-efficacy), Rotter (inner locus of control), McClelland (need for achievement), the eScan and Entrepreneurial Intention Questionnaire were used in the contexts of other countries, as cited in Chapter 2.

The methodological perspective of this study, in combining these instruments, would have contributed to the study of entrepreneurship education in South Africa by developing a reliable and valid measurement instrument to be used in the South Africa context. Based on the instruments developed by Bandura (self-efficacy), Rotter (inner locus of control), McClelland (need for achievement), the eScan and Entrepreneurial Intention Questionnaire, the instrument developed within this study could be used to assess and validate the constructs of self-efficacy, inner locus of control, need for achievement.

It could be used to validate that these constructs contribute to the development of the entrepreneurial mind-set, as shown in this study and supported by the primary data. Building on that, it could be used to validate that by developing these constructs within the mind-set, such development becomes antecedent to entrepreneurial intention and predictors of entrepreneurial activity.

South Africa, as pointed out earlier in Chapter 1, has a unique history of apartheid and marginalisation and by description of the methodological perspective adopted in this study, the primary data would have contributed to an understanding and a validation of the primary objective of the study: that the implementation of an entrepreneurship education programme would result in the development of the constructs of self-efficacy, inner locus of control and need for achievement. Further, the primary data validated the objective that the long entrepreneurship education programme would have a stronger influence on the development of these constructs, than would the short entrepreneurship education programme.

The instrument developed within this study would have also contributed to an understanding and validation of the secondary objective of this study: to understand if the development of the constructs of self-efficacy, inner locus of control and need for achievement would contribute to the development of entrepreneurial mind-set as antecedent to entrepreneurial intentions and predictions for entrepreneurial activity, at a given point in time.

6.8.3. Practical contributions

The practical findings in this study would have contributed to the educational sector in South Africa, particularly to the question around curriculum reform, as raised and discussed in Chapter 1. The general primary data within this study for the short and the long entrepreneurship education programmes, support the view that the development of self-efficacy, inner locus of control and need for achievement influence the development of entrepreneurial mind-set as antecedent to entrepreneurial intentions and predictions for entrepreneurial activity, at a given point in time. This support could contribute to the discourse and dialogue in South Africa, as what curriculum reforms, when under consideration, could benefit South African youth in the 15-18 year age group.

From literature reviewed in Chapter 2 (UNCTAD, 2015; GEM Special Report, 2009, G20 Report, 2013; Murphy, 2010; El Harbi & Anderson, 2010; Ernst and Young Entrepreneurship Barometer Country Report, 2013, European Union Entrepreneurial Framework), this study would have contributed to the rationale for the South African government to discourse reasons for its review of policies, strategies and systems in terms of the introduction of entrepreneurship education at the level of high school.

The specific contribution of this study in such discourse would be derived from its primary data, which generally supported the hypotheses of the study that: entrepreneurship education can result in the development of the constructs of self-efficacy, inner locus of control and need for achievement and further, the development of these constructs can result in positive perceptions of entrepreneurial intention and predictions for entrepreneurial activity.

This study would have contributed to a description and an understanding of the role that entrepreneurship education could play, if implemented at the level of the high school for 15-18-year-olds. This study would have contributed to a critical issue in South Africa currently: of its youth, currently neither in education or training, nor employed or discouraged job-seekers (as cited in Chapter 1). The possible consideration is the value of the introduction of entrepreneurship

education within the high school curriculum, which could develop the requisite knowledge, skills and mind-sets to encourage entrepreneurship as a possible career option for South African youth.

That having been said, it is noted that the research recognises that entrepreneurship as a career option cannot and will not be achieved through the promotion of entrepreneurship education alone. It does require a systemic enablement of the South African entrepreneurial framework, by reference to the European Union Entrepreneurial Framework as cited in Chapter 2.

6.9. Limitations of the research

In conducting this research, the researcher encountered some factors beyond the researcher's control and which could potentially compromise the validity of the study. Those factors will be mentioned to raise awareness amongst the readers that the study was conducted in a context with challenges to the validity of this study. In this case, those were:

- Limited resources that prevented the researcher from conducting the extensive research that would have been ideally conducted. The researcher made various attempts to mitigate this factor but in the end had to conduct the study with available resources.
- Language may have been a barrier: the study was conducted in English. English is however not many of the participants' commonly spoken language. To mitigate this, the researcher provided the facilitator of the survey questionnaires with a list of key words that he/she could share with the participants (see Appendix 6).
- The researcher would have wanted to use a control and experimental group. The limitation was access to learners who were not participants in the JASA programmes. The researcher mitigated for this by expressing the research title as 'The effect of entrepreneurship education programmes on the mind-set of South African youth' and stated in its delimitations that it would specifically survey those participants in the short or long entrepreneurship education programme. In addition, the study was not intent on reporting on the effect of the programme on the participants' self-efficacy, locus of control, need for achievement, entrepreneurial intention and prediction of entrepreneurial activity relative to learners who had not accessed the programme. The study was intent on reporting on the effect of the programme by duration on these constructs.
- The researcher would have wanted to do a pre-test on the participants to be able to describe the actual percentage increase in each of the constructs from before and after

the programme. The researcher mitigated for this in the delimitation that this study was not intent on reporting on the percentage increase in the individual participants' self-efficacy, locus of control, need for achievement, entrepreneurial intention and the predicted entrepreneurial activity, but it was intent on reporting on the effect of the programme by duration on the mind-set of South African youth.

- The researcher notes that a cross-sectional study has limitations to address questions around the constructs developed through the JASA programmes and its sustainability over time; especially when the target group is no longer receiving such intervention.
- The researcher notes that this study could not control for the individual facilitators and their expertise to facilitate the programme content.
- The research notes that the scale used to measure entrepreneurial activity in the future, was labelled entrepreneurial activity. As a cross-sectional study, the research will not be able to analyse such actual future entrepreneurial activity and the scale would have been accurate in having labelled the measure as 'entrepreneurial activity aspirations'.
- An error in reporting the CFA fit indices (Tables 17, 19, 21 and 23) is noted. The general fit is reported rather than the actual fit per table. This could have negatively influenced the soundness of the results.
- On review, the results of Hypotheses 20 and 34, reflect those as 'Not accepted as valid'. The limitation in both cases may be attributed to a language shortfall where the wording of these hypotheses seems to be against the logic followed in the remaining ones. These hypotheses would have been more accurately worded as:

H₂₀: Participants who have accessed the long and short entrepreneurship education programme will demonstrate negative perceptions of looking for someone else to blame when targets are not met and;

H₃₄: Participants who have accessed the long and short entrepreneurship education programme will demonstrate negative perceptions of wanting to be an entrepreneur because they have no other means to make an income.

Whilst the researcher notes these as areas of development in this research, the researcher also perceives these as areas that future researchers may improve on and/or contribute to.

6.10. Conclusion

This chapter presented the research findings and the conclusions. The chapter was structured to meet the following objectives of providing a description of the data in terms of the participants' profiles, information on the variables of the entrepreneurship education programme on the entrepreneurial mind-set of the participants and the moderating effect of the duration of the programme on the mind-set development. It also sought to provide the results between the referred groups in the short and long entrepreneurship education programmes. The results detailed findings and conclusions on the general influence of the entrepreneurship education programmes on the mind-set of the participants in terms of: self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and prediction of entrepreneurial activity.

The chapter provided a report of the results of the hypotheses tests. The purpose of the hypotheses testing was to describe the influence of the entrepreneurship education programmes by programme duration on the mind-set of the participants in terms of: self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and prediction of entrepreneurial activity.

