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Entrepreneurial attitude of rural secondary school learners in an emerging economy

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ABSTRACT

The main objective of this study was to determine the entrepreneurial potential amongst Grade 10 learners in South Africa (Moutse East, Sekhukhune district of Limpopo Province), using the ATE test² developed at the Kingston University in London. The ATE test² was tested for validity and reliability; and socio-demographic impacts were tested for statistical significance.

A qualitative descriptive design methodology was employed. ATE test² questionnaires were distributed amongst learners in six public secondary schools, resulting in 836 learners participating in the completion of the questionnaires. Five constructs, namely achievement, personal control, creativity, leadership and intuition, describing the entrepreneurial attitudes of young learners were analysed during exploratory factor analysis. Statistical analysis for reliability, validity and construct correlation showed acceptable results to conclude that the ATE test² can be used amongst rural learners. A comparison of the mean differences between the constructs for demographic variables produced statistically significant differences in a number of instances, but no practical significance to conclude that these differences can be applied in practice. Practical recommendations were provided for stakeholders to apply in the development of an intervention training programme for a pilot test in entrepreneurship development.

Key Words: *Entrepreneurship, rural learners, ATE test², attitude towards enterprise, achievement, personal control, creativity, leadership and intuition.*

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Name: Rhulani Maluleke



09 November 2011

Signature

Date

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CHAPTER 1

1. PROBLEM DEFINITION AND PURPOSE

1.1 Background and Introduction

The potential impact of enterprise training on the supply of entrepreneurship in a country has long been recognised. For example Levi, Hart and Anyadike-Danes (2009) cite Liebenstein (1968, p.82) in his study, stating that “...*training can do something to increase the supply of entrepreneurship ...since entrepreneurship requires a combination of capacities, some of which may be vital gaps in carrying out the input-completing aspects of the entrepreneurial role, ...training can eliminate some of these gaps.*”

Mahadea, Ramproop and Zewotir (2011) proclaim that, given the labour market dynamics in South Africa, it is a reality that the majority of individuals will not find employment after finishing their secondary education. They state that young people need to be able to think of self-employment as a route to self-empowerment rather than seeking wage employment. This route may be more appealing to the youth if they are adequately exposed to the basics of micro-business entrepreneurship in schools.

The National Treasury (2011) states that: “*South Africa has an acute problem of youth unemployment that requires a multi-pronged strategy to raise employment and support inclusion and social cohesion. High youth unemployment means*

young people are not acquiring the skills or experience needed to drive the economy forward. This inhibits the country's economic development and imposes a larger burden on the state to provide social assistance" (p.6), thus highlighting the need for youth to participate in the growth of the economy.

Unfortunately, the current state of the South African economy is a cause for concern for the future adults of the country (North, 2002), who are confronted with widespread problems such as crime, corruption, mismanagement and unemployment.

The unemployment problem is causing anxiety not only to the government and role-players in the private sector, but also to the younger generation. As far back as 1997, Gouws (1997) estimated that more than eight million people will be unemployed in South Africa by 2010.

According to the household-based *Quarterly Labour Force Survey* (QLFS) published by Stats SA (2nd Quarter, 2011), the number of unemployed people rose by 7 000 in the second quarter of 2011 compared with the preceding quarter. However, the number of unemployed rose by 174 000, decreasing the number of people in the labour force by 181 000. As a result, the official unemployment rate increased from 25.0 per cent in the first quarter of 2011 to 25.7 per cent in the second quarter. Of concern is the number of discouraged work-seekers in the economy, which increased by 600 000 to 2.2 million during the current upward phase in the business cycle.

Expanding this definition, South Africa's unemployment rate, which includes the discouraged worker effect, is 25.7 per cent, implying that 4.13 million South Africans were unemployed in the second quarter of 2011 (SARB 2nd Quarter Bulletin, 2011).

Statistics South Africa estimates that about 37 per cent of the South African population falls into the 15 - 34 age group (Statistical Release PO302, Mid-Year 2011). In the South African context, people in the 15 - 35 age category are regarded as the youth group (National Youth Commission, 1997), from which the future leaders and wealth producers of the South African economy will emerge.

Unemployment rates are increasingly higher in the lower age groups, with the highest occurrence being found in the group aged 15 – 34 years, together constituting a total of 2,978,000 (69 per cent) of the 4,137,000 unemployed in 2010 (Stats SA, 4th Quarter 2010). Of the total mentioned, 2.2 million youth in the age group 20 – 29 represent the discouraged work-seekers (people who have given up on finding employment).

The importance of youth development in South Africa cannot be over emphasised. The salient facts about youth employment can be summarised as follows (National Treasury, 2011):

- About 42 per cent of young people under the age of 30 are unemployed compared with less than 17 per cent of adults over 30.

- Only 1 in 8 (12,5 per cent) working age adults under 25 years of age have a job compared with 40 per cent in most emerging economies.
- Employment of 18 to 24 year olds has fallen by more than 20 per cent (320 000) since December 2008.
- Unemployed young people tend to be less skilled and more inexperienced – almost 86 per cent do not have formal further or tertiary education, while two-thirds have never worked.

The National Treasury (2011) states that there are a number of explanations why young people are unemployed, including:

- Employers look for skills and experience; they regard unskilled, inexperienced jobseekers as a risky investment.
- Education is not a substitute for skills. Schooling is not a reliable signal of capabilities, and low school quality feeds into poor workplace learning capacity.
- Given the uncertainty about the potential of school leavers, employers consider entry-level wages to be too high relative to the risk of hiring these inexperienced workers.

Increasingly, there are signs of economic disillusionment as the South African economy has not generated sufficient employment opportunities to absorb an increasing annual number of school leavers (Mahadea, Ramroop & Zewotir; 2011). The South African economy is growing at a slow rate. The gross domestic product

(GDP) of post-apartheid South Africa shows that an average economic growth rate of 3 per cent over the period 1994-2003, around 5 per cent during 2004 - 2007 and 2.8 per cent in 2008 (SARB, 2009).

After a period of contraction, amid global recession during two quarters in 2009, the economy bounced back with a growth of 4.6 per cent in the first quarter of 2010 (Statistics SA, 2011), with an overall GDP of 2.8 per cent in 2010, while the most recent update in 2011 second quarterly bulletin reports a GDP of 1.3 per cent for this period, illustrating a shrinking growth rate for 2011 (Statistics SA, 2011).

Lack of employment opportunities is associated with rising poverty, as partly evidenced by the number of people receiving social grants rising from 2.8 million in 1994 to 13.5 million in 2009, whilst the number of taxpayers is around 4,1 million (Cilliers, 2009). The social grants have since risen to 14,1 million by end March 2011 (Department of Social Development, 2011) and the number of registered individual taxpayers has increased from 4.1 million to more than 5.9 million taxpayers in 2009/10 (SARS, 2011).

Only five to seven per cent of successful Grade 12 candidates in South Africa found employment in the formal sector (Horn, 2006). The number of matriculants that is absorbed by the higher institutions of learning amounts to two per cent (Western Cape MEC for Tourism and Economic Development, 2011). The remaining 89 – 93 per cent is forced to create their own opportunities and to

attempt to provide their own form of employment; thus emphasising the urgent need for youth entrepreneurship.

The Hunger Project (2011) states the following facts about rural poverty:

- 1.4 million people in developing countries live on US \$1.25 a day or less. (in [IFAD Rural Poverty Report 2011](#))
- Rural areas account for three out of every four people living on less than US \$1.25 a day ([Human Development Report, 2010](#)).
- 22,000 children die each day due to conditions of poverty ([UNICEF State of the World's Children, 2010](#)).
- 75 per cent of the world's poorest people — 1.4 billion women, children, and men — live in rural areas and depend on agriculture and related activities for their livelihood (in [FAO Addressing Food Insecurity, 2010](#)).
- 50 per cent of hungry people are farming families (in [FAO Addressing Food Insecurity, 2010](#)).

Between 40 and 50 per cent of South Africa's population can be classified as living in poverty (Terreblanche, 2002; Woolard & Leibbrandt, cited in FAO, 2004) while 25 per cent of the population can be categorised as ultra-poor. Machete (2004) cited FAO (2004) when he stated that poverty was more pervasive in rural areas particularly in the former homelands. The majority (65 per cent) of the poor are found in rural areas and 78 per cent of those likely to be chronically poor are also in rural areas. Commenting on poverty in developing countries, Ashley and

Maxwell (2001, p. 395) state that *“Poverty is not only widespread in rural areas, but most poverty is rural....Yet this core problem appears to be neglected”*. Seekings (2007) points out that the government notes that poverty is concentrated in the former Bantustans (homelands).

The southern African sub-region incorporates some of the poorest countries in the world, with the proportion of those living on less than US \$1 a day averaging about 40 per cent for the region as a whole. Inequality in the sub-region manifests through rising levels of impoverishment, the paradox of "jobless growth", entrenched patriarchal systems, rising unemployment and the inability of the majority of people to access sources of livelihood or basic services in the rural areas (Southern African Regional Poverty Network - SARPN, 2008).

Armstrong, Lekezwa and Siebrits (2009) state the following:

- The poverty rates of South Africa's nine provinces differ significantly, as do those of the urban and rural areas of the country.
- In 2005/06 the poverty rates ranged from 24.9 per cent in Gauteng and 28.8 per cent in the Western Cape to 57.6 per cent in the Eastern Cape and 64.6 per cent in Limpopo.
- The three provinces with the highest poverty rates (KwaZulu-Natal, the Eastern Cape and Limpopo) are also relatively populous – at the time of in 2005, they housed 47.4 per cent of the South African population.

- It should come as no surprise then that fully 60.1 per cent of poor individuals lived in these three provinces.
- The incidence of poverty, however, was much higher in the rural areas of South Africa – 59.3 per cent of poor individuals were rural dwellers despite the fact that the rural areas housed well below one-half of the South African population.

The poverty stricken youth of rural South Africa are marginalised and have far fewer opportunities than their urban counterparts (Machete, 2004; Seekings, 2007; Armstrong, Lezekwa & Siebrits, 2007; SARPN, 2011). This is the true reflection of many sub-Saharan African countries and most emerging and developing economies as stated in SARPN's (2011) annual report, *Entrepreneurship Amongst Youth - South African Context*

The Global Entrepreneurship Monitor (GEM) South Africa 2009 Report, by Herrington, Kew and Kew (2009), states that South Africa faces numerous economic, political and social challenges in its new democracy, of which a key challenge is that of massive and growing unemployment. This problem is especially evident amongst the country's youth, who more often than not lack the experience, skills and education necessary to access employment in the formal sectors. The growing body of unemployed, and increasingly unemployable, young people is placing an additional burden on a limited government budget that already

has a large number of demands on it (Herrington, Kew, & Kew, in GEM South Africa, 2009).

In 2010, South Africa ranked 27th out of 59 countries, with its Total Entrepreneurial Activity (TEA) rate of 8.9 per cent being below the average (11.9 per cent) of all participating countries. In all previous GEM surveys, South Africa's performance in terms of relative position has consistently been below the median (GEM, 2010).

It is understood that youth entrepreneurship can create employment and income opportunities for young individuals who think imaginatively and apply their skills to risk-taking associated with starting up and running a small firm, with a view to answering customer needs (Mahadea, Ramroop & Zewotir, 2011).

An estimated 826 000 youth enter the labour market annually, seeking employment, having completed Grade 12 or having dropped out of school (Morrow, Panday & Richter, 2005). As mentioned earlier, only five to seven per cent of successful Grade 12 candidates in South Africa find employment in the formal sector (Horn, 2006). Thus, a large number of young people are seeking to enter a shrinking market with the global economic downturn and recession continuing to put pressure on economic growth.