The chapter revisited the research objectives presented in Chapter 1 and discussed the findings that arose. It then discussed the specific contributions it would make to theoretical, methodological and practical perspectives of entrepreneurship education. Finally, the chapter reviewed the limitations it encountered.

It is hoped that the findings and the conclusions discussed in this chapter would have made some unique contributions to the study of entrepreneurship in the South African high school context. This chapter will lead onto the next and final chapter: to make academic, practical and policy recommendations arising out of this study.

Chapter 7: Recommendations

7.1. Introduction

Chapter One of the research provided the context of, background to, importance, relevance and the significance of this research. It identified the research problem, the research question and the general and specific objectives and formulated the research hypotheses. It also provided a definition of the key words for this research.

Chapter Two focused on a literature review to connect to the existing body of knowledge previously researched and published by other academics and scholars as well as empirical theory. This review will focus on research/studies conducted in the field, both globally and locally, to provide a global view of the significance of entrepreneurship as a possible solution for youth unemployment. Research gaps were identified in the literature review. This identification resulted in a theoretical framework design to validate the hypotheses for the research.

Chapter Three focused on theoretical perspectives adopted in this research to validate its assertions and to add robustness to the significance of the research. It used the theoretical framework to demonstrate that an entrepreneurial mind-set can be motivated by the antecedents and exposure to an entrepreneurship education programme. The key consideration was how to influence the development of an entrepreneurial mind-set with the intent of stimulating entrepreneurial intentions amongst South African youth.

Chapter Four focused on a description of the methodology and method adopted in this research. It was guided by the knowledge that all research is based on some underlying philosophical assumptions about what constitutes valid research, that is, the controls that the researcher adopts in conducting the study so that maximum control will be exercised over factors that could interfere with the validity of the research results. The chapter also focused on which research method or a combination of methods might be best suited to the development of knowledge of that study.

Chapter Five focused on the data analysis procedure: it described the preliminary examination of data, the use of descriptive statistics to analyse the participants' demographic variables and conducted reliability and validity tests. The CFA was used to test the hypothesised model for goodness-of-fit indices and the hypotheses designed for the study and to establish construct validity. The hypothesised CFA model was designed for testing using a Structural Equation

Modelling technique. Five primary hypotheses and 30 secondary hypotheses were developed for the study. These were examined and reported on, each based on the statistical information gathered.

Chapter Six presented the research findings and conclusions. The chapter provided a description of the data in terms of the participants' profiles, information on the influence of the variables of the entrepreneurship education programme on the entrepreneurial mind-set of the participants, and the moderating influence of the duration of the programme on the mind-set development. It provided the results between the referred groups in the short and long entrepreneurship education programmes. The chapter provided a report of the results of the hypotheses tests.

The purpose of the hypotheses testing was to describe the influence of the entrepreneurship education programmes by programme duration on the mind-set of the participants in terms of: self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and prediction of entrepreneurial activity. Finally, the chapter reported on the contributions of the research and its limitations.

This chapter will make recommendations and will present its recommendations under the following sub-sections:

- Practical recommendations
- Policy recommendations
- Academic recommendations

7.2. Practical recommendations

This sub-section makes recommendations for practical implementation by the South African Department of Basic Education in terms of the state of entrepreneurship education that can be offered at the level of high school in the Further Education and Training Band, Grades 10 to 12. In addition, this section will make recommendations to Junior Achievement South Africa in terms of reviewing certain aspects of its entrepreneurship education programme.

7.2.1. Introduction of entrepreneurship education at schools

As stated in Chapter 1, South Africa lags behind most developed and developing economies across Africa and the world in its offering of entrepreneurship education at schools. The research has concluded that entrepreneurship education can significantly influence the development of the entrepreneurial mind-set of learners in Grades 10-12. It was further concluded that the longer entrepreneurship education programme had greater influence on the mind-set development than did the shorter education programme. Extant literature cited in Chapters 2 and 3 also generally supports the view of the benefits of entrepreneurship education implemented at the level of schools.

The recommendation of this research is the Department of Basic Education (DBE) formulates a policy to introduce entrepreneurship education as a compulsory subject in the FET band (Grades 10-12) of main stream schools and Vocational Education and Training institutions in South Africa. The UNCTAD Entrepreneurship Policy Framework and Implementation Guidance literature, as cited in Chapter 2 as well as the European Commission Creative Entrepreneurship at Schools Project and Entrepreneurship Education at School in Europe: National strategies, curricula and learning outcomes, will serve DBE well in guiding the operationalisation of such policy in terms of implementation, progress and progression, monitoring and evaluation.

As a student of the School of Business Management, the researcher makes recommendation as the following as a possible implementation plan:

- The subject should be offered to Grades 10, 11 and 12 and should have progressive learning outcomes.
- The learning outcomes should be adapted to suit the profiles of learners attending training at the FET school and those at the Vocational and Training institute so that all learners across South Africa, in grades 10 to 12, have access to this education.
- Such learning outcomes should be developed and incrementally built on from Grades 10 to 12.
- Such learning outcomes should carefully and to a large degree replicate the learning outcomes as currently offered within the JASA programmes.

- Such learning outcomes, the content and method development should be guided by reference to the framework developed by Botha et al. cited as secondary data, as well as the findings and conclusions of this research.
- Such learning should be available in more languages than English only. The challenges faced by the non-English mother tongue participants should serve as a lesson to be adopted for South Africa.
- Such learning should be available in a combination of theory and experiential learning.
- Currently, all learners in the General Education and Training Band (Grades 8 to 9) are offered Economic and Management Sciences as a compulsory subject. The introduction at the FET band then becomes a continuation of the GET band subject.
- The development of relevant and supportive learning resources (such as print, audio texts and other learning resources such as experiential learning trips into the field, and technology to support connectivity across schools, provinces, countries) must be enabled to teach learners about cross-boundary business opportunities and access to innovation-driven learning must be enabled and made available to the learners and educators.
- Educators must be suitably trained to teach effectively and so that learners can learn effectively.
- Educators must become part of a learning forum and network as they undertake the teaching of this new subject.
- Financial resources must be made available to enable the new subject to be introduced into the curriculum.
- There must be constant and frequent support offered to the learners and educators when the subject is introduced into the curriculum.
- Assessments and examinations (general progress and promotion) criteria must be carefully selected so that it is suitable, relevant and well aligned with the learning outcomes.
- Monitoring and evaluation and reporting must be consistently and periodically offered so as to track successes and areas of development, and the requisite support mechanisms should be put into place.

This recommendation firmly advocates that educators who will teach the subject should be formally retrained to gain mastery of the entrepreneurship education subject matter. They ought to be suitably developed to teach the subject at the required level, to foster and inculcate the

psychological and cognitive development that they would be entrusted to. Mostly, they must become champions for the promotion of entrepreneurship as a recognised career choice for school leavers. As cited in Chapter 2, the UNCTAD policy framework may guide South Africa as to the re-training of educators and how they must be supported by external networks and partner subject matter experts who understand the South African entrepreneurial infrastructure, the entrepreneurial framework conditions and who can provide practical advice for potential entrepreneurs. As cited in Chapter 2, the European Union's Entrepreneurial Competence Framework may well be used as a point of reference for the development of a South African Entrepreneurship Competence Framework.

Learning material must be developed to enhance and augment the teaching and learning of the subject. Such material must be customised to recognise the specific South African context so that it provides information on the realities, the successes, the challenges and the opportunities. A recommended starting point would be the JASA curricula for the short and long entrepreneurship education programmes as reviewed in Chapter 2 and reinforced by the full curricula in the Appendix.

Seeing that the curricula have already been developed and made relevant for the South African context and the general support of the primary data of this study that the programmes promote the development of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and predictions for entrepreneurial activity, DBE could consider this as an initial option and further expand these programmes to align with the curricula and learning outcomes of Grades 10, 11 and 12 respectively. The UNCTAD and European Framework as well as the Entrepreneurship Education at School in Europe: National strategies, curricula and learning outcomes, cited in Chapter 2, could be examined as DBE considers such recommended policy.

The recommendation views this as a pilot phase and the subject should be managed within the curriculum and the formalised assessment standards currently offered as Life Orientation – a subject that was offered in response to the HIV/Aids syndrome in South Africa. The South African Department of Basic Education could collaborate with well-established education departments across the world that have been offering the subject at schools for many years. Through such collaboration, the Department of Basic Education will gain support for the development and management of entrepreneurship education as a subject.

From secondary data and literature reviewed in Chapter 2, the researcher recommends that DBE could review some best practices of entrepreneurship at schools such as the Creative Entrepreneurship in Schools Project headed by the European Commission. The project has the learnings gathered from several years of experience, findings and conclusions that could assist DBE in formulation policy for the incorporation of entrepreneurship education into its schools at the levels of Grades 10-12. In addition, some country-level best practices as cited from Hatak and Reiner in Chapter 2, should also be carefully examined by DBE as it considers the recommendation to incorporate entrepreneurship education into its high schools.

The second practical recommendation is for JASA and pertains to the current programme content and teaching methodology. As cited in Chapter 3, where the Botha *et al.* framework for effective entrepreneurship training models was reviewed and against which the JASA entrepreneurship education programme was assessed, the researcher identified some gap areas. The specific gaps were:

- The need for a mentorship component
- The need for an innovation and creativity learning outcome
- The need to tell the stories of successful JASA alumni more extensively
- The need to track and monitor the graduates from the JASA programmes

In terms of the recommendation for mentorship, the researcher suggested in Chapter 1 that entrepreneurship is not a natural process in South Africa. As stated in Chapter 1, the low levels of entrepreneurship in South Africa is indicative of many inhibitive factors, one of which is the fear of the 'less known'. Each learner should be tasked to identify and secure a mentor. The JASA facilitator could aid by creating opportunities for the learners to access potential mentors. These opportunities may take the form of network afternoons, visits to local businesses, introduction to partner organisations and regularly hosting external speaker engagements. The recommendation notes that most of the learners would be minor children and therefore advocates that such opportunities be regulated as per current legislation for the duty and care to be exercised over minor children.

The researcher recommends that JASA carefully review the EU's Creative Entrepreneurship at School's Project, as cited in Chapter 2, to gain deeper understanding and possible ways to implement this recommendation. Of specific interest, would be the project priorities of horizontal and integrated approaches to creative entrepreneurship at schools and; co-ordinated

programmes to link education and business. In addition, the researcher recommends that JASA examine the findings and conclusions of studies by Cull and Eesley & Wang, both of which are cited in Chapter 2.

In terms of the practical recommendation for the inclusion of a creativity and innovation session into the JASA entrepreneurship education programme, the researcher recommends that the management and Board of JASA look to existing case studies for the adoption of best practice in this realm. The researcher highly recommends the case of the European Commission and its learnings especially, as cited in Chapter 2, the Europe 2020 strategy that embraces several concrete initiatives to support the creativity and employability of young people.

The researcher's next recommendation for JASA is that it starts to tell the stories of its alumni with more attention to those stories gaining wider public attention. JASA's alumni have achieved successes through its entrepreneurship education programmes and JASA should profile such achievements more visibly. It is recommended that JASA carefully review the approach taken by the EU's Creative Entrepreneurship at School's Project, as cited in Chapter 2, with specific reference to its views on building career pathways for young people.

Some operational approaches that the project takes such as, A National Creative Skills Academy model that enables: creative businesses, training providers and education partners to come together in each region in a coherent and goals-orientated way and National campaigns and delivery solutions, should be reviewed as a way forward for JASA in this recommendation. The Human Research Council, as referenced in Chapter 2, has insights to offer JASA in this regard as well.

Finally, JASA could become a solid case study and an influencer for the inclusion of entrepreneurship education into the South African schools' curriculum. A practical recommendation is that JASA begins to document its tracking and monitoring processes of its alumni. From primary data in this study, it emerged that the participants had firm entrepreneurial intentions and firm indications for predictions of entrepreneurial activity. JASA should aim to select and monitor the actual success of such individuals to realise such intentions and predictions for entrepreneurial activity.

One practical way in which it could be managed would be through formalising the JASA mentorship programme. In addition, from literature cited in Chapter 2, the EU's Creative Entrepreneurship in School's project, it is recommended that JASA examines the views and approaches on best-practice sharing and co-creation; it may provide solid guidelines as to why this is effective and the benefits to be derived from such.

7.2.2. Content and methodology of entrepreneurship education programmes

As cited in Chapter 3, academics and practitioners alike, cannot agree on the exact content to be taught in an entrepreneurship education programme. It is the recommendation of this research that the content of any entrepreneurship education to be implemented in South Africa be customized to recognize the specific macro and legacy challenges in South Africa and how to address those challenges from a specific view point of youth employment. It is thus recommended that the content be developed to focus on the development of the entrepreneurial mindset and all related psychological constructs such as: self-efficacy, inner locus of control, need for achievement and to promote entrepreneurial intention.

Content should also include the development of the cognitive side of the learner, by reference to the Cognitive Education Theory and the Botha, Van Vuuren and Kunene training model as cited in Chapter 3, and thus develop entrepreneurial knowledge and skills with inclusion of some aspects such as: business planning, business improvement and rescue, problem solving, networking, finance and the management of finance, creativity and innovation, mentorship, design-based learning, reflection exercises, team development, value creation, market research and field research, by reference to the EU's Creative Entrepreneurship at School's Project, as cited in Chapter 2.

The content should be augmented by the teaching methodology. World class entrepreneurship education currently on offer include theory, practical and action learning methods. The recommendation is that the theoretical learning become the platform for practical learning, where every learner must be placed in a real-time business environment (either formal or informal) for at least two weeks during a school vacation. On return to school, the learners should have exposure to experiential learning where they should work in groups to start and run their own business. The business must be run over a two-year period (Grades 10-11) and in Grade 12, the

team must present its findings, business report, including the financial report, and the plan for the next stage either for the business as a team or as an individual.

The general pedagogy adopted should seek to enable learners to identify opportunities, understand and acquire the requisite resources, plan and implement the business venture. Teaching should therefore engage classroom based activities adopting traditional teaching styles, think tanks, business plan competitions and business simulation; practical activities such as 'business placement' and experiential activities such as starting and running one's own business. Country best practices as well as the EU's Creative Entrepreneurship in School's Project, all of which are cited in Chapter 2 may offer guideline options as to how to operationalise this recommendation. Of direct relevance, will be the projects priorities around: Toward a Creative Entrepreneurship Curriculum for Schools, Dedicated Creative Entrepreneurship Programmes and Enabling Programmes for Creative Entrepreneurship Teaching.

7.3. Policy recommendations

This sub-section makes recommendations to be considered by education policy-makers globally and by the South African national government and the country's leadership.