The problem of unemployment has shadowed the past 16 years of South Africa's democracy. As early as the beginning of 1995, Trevor Manuel, as Minister of Trade and Industry, clearly identified unemployment as the main challenge facing the youth, stating that: *“With millions of South Africans unemployed and*

underemployed, the government has no option but to give its full attention to the task of job creation, and generating sustainable and equitable growth. Small, medium and micro enterprises represent an important vehicle to address the challenges of job creation, economic growth and equity in our country.” (Extract from White Paper on Entrepreneurship, in GEM South Africa 2009, p.12).

The challenges facing youth are as evident in 2011 as they were in 1995. This is emphasised by the Finance Minister, Pravin Gordhan, in his 2011 budget speech. The Minister mentioned that: *“South Africans shoulder the responsibility to build a better South Africa. We have taken on the challenge that the legacy of apartheid left us – a legacy of disempowerment, landlessness, inequality of opportunity, and millions of unemployed young people who cannot see a realistic prospect for a decent life.”* (National Budget Speech, 2011, p.5).

Harnessing the creative talents of the youth and promoting a culture of entrepreneurship among South African school leavers is critical for fostering youth economic participation and for advancing economic growth and development (Mahadea *et al.*, 2011).

1.2 Rationale for Conducting Research

The rationale for conducting this research is based on the fact that youth entrepreneurship plays a critical role in South Africa’s efforts to promote a business environment conducive to sustainable growth, as well as to economic and social

prosperity (Steenekamp, Van der Merwe, & Athayde, 2010), and would contribute to a greater absorption of youth into economic activities.

Herrington, Kew, and Kew (2009a) posit that education has a significant impact on entrepreneurial success, and especially on innovation as being a key success factor in the technologically advancing global environment. It is therefore necessary to use entrepreneurial education of scholars and students as a vehicle to drive economic growth and employment.

Gibb (2007, p.13) in the Global Education Initiative (GEI) report, further emphasises the need for a positive entrepreneurial spirit, stating that, *“entrepreneurship is a tremendous force that can have an impact on growth, recovery and societal progress by fuelling innovation, employment generation and social empowerment. Greater awareness is required of the critical role of education in developing the next wave of leaders, innovators and entrepreneurs who can create jobs and value for society, and empowering others to dream of a better future”*.

According to Herrington, Kew, and Kew (2010), a culture of entrepreneurship can unleash the economic potential of all people in South Africa, particularly the youth. The South African youth need to be provided with options that allow them to contribute towards the economy (Mahadea, Ramroop, & Zewotir, 2011).

The study focused on assessing the entrepreneurial attitude of secondary rural school learners and was bench marked against a similar study by Steenekamp,

and Van der Merwe (2010, 2011), and the study by Athayde (2004, 2009a) which was conducted on urban students of different races, and on both public and private institutions, Sedibeng (Gauteng, South Africa) and London (UK), respectively. The current study also draws some bench marks from the study by Global University Entrepreneurial Spirit Student Survey - GUESS (Sheepers, Solomon, and De Vries, 2009). The current study focused strictly on rural public schools in one of the poorest regions of Limpopo, South Africa, where the majority of the learners are black Africans.

1.3 Problem Statement

Most South Africans believe that income can be earned through a good education and a good job (Oseifuah, 2010). Herrington, Kew, and Kew (2009) posit evidence that there is a belief that job creation is mainly the responsibility of government. This is a major weakness brought about by the education system, which had failed to promote a culture of self-employment. Many South Africans are unable to translate knowledge and skills-acquired into money (Oseifuah, 2010). This challenges the country to capitalise on strengths such as government initiatives to promote entrepreneurship and innovation.

GUESS (2009) tabulated the reasons for studying attitude of university students towards entrepreneurship; these are comparable and applicable to problems facing high school learners. Therefore, in order to influence students' attitude, it is important to intervene at high school level, where career choices are influenced.

Although young individuals have tremendous potential to make a contribution to the value-adding activities of the country, a high proportion of them, about 50 per cent are unemployed or underemployed, and many are condemned to a marginalized existence of poverty on the fringes of the informal economy (Mlatsheni & Rospabe, 2002; Statistics SA, 2008). According to a report commissioned by the Umsobomvu Youth Fund, about a third of the South African youth live in poverty (Morrow, Pandey & Ritcher, 2005).

It is essential to understand the entrepreneurial attitude amongst youth so that positive steps can be taken to develop a body of knowledge, and entrepreneurial activity relevant for learners at school level can be stimulated. The question arises as to: 'whether the young rural secondary school learners have attitudes that are entrepreneurial inclined?'

The Attitude Towards Enterprise (ATE test²) is a questionnaire (See Appendix 1) in which Athayde (2009a) selected five dimensions of latent enterprise potential as constructs. These include: achievement, personal control, creativity, leadership and intuition. These dimensions were operationalised by placing them within a context relevant to young people still at school. The tool was used to evaluate an enterprise programme for young people attending secondary schools in London during 2003-2004 (Athayde, 2009).

Steenekamp, Van der Merwe, and Athayde, (2010) studied the validity of the ATE test² by applying it in secondary schools in the Sedibeng area of Gauteng (South

Africa). The tool was found to be valid and applicable to Grade 10 learners in an urban area.

This raised the question of whether the tool could be applied to rural students. Since rural South Africa closely reflects the realities of rural sub-Saharan Africa, this formed the basis for the study to be conducted using a similar approach to that followed by Steenekamp *et al.* (2010) and Athyde (2004). The method used was a cross-sectional approach to determine the attitude of rural students.

The third question raised seeks to find if there are any socio-economic factors that can influence the entrepreneurial spirit of young rural learners. The effects of gender, parents in business, and high future aspirations, are the main factors that are often evaluated to assess young people's drive towards entrepreneurship (Athyde, 2009a).

1.4 Research Objectives

As stated in section 1.3 above, the fundamental purpose of this study stems from the question that seeks to determine whether young rural secondary school learners have attitudes that are entrepreneurially inclined and influence them positively in the conducting entrepreneurial activities within their current environment. Secondly, is the tool developed by Athyde (2004), and applied to Gauteng urban learners by Steenekamp *et al.* (2010), applicable to rural students in determining their attitude towards entrepreneurship. It is important to find out which factors influence learners towards a positive entrepreneurial spirit. In order to

answer the questions raised, the following objectives were set and are outlined below.

1.4.1 Primary Objective

The main objective of this study is to assess the entrepreneurial attitudes of young rural secondary school learners, using the Attitude Towards Enterprise Test questionnaire as a measuring tool.

1.4.2 Secondary Objectives

1.4.2.1 Applicability of the ATE test² on rural students in South Africa

To determine whether the ATE test² is a suitable instrument for measuring the entrepreneurial attitudes of young rural learners in schools in an emerging economy, using South African as a reference.

1.4.2.2 Entrepreneurial socio-economic demographics

To determine the demographics associated with the socio-economic activities that influence learners' attitude towards entrepreneurship.

1.4.2.3 Aspirations for the future in entrepreneurship

To determine whether the learners have aspirations that can drive them towards a positive entrepreneurial spirit.

1.5 Research Scope

The study will assess the attitudes of secondary school learners, specifically Grade 10 learners, towards entrepreneurship by means of an existing questionnaire, the Attitude Towards Enterprise test (ATE test² – see Appendix 1) .

Grade 10 learners are selected because it is at this stage in their school career that they choose their career path.

1.6 Summary

Due to the high levels of unemployment and the high poverty rate in the Limpopo province, a study was initiated, focusing on the attitudes toward enterprise of rural youth in an emerging economy, with particular reference to South African rural youth.

The main objective of this study was to determine the attitudes of young rural students based on the rationale that there is an increase in the number of unemployed youth in rural areas of South Africa. The study focused on whether the use of the ATE test² instrument is applicable to rural students and determined entrepreneurial potential by evaluating the attitudes of young South Africans. The learners' socio-demographic background and its influence on attitudes are evaluated; together with drivers that positively influence entrepreneurial attitudes.

In order to absorb some of the younger work-seekers into the existing economic activities of the country, a new approach has to be configured.

The next chapter focuses on the literature review, and the theory base for entrepreneurial attitudes amongst the youth.

CHAPTER 2

2. LITERATURE REVIEW

2.1 Introduction

South Africa suffers from high unemployment, low economic growth and sub-standard Total early-stage Entrepreneurial Activity (TEA) (Swanepoel, Strydom & Nieuwenhuizen, 2010). Kroon, De Klerk and Dippenaar (2003); and North (2002) argue that the entrepreneurial energy of all people, including children, should be harnessed towards economic development, job creation and the alleviation of poverty. Isaacs, Visser, Friedrich and Brijlal (2007) claim that education is the key to establishing a culture of entrepreneurship in South Africa, and schools are the place where the most profound impact can be brought about in youth development. Other researchers have argued that education and training for entrepreneurship should positively impact entrepreneurial activity by enhancing the instrumental skills required to start-up and grow a business. This can be done by enhancing the cognitive ability of individuals to manage the complexities involved in opportunity recognition and assessment (DeTienne, & Chandler, 2004), and by affecting their cultural attitudes and behavioural dispositions (Peterman, & Kennedy, 2003).

Levie, Hart and Anyadike-Danes (2009) identified a severe shortfall in academic research - namely the lack of assessing the effectiveness of entrepreneurship training interventions - as a challenging factor in entrepreneurial research.

In this chapter the discussion will first define entrepreneurship, before discussing entrepreneurship studies that focus on traits, and exploring entrepreneurial education. It further evaluates attitude approaches in entrepreneurship research and concludes with a detailed discussion of the ATE test² developed by Athayde (2009a) to assess entrepreneurship in learners.

2.2 Entrepreneurship Defined

Since the establishment of the concept in the early 1700s, the definition of entrepreneur has been a matter of debate among scholars, academicians, researchers and policy makers (Herrington, Kew, & Kew, 2009). Herrington, Kew, and Kew, in GEM SA (2009) report, summarise entrepreneurship definitions from different researchers including Schumpeter (1934); Kirzner (1973); Drucker (1985); Rumelt (1987); Low and MacMillan (1988); Timmons (1997); Venkataraman (1997); and Morris (1998), with each definition differing from the other.

According to scholars, entrepreneurs are innovators, risk takers, leader managers, initiators, creative thinkers, having internal locus of control, etc.; but the question still remains: *Who is an entrepreneur?* Agarwal and Upadhya (2009) developed a workable definition as follows: “An entrepreneur is one who creates and establishes a new venture by exploring opportunity for profit / growth, as well as invests his/ her majority of the time and resources to make it his / her prime source of earning”. Similarly, “The process of creating and establishing a new venture by exploring opportunities for profit/growth is called Entrepreneurship”.

Steyaert (2007) claims that 'Entrepreneurship' has never been positioned as the key concept. He further posits that this could elucidate the inherently process-oriented character of entrepreneurship. This implies that, while scholars are still seeking ways to define entrepreneurship, it is important to focus on the practicality and processes of entrepreneurship.

2.3 Entrepreneurship Studied Using Traits

Academic research on entrepreneurship focused on the personality traits, characteristics and 'special' skills of entrepreneurs (Moen, Rahman, Salleh, & Ibrahim, 2004), including common personality traits such as achievement motivation, risk-taking propensity, locus of control and opportunity recognition.

The trait approach has been regarded as useful for simplistic tests based on traits for exploration and descriptive purposes, and to explain some aspects of why people become entrepreneurs (Cromie, 2000). Other findings presenting the problem of the traits approach to entrepreneurship research include those of Luthje, and Franke (2003), who claim that 'attitudes towards entrepreneurship' produce the strongest explanation for the entrepreneurial intentions of students.

Athayde (2009a) further investigates the trait approach and states that many scholars such as Athayde (2004); Cromie (2000); and Robinson, Simpson, Huefner, and Hunt (1991) believe that traits approaches have not been successful in entrepreneurship research.

2.4 Entrepreneurial Education

Several studies (Athayde, 2009a; Dickson, Solomon, & Weaver, 2008) suggest that entrepreneurship, or certainly some aspects of it, can be taught successfully in general education. According to Dickson, Solomon, and Weaver (2008), there is a significant and positive relationship between education and entrepreneurial performance.

According to Bjerke (2007) entrepreneurship can be the main driving force behind innovative change and job creation. Bjerke (2007), in Steenekamp *et al.* (2010), neither confirms nor denies that entrepreneurship can be taught, but suggests that entrepreneurship training should focus on developing learners through the stages of 'knowing about' entrepreneurship, to 'knowing why and how', then shown 'how' until they reach a point where they 'can do'.

Creativity is an important antecedent of entrepreneurial intentions (Hamidi, Wennberg, & Berglund, 2008). The challenge for entrepreneurship in the classroom is to allow young people to experience and feel the concept rather than just learning about it in the conventional sense (Gibb, 2007). Horn (2006) argues that educational reform is necessary in an effort to “bring school and work closer together”, with the school-to-work strategy employed in the USA being used as an example: employers provide work-based learning opportunities to schools in their surrounding area, and teachers integrate these experiences and career information in the classroom curriculum.

Nieuwenhuizen and Groenewald (2008) describe the ideal entrepreneurial-directed approach as one where the instructor becomes a learning facilitator by including role playing, management simulations, structured exercises and focused feedback to minimize the traditional 'listen and take notes' role of learners. It is suggested by Nieuwenhuizen and Groenewald (2008) that training on perseverance and positive attitude is important as entrepreneurs are 'doers' and prefer to learn in an environment where they can experiment, reflect and be active in the learning process. It follows that educators have to adjust their method of teaching if they want to produce successful entrepreneurs.

Researchers have suggested that education and training for entrepreneurship should positively influence entrepreneurial activity by enhancing instrumental skills required to start-up and grow a business (Honing, 2004), by enhancing cognitive ability of individuals to manage the complexities involved in opportunity recognition and assessment (DeTienne & Chandler, 2004), and by affecting their cultural attitudes and behavioural dispositions (Peterman & Kennedy, 2003).

Demonstrating these effects, however, has been a challenge. First, there may be considerable self-selection in entrepreneurship education. Secondly, the effects may be long-term rather than instantaneous. For example, in the short term, graduates of entrepreneurship education may recognise the need to amass specific knowledge (Fiet & Pankaj, 2008) and decide to defer action. Thirdly, there is the need for adequate control groups to demonstrate effects. Fourthly,

individuals may receive such education and training at several points in their lives, such as at school, university, or after formal education, and it may take the form of traditional learning or experiential immersion in the phenomenon; through a placement, for example.

The majority of entrepreneurship teaching is currently delivered by business schools. Some commentators argue that the business management focus may have an adverse impact on the potential of entrepreneurship in other non-business areas, for example in public services including police and education (Gibb, 2005; Kirby, 2004). Moreover, it is argued that the existing models fail to teach the essentials of entrepreneurship: how to learn from stakeholders and, importantly, how to manage relationships based on trust, personal judgment and 'know who'.

There is little emphasis on exposing students to tacit knowledge and to how things are done in practice. The range of pedagogical tools designed to 'nurture entrepreneurial behaviours' is limited to cases, lectures, projects, visits and presentations (Gibb, 2005). Kirby (2004) claims entrepreneurship education should focus on educating 'for' entrepreneurship rather than 'about' it. According to Gibb, entrepreneurial behaviours, skills and attributes, nurtured by well-designed pedagogies, combined with exposure to experience, are essential components of being able to 'feel' what it is like to be entrepreneurial and are key to the creation of entrepreneurial values. (Gibb, 2005).

An alternative model for delivering entrepreneurship education, as Gibb (2005) suggests, would include among other things:

- Focus upon the understanding and development of entrepreneurial behaviours, skills and attributes in different contexts.
- Entrepreneurship open to all and not exclusively the domain of the high-flying growth-seeking businessperson.
- Exploration of the need for, and role of, entrepreneurial behaviours in all kinds of different contexts, public and private, organisational and individual.
- Maximising the opportunity for experiential learning and engagement in the 'community of practice', in particular, creating space for learning by doing and re-doing.

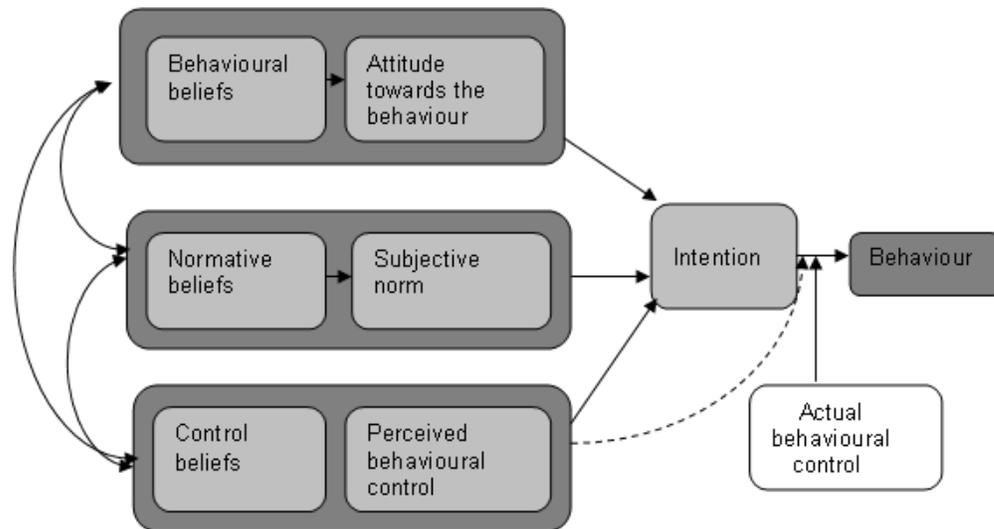
2.5 Attitude Approaches to Entrepreneurship Research

Literature on entrepreneurship suggests that attitude-approach to research is largely based on the Theory of Planned Behaviour (TPB), as proposed by Ajzen in 1991. In particular, several studies have incorporated these theories to predict pro-social behaviours (behaviours that have a positive impact on society), often through outcomes that create positive benefits to others.

According to the TPB, intentions predict behaviour and these intentions are perceived behavioural control over behaviour (Gird & Bagraim, 2008). Attitudes towards the behaviour refer to how favourable an appraisal the person has of the behaviour and depend on expectations and beliefs about personal impact and

outcomes resulting from the behaviour, which represents behavioural beliefs (as shown in the model in Figure 1 above).

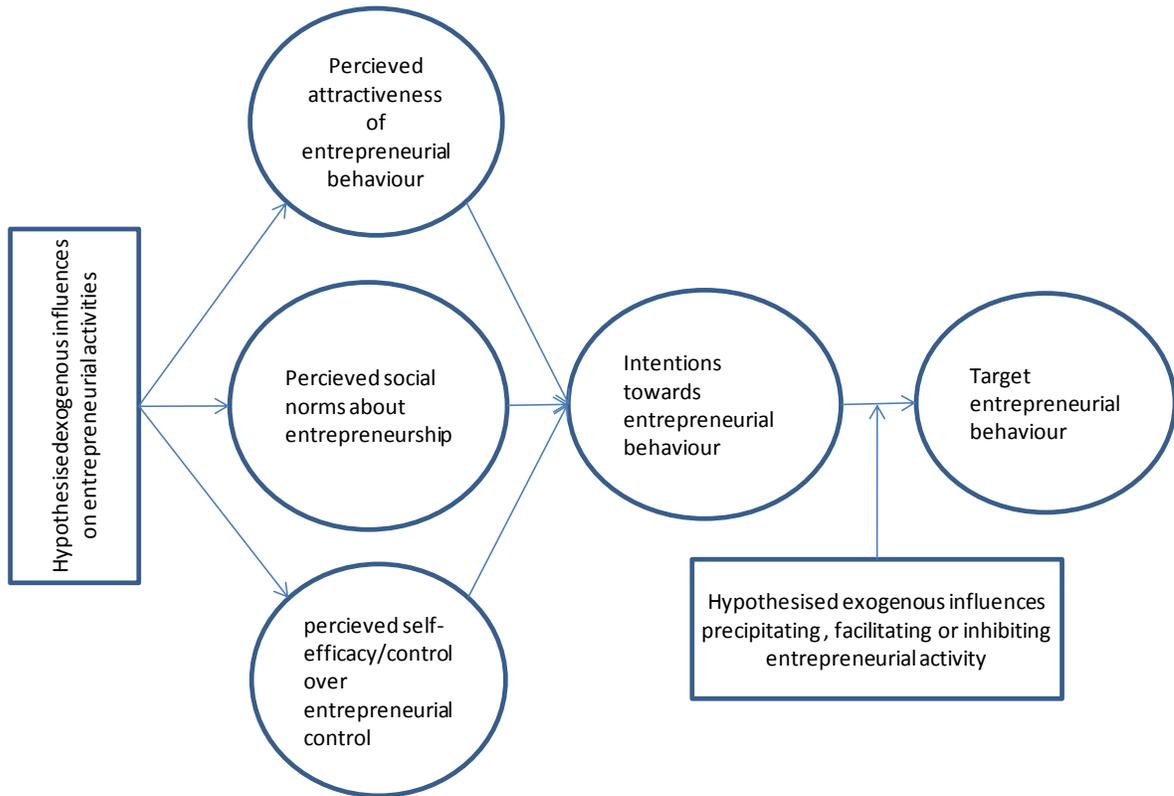
Figure 1: Model of the theory of planned behaviour (Ajzen, 1991).



Subjective norms refer to perceived social pressure to perform the behaviour. These pressures stem from what important people in the person’s life think about a particular behaviour. These influence people, serving as reference guides to behaviour and influence beliefs (normative beliefs). According to TPB, entrepreneurship intentions predict entrepreneurial behaviour (Ajzen, 1991) and entrepreneurial intentions are predicted by attitudes towards initiating a new venture (the entrepreneurial decision), subjective norms about entrepreneurship, and perceived behavioural control over starting a business (Gird & Bagraim, 2008).

Ajzen and Cote (2008) applied the theory to entrepreneurship, as shown in Figure 2 below.

Figure 2: TBP applied to entrepreneurship (Ajzen & Cote, 2008)



The model is particularly well-suited to understand entrepreneurship behaviour as it:

- Focuses on situations in which an individual has complete volitional control, and
- Claims to moderate the effects of external factors on entrepreneurial intentions.

The component of perceived effectiveness of entrepreneurial behaviour, assesses both perceived control over the process as well as self-efficacy, and it is most important in situations where the entrepreneur may not feel in control of all factors that influence the intended outcome of their behaviour. The effects of external and situational factors on intentions are moderated through attitudes and beliefs, which are captured by measures of attitude towards the behaviour, subjective norms concerning the behaviour, and perceived behavioural control (Gird & Bagraim, 2008).