7.3.1. Role of the Department of Basic Education

This research recommends that the South African Department of Basic Education re-evaluate the curriculum of the Further Education and Training (FET) band if it is to introduce and promote entrepreneurship education in a meaningful and impactful manner. From extant literature cited in Chapter 2, such re-evaluation should include considerations of: educator training, teaching and learning methodology and the promotion of a teaching and learning culture that is inclusive of an entrepreneurial culture.

This research also recommends that the Department of Basic should drive the integration of entrepreneurship education in high schools and should adopt a systematised effort, providing clear roles and responsibilities, a feasible timeline noting the people and process matters, the resources and capabilities required and the assessment and promotion criteria. Literature reviewed in Chapter 2, such as the UNCTAD and EU policy frameworks, could serve well in providing such guidelines

In so doing, the Department will convey a more positive message about the need for and role of entrepreneurship education at the level of high schools in South Africa. In conveying such a message from government, learners will also realise that they need to become productive citizens through employment, which would include self-employment. Learners will become aware of their role in value creation in this country and their contribution to economic development and the country's competitiveness when they work and contribute meaningfully. Most significantly, learners will understand that work is not only created in the formal sector; that they too could become employment creators: extant literature is cited in Chapter 2 as to the creation of a new employment narrative in South Africa,

In addition, the Department of Basic Education would need to develop a clear national policy on entrepreneurship education and development within Basic Education in the Further Education and Training band. Such policy should clearly document the roles, individually and collaboratively, of various public national, provincial and local government departments that have a role in entrepreneurship education development, including such departments as the Department of Trade and Industry, the Department of Economic Development, the Department of Small Business and the Enterprise Development and Sector Education and Training Associations and the National Treasury. It is recommended that policy frameworks as cited in Chapter 2, from the EU and UNCTAD be carefully reviewed prior to the South African Department of Basic Education development of such recommended national policy.

7.3.2. Role of the national government

In addition to the role of the DBE, the national government would need to develop a clear policy on government and private sector partnership to foster entrepreneurship in South Africa. Such policy should clearly document the roles, responsibilities, benefits and gains for each party. Such policy should address ways to create an entrepreneurial infrastructure in South Africa that reduces the inordinately excessive inhibitors to entrepreneurship in South Africa. The researcher strongly recommends the careful examination of the UNCTAD's Entrepreneurship Policy Framework, as cited in Chapter 2, to particularly understand and consider the incorporation of UNCTAD's four design principles that are directly quoted below as:

1. Consensus building: development partners should contribute to a national entrepreneurship strategy that is the result of extensive consultation between the

government and representatives of all sectors of business activity, local communities, education and financial institutions.

2. Sustainability: poverty reduction, gender equality and environmental protection are core goals.
3. Implementation: multiple ministries, as well as implementing agencies from the private sector and civil society should be identified and their role clearly defined.
4. Monitoring and evaluation: the periodic measurement of policy effectiveness is essential for the management of entrepreneurship policy and should incorporate feedback from lessons learnt on an on-going basis.

It is further recommended that such policy should provide relief to the ease of doing business in South Africa and should include: access to finance (reduce the application process time, the sureties required and the high bank charges), risk assurance from general crime, registration of a business, access to learnerships and the skills development levy, access to an infrastructure which includes basics such as running water, electricity and access to broadband, tax relief for private companies who stream revenue into entrepreneurship development (become part of an ecosystem, provide access to resources for start-up entrepreneurs, take learners into 'business placement', provide mentorship and any other activity that directly contributes to entrepreneurship in South Africa), review government's awards of tenders and provision of incubation for new start-ups from 0 to 6 months. The cases of the UK and Brazil, as cited in Chapter 2, could be referred to as the National Government undertakes provision of such recommended policy.

From literature cited in Chapter 2, the UNCTAD Entrepreneurship Policy Framework and the South African *White Paper on national strategy for the development and promotion of small business in South Africa*, the low to not-yet-existent rate of such policy intervention and implementation in South Africa relative to the EU, is provides reason for the urgency that South Africa must now heed the need for such policy.

In addition, from a policy support perspective, the South African *White Paper on national strategy for the development and promotion of small business in South Africa* with its key focus on integration of different socio-economic policy areas, programmes within the public sector (cutting across national, provincial and local government), and between the public and private sectors and integration of the activities of different entrepreneurship and small enterprise promotion

institutions, had a sound approach. From a theoretical perspective, it had every probability of success but lacked in the implementation phase, as cited in Chapter 2. From the literature reviewed, it is the recommendation that the national government carefully review the UNCTAD Policy Guidance document, as cited in Chapter 2; with specific reference to the policy being *narrower in scope and focusing specifically on policies aimed at promoting the emergence of new entrepreneurs and facilitating new business start-ups in developing countries and transition economies.*

These recommendations would require strong ministerial leadership and championship; like that provided by the South African Minister of Health in the promotion and adoption of the 'Test-and-treat' initiative in South Africa for its citizens testing for HIV/Aids. Finally, such policy should become articulated as a strategic intent of the South African government to meet its national goals related to job creation.

7.3.3. Role of the international policy-makers

Internationally, there are stories of economies that faced similar contexts to that in South Africa, namely: wide-scale unemployment, youth not in employment, education or training, poor socio-economic contexts and the need for strategy to move its economy and its people forward. Such countries could formulate and implement strategies and policies to address the matter. The cases of USA, UK and Brazil were cited in Chapter 2. In this globalised economy, policy-makers from these countries could serve as advisors to South Africa, as South Africa endeavours to achieve relevant policy.

7.4. Academic recommendations

The present study noted its limitations in Chapter 6. However, those limitations create the opportunity for promising future research. This research focused on the effect of entrepreneurship education programmes on the mind-set of South African youth. This research specifically examined the constructs of self-efficacy, inner locus of control, need for achievement, entrepreneurial intention and the predictions of entrepreneurial activity.

Future research may be conducted on other South African youth who are accessing other entrepreneurship education programmes, other than the Junior Achievement South Africa entrepreneurship education programmes, which was what this research focused on. Such

research would provide broader insights into the content and pedagogies best suited to entrepreneurship education in South Africa.

This research adopted the survey method of the questionnaire as a measurement scale. This method does not afford the opportunity to gather data and/or information that may arise in the adoption of other survey methods. Other future research may use other tools such as interviews and focus groups to collect the required data for measuring entrepreneurship education, the development of the entrepreneurial mind-set as antecedents for entrepreneurial intention and predictions of entrepreneurial activity.

This research adopted a cross-sectional approach where it surveyed the learners as a once-off engagement. Future research could adopt a longitudinal approach where the researcher re-engages the same learners one year, two years and perhaps up to five years later to be able to describe the effect of the entrepreneurship education on entrepreneurial intention and predictions of entrepreneurial activity by reference to the passage of time after the entrepreneurship education engagement.

7.5. Conclusion

This chapter sought to make practical, policy and academic recommendations arising from this research. This research finds that it could make specific contributions to the field of entrepreneurship education in the South African context. Such contribution should be acted upon, however, as there is still much to be accomplished in the field of entrepreneurship education in South Africa, especially if South Africa is to utilise its human capital to its full potential so as to address the issue of youth unemployment, to avert related risks with regard to youth unemployment and to gain a competitive advantage as a country.

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Appendices

Appendix 1: Letter of consent from JASA



Combined Letter of Introduction and Informed Consent

Dept. of Business Science

Title of the study

The effect of entrepreneurship education programmes on the mind-set of South African youth

Research conducted by:

Ms. S. Bux (14378320)
Cell: 084 4790071

Dear Participant

You are invited to participate in an academic research study conducted by Sara Bux, Doctoral student from the Department of Business Science at the University of Pretoria.