2.6 Attitude Towards Enterprise Test (ATE test ²)

The 'Attitude Towards Enterprise Test' (ATE Test²) was developed by Athayde (2003) based on the finding that entrepreneurship in young people under 25 years, currently represents a relatively untapped source of new business start-ups and economic growth. The study uses an evaluation tool specially developed to measure enterprise potential in young people.

This tool (the ATE Test) is an attitude scale designed to measure changes in attitudes towards enterprise, and was originally developed for young people aged 16-18 at the Small Business Research Centre, (SBRC) Kingston University (Athayde 2009a; Athayde and Hart, 2008; Athayde, 2004; Athayde, 2003).

Enterprise potential in young people was conceptualised as a constellation of attitudes associated with key dimensions of enterprising individuals. The

conceptual development of the evaluation tool was based on Robinson, Stimpson, Huefner, and Hunt's (1991) Entrepreneurial Attitude Orientation (EAO) scale.

The theory of planned behaviour underpins the scale (Ajzen, 1991). The EAO uses a tripartite model of attitudes comprising three dimensions: affective (feelings towards an object), cognitive (beliefs and thoughts about an object) and conation (behavioural intentions and predispositions to behave in a certain way towards the object).

The EAO scale consists of four constructs related to entrepreneurship, including "innovation", "personal control", "the need for achievement" and "self-esteem" (Robinson *et al.*, 1991). The EAO scale has been used in several studies in the U.S. (McCline, Bhat & Baj, 2000; Rasheed, 2005), in Malaysia (Shariff, & Saud, 2009), in South Africa (Wyk, Boshoff, & Bester, 2003), and India (Kundu, & Rani, 2008). However, while the theoretical foundations of the EAO were useful as the basis for an attitudes test for young people, the actual test was designed for use with adults.

Therefore, the ATE test² was designed to be used with young people still at school, rather than with adult entrepreneurs and, though the tripartite model of attitudes was retained, the constructs and their meanings were altered (Athayde, 2009a).

First, the concept of "enterprise potential in young people" was defined as a multidimensional concept comprising several dimensions. Statements reflecting attitudes towards these dimensions were then generated, using the tripartite model

of attitudes (Athayde, 2009a). Responses to the statements are deemed to be a reflection of respondents' perceptions about their ability, and as such the measure incorporates the concept of "self-efficacy". As with other measures of self-efficacy, positive responses to the statements (i.e. high scores) would indicate that respondents perceived themselves to be capable in a given area (Bandura, 2001; Pajares & Schunk, 2001).

The tool was tested and refined during four separate pilot studies until a valid and reliable test was developed. This was then used to evaluate an enterprise programme for young people attending secondary schools in London during 2003 - 2004 (Athayde, 2009a).

Altogether five dimensions, key to enterprise potential, were defined based on a review of relevant studies:

- Self-perceptions of ability to lead others.
- Perceptions of creativity
- Achievement orientation
- Perceived personal control
- Perceived use of intuition

Self-efficacy has been shown to act as a regulator that influences levels of success in carrying out tasks. It has also been shown to be a reliable indicator of academic achievement in children, and such scales are used widely with children and young people (Martinelli, Bartholomeu, Caliatto & Sassi, 2009; Pajares, & Schunk, 2001;

Pajares, 1996). Furthermore, there is a growing body of research into the development of entrepreneurial self-efficacy scales for adults (McGee, Peterson, Mueller, & Sequeira, 2009). Self-efficacy is at the centre of Bandura's social cognitive theory (Bandura, 1977). Perceived self-efficacy, which can be measured using scales, is a reflection of people's beliefs about their capability to successfully accomplish certain tasks.

According to Bandura (2001), the construction of sound measurement scales relies on a good conceptual analysis of the relevant domain. Self-efficacy is not a global trait but is domain specific; that is, one may have high self-efficacy in one area but low self-efficacy in another. Therefore, self-efficacy scales need to reflect this by being multi-dimensional. Each dimension should also be domain specific, closely reflecting a domain that will be familiar and relevant to potential respondents.

Athayde (2009a) found a weakness of the original ATE test² to be a lack of specificity in the domains relating to each sub-scale. To rectify this, the domains were redefined by placing them in a specific context, which would be more relevant to young people.

The domains were specified for each dimension by contextualising them in situations young people would find familiar. The three weakest scales were redefined as follows: 'Intuition' was redefined as 'using intuition in problem-solving'; 'achievement' as 'achieving well in project work'; and 'personal control' as 'personal control over future career'. The remaining two sub-scales were redefined

as follows: 'creativity' became 'using creativity in the classroom', and 'leadership' became 'ability to lead and inspire others'.

2.7 Policy Development for Youth Entrepreneurial

The importance of an 'enterprise culture' to the UK's future ability to remain competitive in a global economy was the focus of a recent Government Enterprise White Paper (BERR, 2008). The Enterprise White paper advocates changing attitudes to develop an enterprise culture in the UK, with a main focus on schooling as a conduit for fostering 'enterprise'. Overall, substantial investment has been made by the government, in primary, secondary and tertiary institutions over the last decade, and enterprise education is now a mandatory requirement in secondary schools (BERR, 2008; Ofsted, 2005).

In the UK, these issues of enterprise training feature prominently in enterprise policy, particularly for youth. For example, the National Council for Graduate Entrepreneurship (NCGE) was set up in 2004 to increase graduate entrepreneurship through the provision of more and better enterprise training in UK institutes of higher education (NCGE, 2004).

The European Union (2008) designated the encouragement of an 'enterprising spirit' in young people as a pre-condition for successful employment growth, competitiveness and innovation. Baumol, Litan, and Schramm (2007) established that entrepreneurship is a vital component of economic growth.

In 2009, the Organisation for Economic Cooperation and Development (OECD) launched a work-stream with the objective of advancing entrepreneurship education as one of the key drivers of sustained social development and economic recovery (OECD, 2009a, 2009b). Encouraging enterprise activity is also perceived as key to creating jobs and improving competitiveness and economic growth throughout Europe (European Commission (EC), 2007, 2006, 2003, 2002).

According to the Department for Business and Regulatory Reform (BERR), 2008, OECD (2001); EC (2003), small firms contribute to wealth creation and can make an important contribution to job-creation; in providing employment options for people from under-represented and disadvantaged groups, and in creating a dynamic and creative business environment, adaptable to change. However, entrepreneurship is regarded not only as a source of new businesses, but is also perceived to be an approach that can be applied by employees in any working environment (European Commission, 2006; Gibb, 2002).

Enterprise policy initiatives need to be evaluated to provide evidence about their efficacy to providers, policy makers and government; and to justify expenditure of public money, and yet, many researchers have highlighted a lack of rigorous independent evaluation studies of enterprise education programmes in particular (Levie, Hart, & Anyadike-Danes, 2009; Hytti, & O’Gorman, 2004; Peterman, & Kennedy 2003; Westhead, Storey, & Martin, 2001; Storey, 2000). The main weakness identified was a lack of techniques to isolate the impact of participation,

such as control groups, not controlling for self-selection, and not taking account of the impact of context.

To enable more rigorous evaluations of enterprise education programmes in schools, Athayde (2009a, 2004, 2003) has developed a test to measure latent enterprise potential in young people. Pilot studies indicated that the Attitudes to Enterprise Test (ATE Test²) required some further development of the constructs in order to achieve greater consistency and validity (Athayde, 2009a).

The establishment, promotion and cultivation of a culture of entrepreneurship among the youth are topics that have received considerable attention recently, not excepting in the United States and Japan. Various centres, foundations and afterschool classes in entrepreneurship for children have been established in countries such as the United States and Japan (Brown, 2000; Suvendrini, 2001; Edmond, 1995). Kellner (2000) refers to the National Foundation for Teaching Entrepreneurship (NFTE), a non-profit organisation that teaches inner-city children how to become entrepreneurs. Thirty-six per cent of 31 000 children who have gone through the programme went on to start their own businesses, ranging in annual revenues from US \$500 to \$500 000. Publications such as KidpreneursNews (for children aged eight to twelve) and Black Enterprise for teens (aged thirteen to eighteen) are examples of publications in the United States created to teach entrepreneurship skills to children (Smith, 1999).

2.8 Validity and Reliability of the ATE test² Tool

The first pilot study was designed to test the psychometric properties of the ATE test, using a sample of 196 young people aged 15 - 18 years old (Athayde, 2009).

During the study, Athayde (2004) posits that the procedures for developing scales indicate that new scales must meet basic criteria including: internal reliability, uni-dimensionality and validity (De Vellis, 1991; Gerbing, & Anderson, 1988).

Cronbach's Coefficient Alpha was used to test reliability; an exploratory factor analysis (EFA) was used to test for uni-dimensionality and structural validity; and concurrent validity was established by comparing the correlations between ATE test² constructs and the established constructs (Warr, Cook, & Wall, 1979).

Athayde (2009a) and Steenekamp *et al.* (2011) posit that following procedures to test for these criteria, the original instrument was reduced to 18 statements, with many of the original statements discarded. Athayde (2009a) confirms that one of the sub-scales, the intuition scale, was dropped altogether, due to its low reliability ($\alpha < 0.7$), and because the EFA showed that this sub-scale was not uni-dimensional. These findings are used as the basis for improving the test to increase overall reliability and validity, and to redefine the "intuition" construct to achieve a reliable sub-scale with a Cronbach greater than the minimum acceptable limit of 0.7. To improve the scales, guidelines for the design of self-efficacy scales are used to inform the process (Bandura, 2001; Pajares, & Schunk, 2001).

A method followed by Athyde (2009a) for statistical analysis references that the effect sizes (d) were interpreted according to Cohen's guidelines (Field, 2005; Ellis, & Steyn, 2003; Cohen, 1992), where $d = 0.2$ is a small effect; $d = 0.5$ is a medium effect; and $d = 0.8$ is a large effect was adopted. She further states that, in terms of interpretation, results with medium effects ($0.5 \leq d < 0.8$) were regarded as visible effects and $d \geq 0.8$ as practically significant, being the result of a difference causing a large effect (Field, 2005; Ellis, & Steyn, 2003; Cohen, 1992).

Athyde (2009a) suggests that structural validity of new scales can be determined through several methods, focusing on validity both within the factors of the scale (convergent validity), and between measures, or nomological validity (Haynie, & Shepherd, 2009; Hair, Anderson, Taltham, & Black, 1998; Gerbing, & Anderson, (1988), cited in Athayde (2009a).

Similar tests are used by Haynie & Shepherd (2009) to test the structural validity of their measure of adaptive cognition (MAC), described as a key entrepreneurial resource, by McGee, Peterson, Mueller, & Sequeira (2009), in developing their measure of entrepreneurial self-efficacy for adults, and by Thompson (2009) to develop the Entrepreneurial Intent Metric. Convergent validity shows that given items in a scale measure the same factor and that, therefore, that factor is uni-dimensional (Hair, Anderson, Taltman, & Black, 1998).

Athyde (2009a) further posits that this reveals that the theoretical assumptions underpinning the factor, namely that all the statements are interrelated, are valid as

stated (Nunally, & Bernstein, 1994). Uni-dimensionality was tested using a principal component analysis (PCA). The principal component analysis (PCA) requires the Kaiser-Meyer-Olkin Measure (KMO) developed by Kaiser (1974) for sampling adequacy. The KMO validates if the sample collected is adequate to make statistical inferences.

2.9 Adaptation of the ATE in South Africa

A study by Steenekamp *et al.* (2010) was conducted in South Africa to determine the attitudes of Grade 10 learners towards entrepreneurship. The study employed the 'Enterprise Attitude Questionnaire' developed to measure the entrepreneurial attitudes of Grade 10 learners in the Sedibeng District, Gauteng Province (Steenekamp *et al.*, 2010).