The purpose of the study is to investigate the relationship between entrepreneurship education programmes as an intervention to developing an entrepreneurial mind-set in South African youth.

Please note the following:

- To understand the intersection between entrepreneurship education and the development of the entrepreneurial mind-set.
- To investigate the moderating influence of the length of the entrepreneurship education programme on the development of the entrepreneurial mind-set.
- To investigate if the development of an entrepreneurial mind-set is antecedent to the perception of new career aspirations, namely cultivating an entrepreneurial intention and propensity for entrepreneurial activity.
- Primary aim: to conduct an assessment of entrepreneurship education programmes of varying lengths on participants in Grades 10-11, in the normative 15-18 year age group at the level of secondary school, and their perceptions of the development of an entrepreneurial mind-set.
- Primary objective: to determine if the participants' experience of the entrepreneurship education programme (short or long) in the referred group lead to their positive perceptions' of an entrepreneurial mind-set development, namely: self-efficacy, inner locus of control and need for achievement.
- Secondary aim: to conduct an assessment of entrepreneurship education programmes of varying lengths on participants in Grades 10-11, in the normative 15-18 year age group

at the level of secondary school, and their perceptions of the development of an entrepreneurial intention and propensity for entrepreneurial activity.

- Secondary objective: to determine if the participants' experience of the entrepreneurship education programme (short or long) in the referred group lead to their positive perceptions' of an entrepreneurial intention and propensity for entrepreneurial activity.

The research data will be collected through a questionnaire.

This is an anonymous study survey as your name will not appear on the questionnaire. The answers you give will be treated as strictly confidential as you cannot be identified in person based on the answers you give.

- Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the attached questionnaire as completely and honestly as possible. This should not take more than 30 minutes of your time
- The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.
 - Please contact my study leader, Professor Jurie van Vuuren, 2712 420-3401, Jurie.vanVuuren@up.ac.za if you have any questions or comments regarding the study.

Please sign the form to indicate that (signed by Managing Director of JASA as confirmation that each participant has signed a consent form to participate in this reserach and which is available on request):

- You have read and understand the information provided above.
- You give your consent to participate in the study on a voluntary basis.



JASA Managing Director's signature



Date

Appendix 2: Letter of informed consent to survey learners on the programme

26. Aug. 2016 10:05

junior achievement 0113310278

No. 0584 P. 1



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
**Faculty of Economic and
Management Sciences**

Letter of Informed Consent from Junior Achievement South Africa to survey learners on the programme

Dept. of Business Science

Title of the study

The effect of entrepreneurship education programmes on the mind-set of South African youth

Research conducted by:

Ms. S. Bux (14378320)
Cell: 084 4790071

Dear University Ethics Committee

This letter of permission serves to confirm that the academic research study conducted by Sara Bux, Doctoral student from the Department of Business Science at the University of Pretoria, is hereby permitted by Junior Achievement South Africa.

As the acting-head of JASA, I hereby confirm that Sara Bux has been given consent/permission to do research on these learners who were participating in the JASA long and short entrepreneurship education programme. Also, each learner and his/her parent/guardian have signed an indemnity form for the learner to participate in the programme and in the research.

The purpose of the study is to investigate the relationship between entrepreneurship education programmes as an intervention to developing an entrepreneurial mind-set in South African youth.

Please note the following:

- To understand the intersection between entrepreneurship education and the development of the entrepreneurial mind-set.
- To investigate the moderating influence of the length of the entrepreneurship education programme on the development of the entrepreneurial mind-set.
- To investigate if the development of an entrepreneurial mind-set is antecedent to the perception of new career aspirations, namely cultivating an entrepreneurial intention and propensity for entrepreneurial activity.
- Primary aim: to conduct an assessment of entrepreneurship education programmes of varying lengths on participants in Grades 10-11, in the normative 15-18 year age group at

Inspiring and Motivating Young Minds

134 Fox Street, 6th Floor, Johannesburg 2001 / PO Box 61540, Marshalltown 2107 / Tel: (011) 331 3150 / Fax: (011) 331 0278
Junior Achievement South Africa Reg. No 1990/001908/08 (Non-profit Company) / www.jasa.org.za

Appendix 3: Ethical clearance from University of Pretoria

29 August 2016

Strictly confidential

Prof JJ van Vuuren
Department of Business Management

Dear Professor van Vuuren

Project: The effect of entrepreneurship education programmes on the mind-set of South African youth
Researcher: S Bux
Student No: 14378320
Supervisor: Prof JJ van Vuuren
Co-supervisor: -
Department: Business Management

The Committee's letter dated 25 August 2016 granting conditional approval of the above research refers.

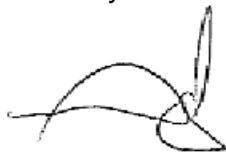
We acknowledge receipt of the letter of informed consent from JASA, indicating that the learners and their parents have signed indemnity forms allowing them to participate in the research.

I have pleasure in informing you that, after reviewing the documentation, the Committee granted final approval (*ad hoc*) for the above study on 29 August 2016. This approval is subject to the candidate abiding by the principles and parameters set out in the application and research proposal in the actual execution of the research.

The Committee requests that you convey this approval to the researcher.

We wish you success with the project.

Sincerely



pp PROF RS RENSBURG
CHAIR: COMMITTEE FOR RESEARCH ETHICS

cc: Prof AF Grobler
Student Administration

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Appendix 4: Registration with UP Statistics Department

From: Lizelle Fletcher [mailto:Lizelle.Fletcher@up.ac.za]

Sent: Tuesday, April 21, 2015 12:25 PM

To: Sara Bux

Subject: RE: Correct Version: PhD Student registration with Statistics Department

Dear Sara

Your project has been registered, the reference number is T15013. Dr Fabris-Rotelli and Mr Masenge will assist you. I think that our admin lady is trying to find three dates that will suit both of them - she will then send you and Prof Van Vuuren a mail with theses possible dates for a meeting. Expect the mail before the end of the week.

Best regards

Dr Lizelle Fletcher
Department of Statistics
University of Pretoria
Tel: [+27 \(0\)12 420 3967](tel:+270124203967)
E-mail: lizelle.fletcher@up.ac.za

Appendix 5: Note to the Facilitator

Dear Facilitator

Thank you for agreeing to be part of this study. I am a registered PhD student (14378320) with the University of Pretoria, Faculty of Economic and Management Sciences, Department of Business Management. The University and JASA Management have cleared all applications for this study. Each participant's parent/guardian has signed a Consent and Indemnity form for his/her child to participate in the study. All names and personal information that points to identity will be withheld for confidentiality matters.

This study is undertaken to describe the effect of entrepreneurship education programmes on the mind-set of South African youth. You are required to facilitate the participants' completion of the questionnaire, which you would have read and noted is based on the programme content and the participants' perceptions arising from their experience of the programme. No information from these questionnaires will be shared with JASA and it will not be used as an evaluation of your delivery of the programme. In your facilitation pack, you would have received the following:

1. This letter of introduction and commitment to use the information received For analysis and reporting of the participants' perceptions of the effect of the entrepreneurship education programme on his/her mind-set.
2. Ensure that all questionnaires are complete ones: each is three pages long.
3. Ensure there are enough questionnaires for the entire number of participants.
4. Please inform participants' of confidentiality of his/her responses and his/her identity.
5. Encourage participants to give responses that really reflect his/her perceptions and tell them there is no right/wrong response.
6. Read out the key words to the participants (Appendix 5), if requested.
7. Inform the participants to mark an X in the box that best represents his/her response.
8. Inform participants to not mark the right-hand column that contains the numbered boxes and labelled V1, V2 etc.
9. Tell participants that they are allowed to leave a box unmarked if he/she feels uncomfortable with giving a response.
10. Please collect all questionnaires when completed (the whole exercise should not be longer than 20 minutes).
11. Please package as per packaging provided and return to sender.
12. Please give the participants the little treat provide for them.