The measuring instrument incorporated the 'Enterprise Attitude Questionnaire' consisting of the ATE Test² (Athayde, 2009a, 2004), a comparative section on the entrepreneurial attitudes and perceptions in 43 GEM countries in 2008 (Steenekamp *et al.*, 2009), and a section designed to collect demographic information from respondents.

2.10 Literature Review: Conclusion

Academic research on entrepreneurship cannot focus only on personality traits as found by Moen, Rahman, Salleh, and Ibrahim (2004). The work conducted by Luthje, and Franke (2003); Athayde (2009a); Cromie (2000); and Robinson,

Simpson, Huefner, and Hunt (1991), suggest that traits-only research were unsuccessful, and a different approach was required.

Gird and Bagraim (2008) claim entrepreneurial intentions to be predicted by attitudes towards initiating a new venture (the entrepreneurial decision), subjective norms about entrepreneurship, and perceived behavioural control over starting a business. The effects of external and situational factors on intentions are moderated through attitudes and beliefs, which are captured by measures of attitude towards the behaviour, subjective norms concerning the behaviour and perceived behavioural control.

Ajzen and Cote (2008) applied the theory on entrepreneurship for the first time in entrepreneurial research. Therefore, the component of perceived effectiveness of entrepreneurial behaviour, assessed both the perceived control over the process as well as self-efficacy, and it is particularly important in situations where the entrepreneur may not feel in control of all factors that influence the intended outcome of their behaviour.

The 'Attitude Towards Enterprise Test' (ATE Test) was designed by Athayde (2003, 2004, 2009a) to measure young people's attitudes towards enterprise, and was based on the Entrepreneurial Attitude Orientation (EAO) scale (Robinson, Stimpson, Huefner, & Hunt, 1991), where the theory of planned behaviour underpins the scale (Ajzen, 1991). The ATE test² was designed, therefore, to be used with young people still at school, rather than with adult entrepreneurs and,

though the tripartite model of attitudes was retained, the constructs and their meanings were altered (Athayde, 2009a).

As a result of these issues, large-scale evidence concerning the influence of entrepreneurship training and education on entrepreneurial activity is still lacking (Béchar, and Grégoire, 2005). The range of pedagogical tools designed to 'nurture entrepreneurial behaviours' is limited to cases, lectures, projects, visits and presentations (Gibb 2005). The majority of entrepreneurship teaching is currently delivered by business schools.

Some commentators have argued that the business management focus may have an adverse impact on the potential of entrepreneurship in other non-business areas, for example in public services including police and education (e.g. Gibb, 2005; Kirby, 2004). Moreover, it is claimed that the existing models fail to teach the essentials of entrepreneurship: how to learn from stakeholders and importantly how to manage relationships on the basis of trust, personal judgment and 'know who'.

CHAPTER 3

3. RESEARCH QUESTION AND HYPOTHESIS

3.1 Introduction

This work intended to do a study using the ATE test², designed to measure young people's attitudes towards starting a business, and their enterprise potential. In this section, the base for the research question is discussed. The propositions based on the literature review are outlined. The last part of this chapter focuses on the scope and limitations of this research report.

3.2 Base for the Research Question

Gibb (1993, 2000) argues that enterprise skills are not fixed personality traits, but can be learned and developed through experience, which is a tacit premise of all experiential learning-based enterprise programmes. Support for this argument is found in Littunen's (2000) study, which highlights that the contingent nature of entrepreneurial characteristics, such as 'personal control', is developed through entrepreneurial process. These findings resulted in the proposed research question and hypothesis discussed in this section.

3.3 Research Questionnaire

The research aim is to determine the attitudes of rural young people towards entrepreneurship and the following specific questions were addressed:

- (i) What is the attitude of young rural learners towards entrepreneurship?

- (ii) Can the ATE test² tool be applied to rural learners in an emerging economy?
- (iii) Which demographics are associated with socio-economic aspects of rural learners who have a positive attitude towards enterprise?
- (iv) What is the perception of young rural learners about their future and aspirations, given the current economic conditions?

3.4 Research Proposition

Athayde (2009a) posits that the procedures for developing scales indicate that new scales (measure on rural learners) must meet basic criteria including: internal reliability, uni-dimensionality and validity (De Vellis, 1991; Gerbing, & Anderson, 1988). The first propositions are:

- (i) **Proposition 1 (P1):** The measuring instrument has acceptable construct validity.
- (ii) **Proposition 2 (P2):** The measuring instrument has acceptable reliability.
- (iii) **Proposition 3 (P3):** There is correlation (a relationship) between the constructs of leadership, achievement, creativity, personal control and intuition measured in the ATE Test.

The next set of propositions is concerned with differences in response by demographic groups. For example, UK national statistics show gender differences in entrepreneurial activity, with men more likely to engage in such activity than

women (Harding, & Bosma, 2006). Other differences relate to the family background of business ownership.

- (iv) **Proposition 4 (P4):** There is a difference between the entrepreneurial attitudes of male and female Grade 10 learners with regard to the constructs of leadership, achievement, creativity, personal control and intuition.
- (v) **Proposition 5 (P5):** There is a difference in the entrepreneurial attitudes of Grade 10 learners with self-employed parents or guardians, opposed to those learners whose parents or guardians are not self-employed with regard to the constructs of leadership, achievement, creativity, personal control and intuition.

Mahadea, Ramroop, and Zewotir (2011) found that African black learners have a greater positive disposition towards becoming entrepreneurs compared to learners belonging to other ethnic groups. Their study was echoed in Burger *et al.* (2004) and GEM reports (2005, 2009).

Proposition 6 seeks to compare the findings of the studies conducted by Athayde (2009a) and Steenekamp *et al.* (2011) based on the ATE test² conducted in the urban areas in United Kingdom and South Africa respectively.

- (vi) **Proposition 6 (P6):** There is a difference in the entrepreneurial attitudes of Grade 10 learners in the Sekhukhune compared to Sedibeng sample, and British learners (Steenekamp *et al.*, 2011; Athayde, 2009a) with regard to the constructs of leadership, achievement, creativity, personal control and intuition.

GEM reports the proportion of young people who believe they have the skills to start a new business is significantly lower than that in other developing countries. People who believe that they have the ability to start a business are five times more likely than others to attempt starting one (GEM Report, 2005:34).

Proposition 7 seeks to determine if the learners have sufficient hopes and aspirations to envisage participating into South Africa's economic development, despite all the negative statistics regarding low levels of employment opportunities and rising poverty (Mahadea, Ramroop, & Zewotir, 2011). Despite the higher rates of discouraged workers; and despite the 'official' unemployment rate of 25 per cent in the first quarter of 2010 (SARB, 2010), what do the learners' think about their future?

- (vii) **Proposition 7 (P7):** Learners with positive future aspirations are more likely to start their own business. There is a strong relationship between career aspirations and starting their own business.

CHAPTER 4

4. RESEARCH METHODOLOGY

4.1 Introduction to Research Methodology

The research process, in general, can be described as follows (Zikmund, 2003):

- Problem discovery;
- Selection of a research technique from the following options:
 - Exploratory research
 - Descriptive research (this is the type selected for this research); and
 - Causal research
- Formulation of the research question (as set out in Chapter 3);
- Selection of the basic research method (which, in the case of descriptive research, would entail one of the following):
 - A survey;
 - An experiment;
 - A secondary data study; or
 - An observation
- Collection of data;
- Data processing and analysis;
- Interpretation of findings; and
- Writing a report.

This same outline is followed in this chapter.

4.2 Problem Discovery

The rationale, the research problem and the justification for doing this research were discussed in Chapter 1. In the same chapter, the objectives were outlined while the research questions and hypotheses were set out in Chapter 3.

4.3 Selection of Research Technique

This study involves a descriptive research method. Blumberg, Cooper and Schindler (2008) describe a descriptive study as one that tries to discover answers to the questions: who, what, when, where and sometimes, how. They further explain that the researcher attempts to describe, or define, a subject, often by creating a profile of a group of problems, people or events. Such a study may involve the collection of data and an examination of the distribution and number of times the researcher observes a single event or characteristic (known as a research variable); and / or the interaction of two or more variables. Zikmund (2003) states that the main purpose of descriptive research is to describe the characteristics of a population.

4.4 Research Design

According to the definitions stated above, a descriptive study is the most suitable method to employ in this study. The choice of descriptive qualitative methods is also based on previous studies and the use of a validated questionnaire.

This study aimed at determining the attitude of students in rural secondary schools towards entrepreneurship, and was conducted amongst all the participating Grade 10 learners in the selected schools.

The study followed a formalised descriptive study, namely a structured research with clear propositions and investigative questions, as prescribed by Blumberg, Cooper, and Schindler (2008).

4.5 Research Process

The research was based on a qualitative descriptive design, which includes a survey using an ATE test² questionnaire, developed by Athayde (2009a) at the University of Kingston in the United Kingdom. Approval to use the ATE test² has been obtained from the Small Business Research Centre (SBRC) at the Kingston University, UK. The request included the approval for minor adjustments, should the need arise, ensuring that all the students are able to complete the questionnaires without difficulty.

To enable comparisons between the participant groups, respondents were asked for a range of demographic details, including gender and whether either of their parents ran their own business.

The ATE test (discussed in detail in Chapter 2) was used to measure young people's attitudes towards a collection of constructs (leadership, achievement, personal control, creativity and intuition) similar to those in the 'Entrepreneurial Attitude Orientation' scale developed by Robinson *et al.* (1991), but taking into

account the need for an instrument to measure enterprise potential in young people.

The dimensions for the constructs are the same as those used by Athyde (2009a) and Stefan *et al.* (2010). According to Athyde (2009a), the criteria for the construct should:

- Consistently be associated with theories of entrepreneurship and have been measured in empirical studies to assess entrepreneurship.

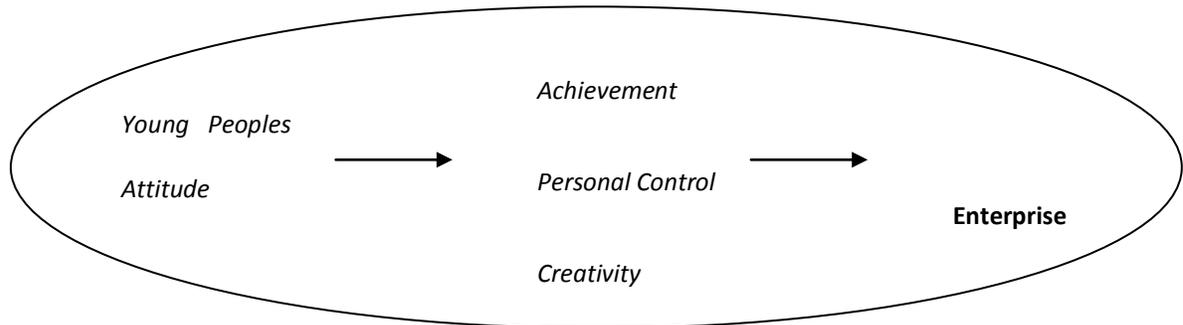
Based on these criteria the developers of the ATE test² (Athyde, 2004) selected five constructs of latent enterprise potential:

- Achievement
- Personal Control
- Creativity
- Leadership
- Intuition

It is not the dimension itself that is measured (for example, the respondents' achievement) but rather the attitudes associated with enterprise such as "achievement" and other dimensions. Therefore, the ATE test² is based on the latent enterprise potential, which was operationalised as a constellation of attitudes

toward certain characteristics associated with entrepreneurship, see Figure 3 (Athayde, 2009a).