Your co-operation and support is highly appreciated. Please feel free to connect with me should you have any queries.

Regards

Sara Bux (0844790071)

buxsara3@gmail.com

Appendix 6 - Key terms in facilitator's pack

Facilitator pack: Explanation of key words used in the questionnaire

Dear Facilitator

Please feel free to read out the definitions of the following key words, as used in the questionnaire, to any/all participant(s), should it be requested.

Entrepreneurship education: focuses on the development and application of creative ideas and innovations and skills in the specific context of new business creation and/or starting up new businesses (Gibb: 2005, 10).

Entrepreneurial mind-set (EM): For this research, EM may be defined as entrepreneurial individuals who think creatively, adaptively, demonstrate entrepreneurial knowledge, skills and an innovative practice of identifying and creating opportunities, and then acting to manifest those opportunities in a productive way. The references below are the sources from which this research defines the entrepreneurial mind-set.

Inner locus of control: Rotter (1966) defined this dimension as people with an internal locus of control who believe that the responsibility for whether or not they get reinforced ultimately lies within themselves. They reflect independent decision making, the ability to resolve their problems and take personal responsibility for their successes or failures.

Need for achievement: McClelland (1958) defined this dimension as success in competition with some standard of excellence demonstrated by setting and striving for high target levels and putting in much effort to reach them.

Self-efficacy: Bandura (1997) defined this dimension as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives and demonstrated by belief in one's own ability, that is, self-confidence to control their own success, which does not depend on others, a high degree of endurance and the ability to continue wilfully, in spite of setbacks or objections.

Entrepreneurial intentions: (Amoros & Bosma; 2013, 24) Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who intend to start a business within three years to five years.

Entrepreneurial activity: (Amoros & Bosma; 2013, 24) Percentage of those involved in TEA who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income.

S. Bux (14378320)

Appendix 7 – Survey instrument; the questionnaire

Dear Participant

Thank you for completing this questionnaire. All responses will be kept strictly confidential and your identity will be protected. Please answer to the best of your knowledge and with honesty. Please complete all questions.

For administrative purpose only
Name and Surname:
Name of School:
Date today:
Name of JASA Programme you attend:

RESPONDENT NUMBER (OFFICIAL)

V1

1-3

For questions 1-7, please place an X in the block that best represents your response

1 In what age group are you?

Less than 15

 1

15

 2

16

 3

17

 4

More than 18

 5

V2

4

2 Your gender?

Male

 1

Female

 2

V3

5

3 Race

Black

 1

Caucasian

 2

Coloured

 3

Indian

 4

Other (please specify)

V4

6

4 Which option best describes your home location?

Urban

 1

Semi-Rural

 2

Rural

 3

V5

7

5 Which option best describes your school location?

Urban

 1

Semi-Rural

 2

Rural

 3

V6

8

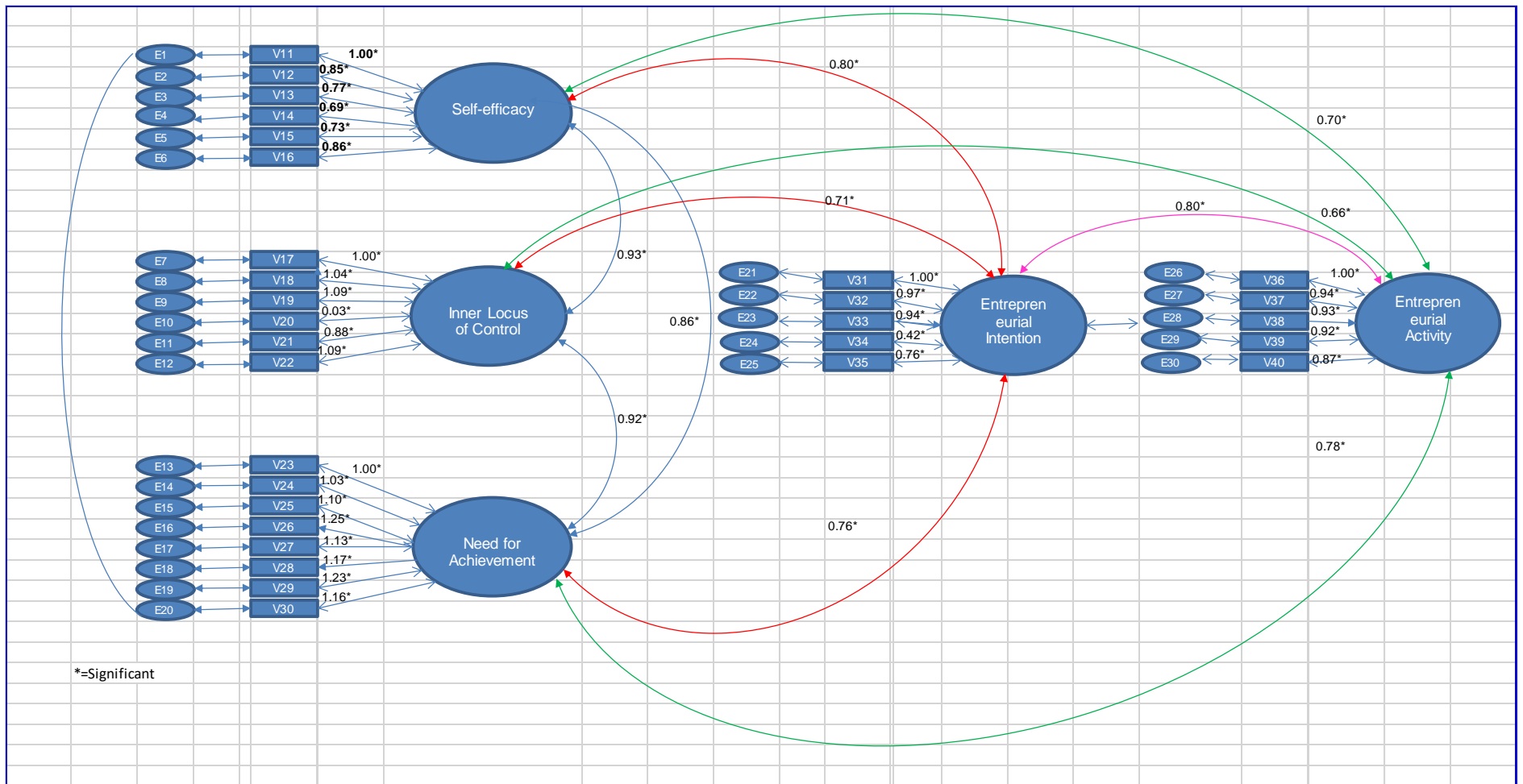
6 Have you attended any other entrepreneurship education programme other than this current JASA one?	Yes	1	V7	<input style="width: 40px; height: 15px;" type="text"/>	9
	No	2			