Figure 3: Model of Enterprise Potential in Young People (Athayde, 2009a)



4.6 Research Population, Sampling and Unit of Analysis

A population is the total collection of elements about which inferences are made (Bloomberg, Cooper, & Schindler, 2008). Sampling is the selection of some of the elements in a population that can be used to draw conclusions about the entire population (Bloomberg, Cooper, & Schindler, 2008).

Two types of sampling are used:

1. Probability Sampling: It is based on the concept of random selection – a controlled procedure that ensures that each population element is given a known non-zero chance of selection (Bloomberg, Cooper, & Schindler, 2008).
2. Non-Probability Sampling: is arbitrary (non-random) and subjective. Each member does not have a known non-zero chance of being included.

Probability sampling can further be divided into (Bloomberg, Cooper, & Schindler, 2008):

1. Systematic sampling: every k^{th} element in the population is sampled, beginning with a random start of an element in the range of 1 to k .
2. Stratified sampling: segregation of the population into several mutually exclusive sub-populations or strata. The sub-groups are selected according to some criterion related to the variables under the study.
3. Cluster sampling: the population is divided into many sub-groups of elements with some groups randomly selected.
4. Double sampling: collection of information by sample and then using the information as the basis for selecting a sub-sample for further study. Sometimes called sequential or multi-phase sampling.

A combination of stratified and convenience sampling was used in this study. The population included all Grade 10 learners in the public schools in the Sekhukhune rural area in the Limpopo province of South Africa.

4.7 The Process of Sample Selection

As explained in Chapter 1, Limpopo Province is one of the poorest provinces, as cited by Armstrong, Lekezwa, and Siebrits (2009), in South Africa with the poverty rate being estimated at over 64 per cent. This province was selected, therefore, because its poverty rate accurately reflects the majority of South Africa's rural

population, and also due to convenience with regards access as compared to the other poorest provinces of Kwa-Zulu Natal and Eastern Cape.

Following the selection of the province, a district was selected that complied with the following criteria, an area that contains high levels of poverty; low income; mostly rural; encompassing the old Bantustan homelands; high unemployment rate; and educational concerns.

The following demographical information was listed in the National Roads Agency (2011) website. These demographics and information were used as a basis for the selection criteria of the research district, and the greater Sekhukhune municipality district perfectly matched all the requirements:

4.6.1. Sekhukhune

In 2001, the President (Honourable Mr T Mbeki) and the cabinet Lekgotla (meeting) declared 13 nodal areas in South Africa to be earmarked for accelerated development. These areas were identified within the framework of the rural development strategy. These are rural areas in extreme poverty, facing a serious lack of skills and services.

- According to the Sekhukhune IDP 2004/2005, there are 967 197 people living in the district municipality. The district has a total of 227 361 households. Sekhukhune is 94 per cent rural and 5.3 per cent urban. (NRA, 2011)

- For the whole of the Sekhukhune DC, approximately 50 per cent of the population is under 18 years old (NRA, 2011). The male/female ratio is almost equal in this age group, whereas females comprise almost 60 per cent of the population in the working age group and more than 68 per cent of the senior age group for the Sekhukhune district council as a whole. This could imply that approximately 42 000 men from Sekhukhune have alternative residence away from the district for employment purposes. (NRA, 2011).

4.6.2. Education Profile

- The District has a high illiteracy level, with almost 28 per cent of the population having no formal school education whatsoever. Only 1 per cent of the population has obtained tertiary educational qualifications (NRA, 2011).
- The Limpopo Growth and Development Strategy indicates that Sekhukhune has the lowest number of highly skilled individuals in the total province. The low skill base reduces the ability of the district to innovate, to be economically productive, and to implement productive measures (NRA, 2011).

4.6.3. Employment Analysis

- Unemployment, according to the strict definition, varies among municipalities from 52 per cent in Makhudu-thamaga to 34 per cent in Marble Hall. Less than 2 per cent of the labour force (4 063 people) was doing seasonal work when census was conducted (NRA, 2011).
- Government is the largest employer in Sekhukhune, employing 17 341 out of the total 70 764 employed persons, which is almost 25 per cent. Agriculture and hunting are the sectors with second largest employment figures, accounting for 11 479 persons, or 16 per cent of all employed persons, followed by private households (domestic workers), where 7 623 persons (11 per cent) are employed. Mining employed only 5 587 persons (8 per cent) in 2001, but this figure has increased by approximately 3 000 since then, making mining the fourth largest employer. Manufacturing provides employment for only 3 438 persons, or 5 per cent of all employed persons (NRA, 2011).

4.6.4. Income Levels

- Because of the high unemployment rate, almost 42 per cent of the households in the Limpopo part of Sekhukhune district and 33 per cent in the Mpumalanga part, have no formal income. The average for the cross-border district is 39 per cent of the households having no income, which has

important implications for the ability of households to pay for municipal services (NRA, 2011).

Within the greater Sekhukhune municipality, a district had to be selected. In this case convenience sampling was used as the senior district manager, Mr T.G. Nkadimeng of the Sekhukhune district, granted permission to conduct research in schools around the Moutse Cluster within his district (a group of less than 20 schools within a district).

In the senior district managers' letter, it is stated and emphasised that the research should be conducted in line with the ethics as prescribed by the institution where the researcher (R Maluleke) is based and within the international standard and norms (see letter in Appendix 3). The principals of the six schools in the Moutse Cluster were contacted through a formal letter requesting their participation in this study, with reference to the approval obtained by the district manager. The letter stated that participation in the research was at the schools' governing board's discretion. Only those schools whose managers agreed to take part were to be considered when choosing the final six schools for the research, and in this case all principals agreed.

Convenience sampling was used in so far as the Department of Education (DoE) in Sekhukhune area identified the six schools where the research was conducted.

The schools and the expected number of Grade 10 learners that enrolled in 2011 are shown in Table 1 below.

Table 1: The Schools and Number of Expected Learners in Schools

Emis No	Name	School Type	District Name	Circuit Name	Enrolled Students
996606702	MOHLAMME SECONDARY SCHOOL	Secondary	GREATER SEKHUKHUNE	MOUTSE EAST	393
996606705	NALA SECONDARY SCHOOL	Secondary	GREATER SEKHUKHUNE	MOUTSE EAST	371
996606711	NGWATO-A-MPHELA PUBLIC SCHOOL	Secondary	GREATER SEKHUKHUNE	MOUTSE EAST	82
996606714	OR TAMBO SECONDARY SCHOOL	Secondary	GREATER SEKHUKHUNE	MOUTSE EAST	200
996606715	KGOTHALA SECONDARY SCHOOL	Secondary	GREATER SEKHUKHUNE	MOUTSE EAST	230
996606718	RAMOGOSETSI MAGANA SECONDARY SCHOOL	Secondary	GREATER SEKHUKHUNE	MOUTSE EAST	79
				Total	1355

The principals expected the number of Grade 10 learners in 2011 to be 1 355. All the expected learners in all the schools (target $N= 1355$) formed the sampling frame for the study (the total number of all the Grade 10 learners enrolled in the six schools). The actual numbers of enrolled grade learners were not available.

All the available students at the six schools partaking in the study formed part of the sample, making the actual number of Grade 10 learners who completed the questionnaires, 836.

4.8 Data Collection and Data Analysis

4.8.1 Data Collection and Sample Size

The collection of the data was conducted in collaboration with the students' educators at the high schools. The questionnaires were distributed to the schools,

and explained to the educators, and the content clarified. The teachers were asked to explain any difficult concepts to the students in their home language (mainly Sepedi in this cluster). The data capturing was outsourced to a data capturing company and the statistical analysis to a statistician. The data was checked using random selection; 20 questionnaires were drawn to verify the accuracy of the data capturing, and all 20 questionnaires were found to be error-free.

The total number of learners that participated in the study was 836. Five questionnaires were removed from the dataset due to inadequate information provided by the respondents, resulting in the final sample size being reduced to $n = 831$. Therefore, only 62 per cent ($^{836}/_{1355}$) of the total expected number of students participated in the study. Of this, only 61 per cent ($^{831}/_{1355}$) of the questionnaires could be used for the study.

4.8.2 Data Analysis

Data was analysed using statistical methods of analysis employing the SPSS software. The composition and characteristics of the data sample were analysed using descriptive statistics, whereas the construct validity and reliability of the measuring instrument were examined by performing exploratory factor analysis and Cronbach's Alpha Coefficients, as per the study by Steenekamp, Van der Merwe, and Athayde (2009).

The relationship between the extracted factors was examined by means of correlation analysis. Therefore, t -tests and effect sizes (d -values) were carried out

to examine the relationship between demographic variables and the extracted factors (Athayde, 2009a; Steenekamp, Van der Merwe, & Athayde, 2010). The results of the test were compared to studies conducted earlier.

4.9 Data Validity and Reliability

Carmines and Zeller (1979) define reliability as the extent to which an experiment, test or measuring procedure yields the same results on repeated trials, and they further define validity as the extent to which any measuring instrument measures what it is intended to measure.

Athayde (2009a) employed exploratory factor analysis (EFA) and Cronbach's Coefficient Alphas for reliability testing of the ATE test². EFA showed four of the factors were within acceptable levels of reliability. The subsequent study at Secondary Schools in London concluded that participating in an enterprise programme positively influenced young people's enterprise potential and attitudes towards entrepreneurship (Athayde, 2009a).

A study conducted by Steenekamp, Van der Merwe, and Athayde (2009) in the Sedibeng area of Gauteng, South Africa, concluded that the ATE Test employed had acceptable levels of construct validity, reliability and relationships between the constructs of leadership, achievement, personal control, and creativity to measure the attitudes of Grade 10 learners.

In both the above studies, the reliability and validity testing were based on the notion that:

- Evaluations of enterprise programmes are necessary to provide evidence of their effectiveness to policy and to guide future enterprise policy.

To be effective and provide accurate information, evaluations need to be rigorous and meet certain necessary conditions (Peterman, & Kennedy, 2003; Storey, 1999, 2003; Westhead, Storey, & Martin, 2001, in Athayde, 2004).

The test takes an hour to complete and requires detailed explanations of the concepts and questions posed.

4.10 Research Limitations

The following aspects are limitations to this study:

- The availability of the target number of students to complete the test.
- Principals delayed in giving permission to conduct research.
- The questionnaire was in English and students may not have understood the language clearly.
- Grade 10 learners in public schools.
- Rural area of Limpopo (Sekhukhune) only.
- No pre-test, intervention training programme or post-test study was conducted due to constraints in time, resources and a lack of training programmes available.

- The availability of mentors to support a training programme and conduct presentation workshops to the students.
- Cumbersome protocol that has to be followed in order to obtain permission to conduct research at schools.

4.11 Summary

In this report a descriptive qualitative research methodology was used to select an area for the research to be conducted, as outlined in the preceding sections. This was followed by a discussion of the sampling method. The data capturing and coding was described as well as the statistical analysis.

The following chapter presents the results.

CHAPTER 5

5. RESULTS

5.1 Introduction

The results of the entrepreneurial attitudes of high school learners are presented below in two stages. Initially, the results deal with descriptive statistics, summarised largely in a tabular form. Thereafter, the learners' attitudes towards entrepreneurial activity, based on the findings of the statistical analysis, are presented.