7 What grade are you currently in?	Grade 10	1	V8	<input style="width: 40px; height: 15px;" type="text"/>	10
	Grade 11	2			
	Grade 12	3			
8 What is your home province?	Gauteng	1	V9	<input style="width: 40px; height: 15px;" type="text"/>	11
	KwaZulu-Natal	2			
	Limpopo	3			
	Free State	4			
	Eastern Cape	5			
	North West	6			
	Northern Cape	7			
	Western Cape	8			
	Mpumalanga	9			
9 What is your school province?	Gauteng	1	V10	<input style="width: 40px; height: 15px;" type="text"/>	12
	KwaZulu-Natal	2			
	Limpopo	3			
	Free State	4			
	Eastern Cape	5			
	North West	6			
	Western Cape	7			
	Northern Cape	8			
	Mpumalanga	9			

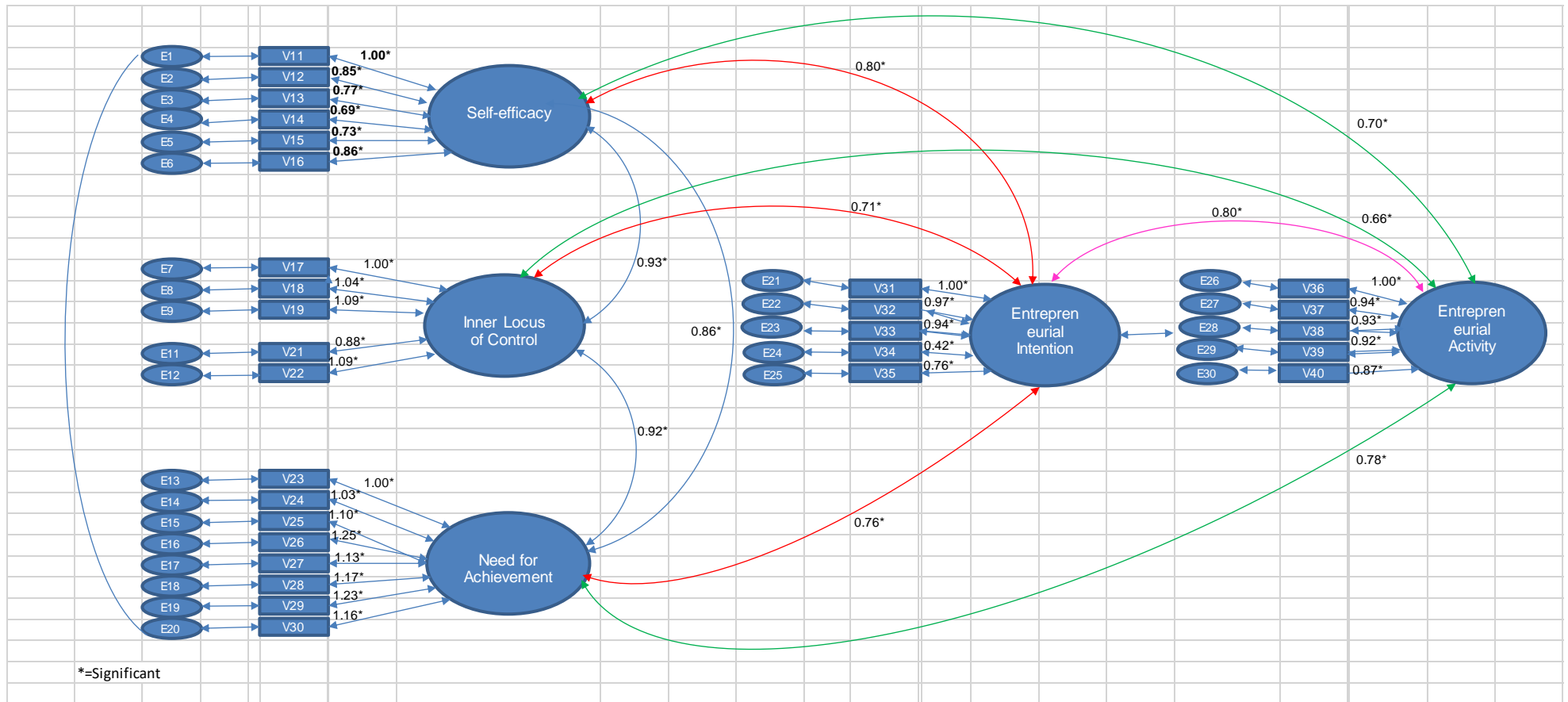
Please circle the correct code number for the following:									
Code:									
Not at all=1									
Somewhat=2									
Moderately=3									
To a large extent=4									
Completely=5									
			Not at all	Somewhat	Moderately	To a large extent	Completely		
Questions 10 to 15 test measures of self-efficacy (this reflects the belief in one's own ability, that is, self-confidence. Successful entrepreneurs are usually convinced that they can bring every activity to a successful end. Also, they feel that they can control their own success, which does not depend on others)									
10	I am prepared to do anything (opportunity) to become an entrepreneur	1	2	3	4	5	V11	<input type="text"/>	13
11	I believe that I have acquired the required knowledge and skills to become an entrepreneur through the programme	1	2	3	4	5	V12	<input type="text"/>	14
12	I will seek further knowledge and skills through other entrepreneurship education if the programme does not fulfill this need.	1	2	3	4	5	V13	<input type="text"/>	15
13	The programme has taught me to have confidence in myself to succeed in the future.	1	2	3	4	5	V14	<input type="text"/>	16
14	The programme has taught me to accurately evaluate my strengths and weaknesses.	1	2	3	4	5	V15	<input type="text"/>	17
15	The programme has taught me to see all things I do, even failure, as an opportunity to improve.	1	2	3	4	5	V16	<input type="text"/>	18
Questions 16 to 21 test measures of inner locus of control (this reflects independent decision making, the ability to resolve problems and take personal responsibility for successes or failures)									
16	The programme has taught me to take responsibility for both my successes and failures.	1	2	3	4	5	V17	<input type="text"/>	19
17	The programme has taught me that my life is influenced by the things I do personally and not of those around me.	1	2	3	4	5	V18	<input type="text"/>	20
18	The programme has taught me that to be a leader depends mostly on my potential.	1	2	3	4	5	V19	<input type="text"/>	21
19	In the programme, when targets are not met, I look to find someone in the team to blame.	1	2	3	4	5	V20	<input type="text"/>	22
20	The programme has taught me that when I achieve what I set out to do, it is because I have worked hard for it.	1	2	3	4	5	V21	<input type="text"/>	23
21	The programme has taught me to overcome my fear of failure	1	2	3	4	5	V22	<input type="text"/>	24
Questions 22 to 29 test measures for need for achievement (this is reflected by setting and striving for high target levels and putting in much effort to reach them)									
22	Through the programme I have learnt to see my failure as a motivation.	1	2	3	4	5	V23	<input type="text"/>	25
23	Through the programme, I have learnt that I want to succeed at all cost.	1	2	3	4	5	V24	<input type="text"/>	26
24	The programme has shown me that I enjoy being on top and receiving credit	1	2	3	4	5	V25	<input type="text"/>	27
25	Through the programme, I have learnt that I want to succeed at being an entrepreneur to make profit and increase my status.	1	2	3	4	5	V26	<input type="text"/>	28

26	Through the programme, I have learnt that I welcome personal accountability.	1	2	3	4	5	V27		29
27	Through the programme, I have learnt that I set challenging, yet attainable, goals for myself.	1	2	3	4	5	V28		30
28	Through the programme, I have learnt that I desire performance feedback.	1	2	3	4	5	V29		31
29	The programme has taught me that I will take calculated risks to accomplish my goal.	1	2	3	4	5	V30		32
Questions 30 to 34 test measures for entrepreneurial intention (intention to start a business within three years to five years)									
30	I want to be an entrepreneur because I have the competencies to become one	1	2	3	4	5	V31		33
31	I want to be an entrepreneur because I have acquired the skills to become one.	1	2	3	4	5	V32		34
32	I want to be an entrepreneur because I have the knowledge to become one.	1	2	3	4	5	V33		35
33	I want to be an entrepreneur because I have no other means of making an income	1	2	3	4	5	V34		36
34	I want to be an entrepreneur because I tend to spot opportunities to become one.	1	2	3	4	5	V35		37
Questions 35 to 39 test measures for entrepreneurial activity (those who see an opportunity to start a business in order to be independent or make a profit)									
35	I want to start my entrepreneurial venture within 5 years of leaving school.	1	2	3	4	5	V36		38
36	The most important aim of my entrepreneurial activity will be to make a profit.	1	2	3	4	5	V37		39
37	The most important aim of my entrepreneurial activity will be to take advantage of my skills and knowledge.	1	2	3	4	5	V38		40
38	The most important aim of my entrepreneurial activity will be to create employment	1	2	3	4	5	V39		41
39	The most important aim of my entrepreneurial activity will be to grow the economy.	1	2	3	4	5	V40		42

Appendix 8: Full hypothesised model with V20 and V34



Appendix 9: Competing model without V20 and V34



Appendix 10: Overview of the short entrepreneurship education programme

Mini Enterprise Programme 16 weeks Programme Session Outline

July 2014 - © Junior Achievement 1

Session 1: Chapter One - Organising a JA Business

Pretest

An introduction to JA and to the MEP

Intro to company positions (roles and responsibilities)

Requirements for appointment into company positions

Divide into companies

An introduction to business

The market

Needs and wants

Types of businesses

Product criteria and product ideas

Business ethics and social responsibility

Session 2: Chapter 2 – Managing Your Money

Define budgeting, saving, assets and liabilities

Discuss the impact on a business

Create a personal budget

Session 3: Chapter 4 - Management Positions and Financial Management of Business

The difference between a leader and manager are discussed

The role and responsibilities of the appointed managers are discussed

Presentation skills

Learners present on skills for voting in of managers and other company positions

Election of Managers

Job descriptions are distributed

The financial management and control aspects of the business are presented

Start-up capital and lending money from JASA for raw materials

Begin product costing exercise

Session 4: MEP Chapter 3 - Market Research Planning

Introduction to market research

How to conduct market research

Preparation of the questionnaire and requirements for an effective questionnaire

Leasing of the business premises

Remind learners to research raw material costs

Market Research Happens Between Session 4 and 6

Session 5: Know Yourself

Discover Your Career

Session 6: Chapter 5 - Market Research Analysis

Full and comprehensive analysis of the results of the market research exercise

Product costing and breakeven point

Training of relevant managers on procedures and forms

Begin collecting share money

Session 7: Chapter 6 - Product Selection and Production Techniques

Deadline for purchasing shares

Final selection of product

Production and the production process

Production management techniques and measurements

Ordering of raw material

Session 8: Chapter 7 - Planning the Business

Intro to the concept of a business plan

Development of an effective business plan for the selected business

Template provided for completion of business plan

First production session

Session 9: Chapter 8 - Marketing Your Product

Management of formal company meetings and management of HR issues

First formal company meeting

Discussion on marketing strategies and techniques

Second production week

Session 10: Chapter 9 - Communicating and Working in Teams

Second formal company meeting

Working in Teams

Reviewing of the product and the performance of the business

Third production week

Session 11: Chapter 12 - Problem Solving and Decision Making

Third formal company meeting

Learning about how to solve problems without conflict

Decision making skills

Fourth production week

Session 12: Chapter 13 - Communicating Effectively

Fourth formal company meeting

Communicating Effectively

Fifth production week

July 2014 - © Junior Achievement 3

Session 13: Chapter 16 - Wealth Creation

Fifth formal company meeting

Preparation for liquidation of the company

How to enhance money earned and create wealth

Sixth production week

Session 14: Chapter 17 - Liquidation Process

Liquidation process

Post test

Submission of first liquidation report

Session 15: Final Liquidation

Presentation of final reports

Certification

Pay-out of profits

Appendix 11: Overview of the long entrepreneurship education programme

Academy Enterprise Programme (32 weeks)

PROGRAMME SESSION OUTLINE

Session 1: Chapter One - Organising a JA Business

Pretest 1

Intro to company positions (roles and responsibilities)

Requirements for appointment into company positions

An introduction to business

The market

Needs and wants

Types of businesses

Product criteria

Business ethics and social responsibility

The Business Basics of your Mini Company

Session 2: Knowing Yourself

Discover Your Career

Session 3: Chapter 2 - Managing Your Money

Define budgeting, saving, assets and liabilities

Discuss the impact on a business

Create a personal budget

Session 4: Chapter 3 - Market Research Planning

Product ideas

Introduction to market research

How to conduct market research

Preparation of the questionnaire and requirements for an effective questionnaire

Leasing of the business premises

Market Research Happens Between Session 4 and 6

Session 5: Chapter 4 - Management Positions and Financial Management of Business

The difference between a leader and manager are discussed

The role and responsibilities of the appointed managers are discussed

Presentation skills

Learners present on skills for voting in of managers and other company positions

Election of Managers

Job descriptions are distributed

The financial management and control aspects of the business are presented

Start-up capital and lending money from JASA for raw materials July 2013 - © Junior Achievement 2

Session 6: Chapter 5 - Market Research Analysis

Full and comprehensive analysis of the results of the market research exercise

Product costing and breakeven point

Training of relevant managers on procedures and forms

Begin collecting share money

Post test 1

Session 7: Chapter 6 - Product Selection and Production Techniques

Pre test 2

Deadline for purchasing shares

Final selection of product

Production and the production process

Production management techniques and measurements

Ordering of raw material

Session 8: Chapter 7 - Planning the Business

Intro to the concept of a business plan

Development of an effective business plan for the selected business

Template provided for completion of business plan

First production session

Session 9: Chapter 8 - Company Meetings and Marketing Your Product

Management of formal company meetings and management of HR issues

First formal company meeting

Discussion on marketing strategies and techniques

Second production week

Session 10: Chapter 9 - Communicating and Working in Teams

Second formal company meeting

Working in Teams

Third production week

Session 11: Chapter 10 - The Role of Government in the Market

Third formal company meeting

Government's Role

Fourth production week

Post test 2

Session 12: Chapter 11 - Supply and Demand

Pre test 3

Fourth formal company meeting

Supply and Demand

Fifth production week July 2013 - © Junior Achievement 3

Session 13: Chapter 12 - Problem Solving and Decision Making

Fifth formal company meeting

Learning about how to solve problems without conflict

Decision making skills

Reviewing of the product and the performance of the business

Sixth production week

Session 14: Chapter 13 - Communicating Effectively

Sixth formal company meeting

Communicating Effectively

Seventh production week

Session 15: Chapter 14 - Environmentally Responsible Business

Seventh formal company meeting

Environmentally Responsible Business

Eighth production week

Session 16: Chapter 15 - What Is My Advantage

Eighth formal company meeting

What Is My Advantage

Ninth production week

Session 17: Chapter 16 - Wealth Creation

Ninth formal company meeting

How to enhance money earned and create wealth

Tenth production week

Session 18: Chapter 17 - Liquidation Process

Liquidation process

Submission of first liquidation report

Session 19: Chapter 18 - Goal Setting and Managing Your Money

Post test 3

Spending and Budgeting

Assets and Liabilities

Money and Needs

Saving

Borrowing

Session 20: Final Liquidation

Presentation of final reports

Certification

Payday!!