5.2 Demographic profile of the respondents

The demographic profile of the 831 usable responses from all six schools appears in Table 2. The schools' participants' distribution shows Nala Secondary as being the most represented in the sample at 37 per cent, followed by Mohlamme at 27 per cent then Kgothala at 15 per cent. The remaining three schools, including Ngwato-A-Mphela, Ramogosetsi Magana and OR Tambo Secondary School represent 22 per cent. The participation at OR Tambo was the lowest at 6 per cent, an equivalent of 50 students from the expected 200 learners.

Table 2: Demographic Profile of Respondents

Variable	Statistic	Variable	Statistic
School		Ethnic Group	
Nala Secondary School	37%	Black-African	98%
Mohlamme Secondary school	26%	Indian	0%
Kgothala Secondary school	15%	Mixed (White and Black African)	2%
Ngwato-a-Mphela Secondary School	9%	Chinese	0%
Ramogosetsi Magama Secondary school	7%	Mixed (Black African and Indian)	0%
OR Tambo Secondary School	6%		
Mother or Female Guardians' Type of work		Father or Male Guardian's Type of work	
Full-time home-maker (does not do any paid work)	17%	Full-time home-maker (does not do any paid work)	5%
In part-time employment	10%	In part-time employment	8%
In full-time employment	17%	In full-time employment	19%
Unemployed	26%	Unemployed	9%
Self-employed or runs own business	8%	Self-employed or runs own business	6%
Don't know	4%	Don't know	3%
Not Answered	18%	Not Answered	50%
Highest Type of Qualification Expected to Achieve		Someone in your family ever owned a business	
Vocational course (e.g. mechanic, plumbing, electrician, arts etc) N3 – N6	21%	Mother or female guardian	20%
Matric	9%	Father or male guardian	17%
Post-Matric certificate (e.g. Call Centre Certificate)	3%	Grandmother	10%
Matric with School Leaving (S)	4%	Grandfather	13%
Matric with Exemption	5%	Aunt or Uncle	24%
University Degree	29%	Sister or Brother	15%
Higher degree	27%	Cousin	18%
Other type of course	1%	Other Relative	1%
Mother Or Female Guardian's Highest Qualification		Father Or Male Guardian's Highest Qualification	
Vocational course (e.g. nursery, plumbing, arts foundation)	5%	Vocational course (e.g. electrician, plumbing, arts foundation)	6%
Std 8 or Grade 10	22%	Std 8 or Grade 10	20%
Matric	39%	Matric	28%
University Degree	7%	University Degree	14%
Higher Degree (e.g. Masters or PhD)	4%	Higher Degree (e.g. Masters or PhD)	5%
Professional Qualifications (e.g. Lawyer, Doctor)	3%	Professional Qualifications (e.g. Lawyer, Doctor)	6%
Other type of course	1%	Other type of course	1%
Don't know	19%	Don't know	20%
Gender			
Female	51%		

Male

49%

The sample confirmed that, as expected, 98 per cent of the participants were black with a minority of 2 per cent representing coloured (mixed black and white) learners (Table 2). No other races were expected in these schools as the Moutse East area is a predominantly black African community.

The question relating to the type of work carried out by the parents/guardians was generally poorly answered (Table 2). Half the respondents (50 per cent) did not note what their male parent or male guardian's type of work was; while 19 per cent did not indicate what their female parent or female guardian's type of work was. Of the parents or guardians in full-time permanent employment, 17 per cent of the female parents/guardians and 19 per cent of the male parents/guardians were permanently employed on a full-time basis. Of the parents or guardians who are full-time home-makers, 17 per cent of female parents/guardians and 5 per cent of the male parents/guardians do not do any paid work. Eighteen per cent of the parents or guardians are employed part-time. The unemployed parents or guardians constitute female parents or guardians at 27 per cent and 9 per cent for male parents or guardians. Of those parents/guardians running their own businesses, 8 per cent are male and 6 per cent female. Respondents who did not know what their parents or guardians did put the figures at 4 per cent for males and 3 per cent for females.

Regarding the highest type of qualification expected, it appears that the respondents have great ambitions for their futures (Table 2), as 29 per cent expect to obtain a university degree while a further 27 per cent expect to obtain a higher degree (the term 'post-graduate' was viewed as being complex for the rural learners; hence the term 'higher degree' was used in the questionnaire). Of the respondents, 21 per cent expect to become artisans, while 18 per cent of the respondents anticipate matric to be their highest qualification.

Regarding the highest qualification of the parent or guardian, more females (19 per cent) than males (11 per cent) have matric as their highest qualification level, while more males (6 per cent) than females (3 per cent) have degrees (university and higher) and professional qualifications. About a fifth (22 per cent females and 20 per cent males) have only a Grade 10 qualification. The gender distribution of the respondents reflects the South African population gender distribution, with the split between male and female being 49 to 51 per cent respectively (Statistics SA, 2011).

5.3 Distribution of Scores on the ATE Test

The ATE Test² comprises 5 constructs:

1. Attitudes towards creativity (beliefs about the importance of creativity and personal assessment of creativity, i.e. 'how creative am I?').
2. Attitudes to personal control over future career (internal i.e. I am in control; or external i.e. others are in control).

3. Attitudes towards achievement in project work (seeing things through, taking pride in project work).
4. Attitudes towards using intuition in problem solving (preferring informality to formality; coping with uncertainty, being prepared to take risks in problem-solving).
5. Attitudes to leading others: fellow students and friends (bringing people together, achieving consensus, persuading others).

Table 3 shows the number of students who did not respond to certain questions within a particular construct, and it is shown as a percentage of the total of usable questionnaires (831).

Achievement questions were mostly answered (92 per cent of responses), followed by creativity (90 per cent), while intuition and personal control questions were answered at a level of 88 per cent. The questions relating to leadership had the lowest number of answers at 86 per cent.

Table 3: Non- responses per construct

Creativity	Leadership	Intuition	Achievement	Personal Control
85	118	97	70	99
10%	14%	12%	8%	12%

In general, most of the construct questions were well answered. Table 4 shows the percentage distribution of the test scores that chose a particular rating. The percentage is calculated from the total number of respondents who answered each question. The rating ranged from ‘Strongly disagree = 1’ to ‘Strongly agree = 7’.

The learners strongly agreed (> 50 per cent) with five of the questions on creativity, except for the question where 'students have to come up with their own ideas' which scored 35 per cent. This implies that the learners are not sufficiently confident to come up with their own ideas. The learners strongly disagreed with 'new ideas from teacher', reflected in a 20 per cent rating.

Table 4: Distribution of responses on the five constructs of the ATE Test

Question	Frequency of Ratings						
	1	2	3	4	5	6	7
Perceptions about creativity at school							
Q1 I believe a good imagination helps you do well at school	4%	1%	2%	5%	10%	12%	67%
Q12 I think I show a lot of imagination in my schoolwork	3%	1%	2%	7%	12%	19%	57%
Q5 I like lessons that really stretch my imagination	5%	2%	4%	5%	11%	17%	56%
Q29 I enjoy lessons where the Teacher tries out different ways of teaching	4%	1%	2%	4%	7%	12%	69%
Q18 I dislike Teachers who are always coming up with new ideas	20%	6%	4%	8%	5%	6%	52%
Q24 I don't enjoy lessons where it is up to pupils to come up with ideas	15%	8%	13%	12%	8%	9%	35%
Self-perceptions of ability to lead others							
Q15 I believe I can persuade my classmates to agree on a plan	10%	3%	8%	16%	15%	14%	34%
Q4 My friends would say I am a follower rather than a leader	19%	10%	13%	15%	7%	6%	30%
Q10 I am good at getting people to work well together	5%	2%	4%	9%	10%	16%	54%
Q26 I don't like being the centre of attention in class	30%	8%	11%	11%	8%	8%	25%
Q19 I take responsibility for organising people in group work	7%	4%	5%	10%	12%	16%	44%
Q7 I'm good at motivating my classmates	9%	2%	4%	8%	11%	15%	50%
Intuition in problem solving							
Q6 If you don't know all the facts about a problem then there is no way you can find the answer	38%	11%	9%	9%	6%	4%	22%
Q16 Making mistakes is a good way of finding out how to solve a problem	15%	3%	5%	7%	9%	12%	48%
Q30 Instinct helps me work out solutions to problems we are set	10%	3%	7%	16%	19%	16%	30%
Q11 I trust my own instinct when solving problems in class	9%	3%	4%	10%	14%	15%	44%
Q25 If I don't know the answer to a problem, then I'll have a guess	24%	6%	7%	12%	10%	12%	29%
Q21 I'll keep trying out different solutions to a problem rather than give up	6%	2%	3%	8%	8%	15%	57%
Achievement orientation in project work							
Q2 I work hard to make my projects successful	1%	1%	2%	6%	7%	11%	72%
Q27 It feels good when a school project works out well	3%	1%	2%	3%	6%	9%	75%
Q14 It doesn't matter if my project work is no good	8%	4%	6%	5%	6%	6%	65%
Q9 It is important to finish off a project as well as you can	4%	1%	2%	5%	7%	17%	64%
Q22 Working hard on projects is well worth the effort	4%	2%	3%	8%	12%	17%	54%

Perceived personal control over career							
Q23 Other people will get the best jobs	54%	11%	10%	11%	5%	2%	6%
Q3 I think my future career success is largely up to me	4%	2%	1%	4%	8%	13%	68%
Q8 I have a lot of faith in my own ability to succeed in my future career	3%	1%	2%	4%	6%	12%	73%
Q13 It is important to plan my future career	2%	1%	1%	0%	2%	4%	90%
Q17 I am proud of my project work this year	5%	2%	3%	6%	10%	16%	58%
Q20 I am worried that I will not make a success of my future working life	24%	11%	10%	10%	5%	7%	33%
Q28 I have as much chance as anyone else of getting a good job in the future	3%	1%	2%	6%	7%	13%	68%

The learners scored highly ('strongly agree') on the leadership questions pertaining to 'getting people to work together' (54 per cent) and 'motivating others' (50 per cent), while the other questions scored lower, with 'centre of attraction' scoring the lowest at 25 per cent. Most learners strongly disagree with 'centre of attraction' at 30 per cent. The exact numbers are shown in Appendix 4.

The scores are reversed for intuition, and are generally lower. The scores for 'strongly disagree' were found to be lowest on 'I trust my instinct' (9 per cent), followed by 'instincts help' (10 per cent), and the highest being 'if I don't have all the facts' (38 per cent). 'Strongly agree' was highest for 'finding mistakes' at 48 per cent. These results indicate low intuition levels amongst students.

In the section on achievement, all the questions were answered positively; with results ranging from 54 per cent to 75 per cent for 'strongly agree'. Question 14 was reversed and students still strongly agreed with the statement 'don't care how my projects work out', contradicting the other answers. Overall, the construct of achievement was positively viewed.

Personal control was answered well with the highest ‘strongly agree’ relating to ‘plan my future career’ at 90 per cent, followed by ‘faith in my own ability’ at 73 per cent, and ‘I have as much a chance as anyone else’ and ‘my future career is up to me’ at 68 per cent. ‘Other people will get the best jobs’ scored lowest at 6 per cent, but highest on ‘strongly disagree’ at 54 per cent.

5.4 Construct Validity of the ATE Test²

In this section proposition 1 is tested. This proposition requires that the instrument be validated for acceptable constructs as the questionnaire has only been applied to urban South Africa and urban United Kingdom, and this is the first time it is being applied to rural areas in an emerging economy.

P1: The measuring instrument has acceptable construct validity.

Reporting on the steps required for determining the Exploratory Factor Analysis (EFA) test is presented in this section. The results are shown in Table 5 below, as the Kaiser-Meyer-Olkin (KMO) measure is the measure of sampling adequacy and Bartlett’s measures the null hypothesis that the original correlation matrix is an identity matrix. Exploratory factor analysis was conducted using SPSS (Version 15) to assess the construct validity. The principal component analysis extraction method with a Varimax rotation was used.

Principal component analysis requires that the Kaiser-Meyer-Olkin Measure of Sampling Adequacy be greater than 0.50. The Measure of Sampling Adequacy

(MSA) is described as marvellous if it is 0.90 or greater, meritorious if it is in the 0.80s, middling if in the 0.70s, mediocre if in the 0.60s, miserable if in the 0.50s, and unacceptable if below 0.50. Kaiser (1974) recommends accepting values greater than 0.5, while values below 0.5 should lead to either collection of more data or to rethink which variables to include in the analysis. In this instance the KMO value was 0.856 (see Table 5 below), which is commendable.

Table 5: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.856
Bartlett's Test of Sphericity	Approx. Chi-Square	2177.217
	Degrees of Freedom D _f	190
	Significance	.000

Bartlett's measure tests the null hypothesis that the original correlation matrix is an identity matrix. For factor analysis to work, there is a need for some relationship between variables and if the Correlation Matrix were an identity Matrix then all correlation coefficients would be zero. Thus, there is a need for the test to be significant (i.e. having a significant value less than 0.05).

In this case the Bartlett's Test of Sphericity's significance value is 0.000 which indicates that the correlation matrix is not an identity matrix and that there are some relationships between the variables and thus, factor analysis is possible. The next section reviews the EFA using the Varimax method of analysis as a statistical tool for verification.

5.5 Exploratory Factor Analysis (Varimax) for the ATE Test² (n=831)

The results of factor analysis (in Table 6) initially retained eight factors but most of the reversed score variables were loading onto one factor. The reverse score variables were removed and the variable “Other people will get the best jobs” was also removed because it had a complex structure (loading highly on more than one factor). The factor analysis retained five factors but the fifth factor had one variable loading onto it - the variable was “Making mistakes is a good way of finding out how to solve a problem”.

The variable was thus removed on the fourth iteration. The resultant factor analysis had four factors with Eigen values greater than 1, explaining 43 per cent of variability. The retained constructs can be named; “Achievement”, “Personal Control”, “Leadership” and “Creativity”.

Six variables loaded significantly on factor 1, “Achievement”. One attribute, “I’ll keep trying out different solutions to a problem rather than give up” also loaded highly on to factor 4 (creativity), indicating that the respondents also regarded these items as relating to their creativity. The items in this factor explain 12.7 per cent of the variability.

Factor 2, labelled “Personal Control”, comprises six items during the exploratory factor analysis. The items in this factor explain 8.4 per cent of the variability. Factor 3, labelled “Leadership”, comprises four items during the exploratory factor analysis. The items in this factor explain 8.4 per cent of the variability.

Table 6: Exploratory Factor Analysis

Exploratory Factor Analysis			Extracted Factors			
No	Item		Achievement	Control	Leadership	Creativity
1	ACH1	Q27 It feels good when a	0.746	0.070	0.059	0.031
2	ACH2	Q29 I enjoy lessons where	0.638	0.098	0.053	0.087
3	ACH3	Q13 It is important to plan	0.631	0.239	0.069	0.051
4	ACH4	Q22 Working hard on	0.559	0.200	0.083	0.265
5	ACH5	Q28 I have as much chance	0.556	0.130	0.269	0.040
6	ACH6	Q21 I'll keep trying out	0.398	0.172	-0.130	0.386
7	CONT1	Q2 I work hard to make my	0.079	0.709	0.068	0.108
8	CONT2	Q3 I think my future career	0.144	0.566	-0.037	0.199
9	CONT3	Q17 I am proud of my	0.151	0.523	0.292	-0.118
10	CONT4	Q1 I believe a good	0.207	0.500	0.075	0.249
11	CONT5	Q8 I have a lot of faith in my	0.326	0.474	0.089	0.041
12	CONT6	Q12 I think I show a lot of	0.079	0.472	0.320	0.137
13	LEAD1	Q10 I am good at getting	0.002	0.271	0.674	-0.009
14	LEAD2	Q7 I'm good at motivating	0.066	0.223	0.647	-0.092
15	LEAD3	Q15 I believe I can persuade	0.259	-0.202	0.633	0.106
16	LEAD4	Q19 I take responsibility for	0.083	0.101	0.559	0.205
17	CREA1	Q30 Instinct helps me work	-0.021	0.087	0.089	0.713
18	CREA2	Q5 I like lessons that really	0.200	0.115	0.106	0.602
19	CREA3	Q11 I trust my own instinct	-0.005	0.012	0.462	0.470
20	CREA4	Q9 It is important to finish off	0.269	0.282	-0.029	0.420
Cronbach's Alpha scores for main			0.704	0.646	0.594	0.522

The last factor labelled “Creativity” consisted of four items. One of the items, “I trust my own instinct when solving problems in class” also loaded highly on the construct leadership. This means that the respondents also regard this item as a part of leadership. The exploratory factorial analysis, together with the interpretability of the factors, provided evidence of construct validity, therefore accept proposition 1 (P1).

Although the study has been performed in schools within South Africa, it is necessary to test the instrument validity of the ATE test² when applied in a rural community.

5.6 Reliability of the Measuring Instrument

After carrying out exploratory factor analysis and the variables having been grouped together, Cronbach's Alpha was computed for all the variables in each construct to assess the internal consistency between the 20 retained items. A Cronbach's Alpha test was done (Table 6). Cronbach's Alpha is the most common measure of internal consistency to check the reliability of an ordinal scale. It is most commonly used when a Likert-type scale is used for multiple questions in a survey/questionnaire, to determine if the scale is reliable. This measure was conducted to respond to proposition 2 (P2).

P2: The measuring instrument has acceptable reliability.

Cronbach's Alpha coefficient ranges in value from 0 to 1, the higher the score, the higher the reliability of the scale. The generally accepted minimum cut off point is 0.7 but lower thresholds may be accepted. Only one of the four retained constructs, Achievements had a Cronbach's Alpha above the minimum cut off point value of 0.7, with a value of 0.704. Field (2005:688) notes that questionnaires designed to measure 'knowledge' and 'intelligence' should have Cronbach Alpha coefficients above the customary cut-off value of 0.70, but concedes that instruments designed to measure 'attitudes' may have lower alphas (< 0.70) and

still have acceptable levels of reliability, therefore 0.5 was used as a cut-off point in this case as per Steenekamp *et al.*(2011).

Based on the concession by Field (2005), proposition 2 (P2) for the measuring instrument has acceptable reliability could therefore be accepted.

5.7 Relationship between Constructs

In Table 7, the relationship between the four constructs, namely Achievement, Personal Control, Leadership and Creativity, was explored using Pearson's correlation coefficient.

In order to compare the validity of the constructs with the previous studies, Athayde (2009a) stated that a further measure within structural validity is discriminant validity (in Haynie, & Shepherd, 2009; Fornell & Larcker, 1981).

P3: There is correlation (a relationship) between the constructs of Leadership, Achievement, Creativity, Personal control and Intuition measured in the ATE Test.

The factor scores for each participant were computed as the average of all the items contributing to the factors. The missing values for an individual were replaced by the average of the other responses, contributing to the factor for the specific individual. The results of the correlation analysis are shown in Table 7.

Table 7: Correlation Matrix showing discriminant validity of subgroups

		Achievement	Personal Control	Leadership	Creativity
Achievement	Pearson Correlation	1	.490**	.275**	.438**
	Sig. (2-tailed)		.000	.000	.000
	N	829	829	829	829
Personal Control	Pearson Correlation	.490**	1	.386**	.445**
	Sig. (2-tailed)	.000		.000	.000
	N	829	831	831	831
Leadership	Pearson Correlation	.275**	.386**	1	.331**
	Sig. (2-tailed)	.000	.000		.000
	N	829	831	831	831
Creativity	Pearson Correlation	.438**	.445**	.331**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	829	831	831	831

** Correlation is significant at the 0.01 level (2-tailed).

The Pearson's correlation test was employed in order to establish the correlation matrix showing discriminant validity of sub-groups for validity. The factor scores for each participant were computed as the average of all the items contributing to the factors. The missing values for an individual were replaced by the average of the other responses contributing to the factor for the specific individual.

There is a statistically significant relationship among all pairs of constructs at 1 per cent significance level, since all the p-values are less than 0.01. Although all the correlation coefficients are statistically significant, the strongest correlation is between Personal Control and Achievement, followed by that between Personal Control and Creativity. Leadership and Achievement have the smallest correlation coefficient. Based on the fact that all the constructs are statistically at 1 per cent significance level, proposition 3 (P3) could be accepted.

5.8 Comparison between the Mean Differences between Constructs

Independent t-tests were carried out to check if there were significant differences between observations from different demographics groups. If the p-value for the t-tests is found to be less than 0.05 then the difference between two groups will be said to be statistically different. The effect sizes (d) of the t-tests were also calculated so that practical significance can be understood as a large enough difference to have an effect in practice.

The effect sizes (d) were interpreted according to Cohen's guidelines (Field, 2005; Ellis & Steyn, 2003; Cohen, 1992), where $d = 0.2$ is a small effect; $d = 0.5$ is a medium effect; and $d = 0.8$ is a large effect. In terms of interpretation, results with medium effects ($0.5 \leq d \leq 0.8$) were regarded as visible effects and $d \geq 0.8$ as practically significant, being the result of a difference causing a large effect (Field, 2005; Ellis & Steyn, 2003; Cohen, 1992).

5.8.1 Difference in Means between Constructs for Gender

To test proposition **P4**, independent t-tests and effect sizes (d) for the difference between male and female respondents' means for the four constructs were computed. The results are shown below;

P4: There is a difference between the entrepreneurial attitudes of male and female Grade 10 learners with regard to the constructs of Leadership, Achievement, Creativity, Personal Control and Intuition.

Table 8: Difference in means between constructs for gender

Construct	Female			Male			Comparison	
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	P-Value	d
Achievement	420	6.237	0.936	398	6.198	0.952	0.556	0.041
Personal Control	421	6.277	0.839	399	6.075	0.945	0.101	0.225
Leadership	421	5.493	1.250	399	5.431	1.287	0.486	0.049
Creativity	421	5.667	1.119	399	5.541	1.144	0.110	0.112

Table 8 shows the results for the differences between mean constructs for gender. All the p-values of the t-tests are greater than 0.05, implying that there are no statistical differences between the mean values of all the four constructs by gender. Male respondents however rated all four constructs more positively than their female counterparts, but the differences were not practically significant as only a small effect (Achievement, $d = 0.041$; Personal Control, $d = 0.225$; Leadership = 0.049 and Creativity, $d = 0.1125$) could be determined. Based on Cohen's guidelines (Cohen, 1992: 155-159), proposition four (P4) could not be accepted.

5.8.2 'Female Parents' Difference between Means in Constructs

To tests proposition **P5**, independent t-tests and effect sizes (d) between the mean constructs ratings for students with self-employed parents against those without self-employed parents was carried out. The results for male and female guardians were separated as shown in Table 9 below.

P5: There is a difference in the entrepreneurial attitudes of Grade 10 learners with self-employed parents or guardians as opposed to those learners

whose parents or guardians are not self-employed with regard to the constructs of Leadership, Achievement, Creativity, Personal Control and Intuition.

Table 9: Difference in Means between constructs for “female parents”

Construct	Yes			No			Comparison	
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	P-Value	d
Achievement	66	6.287	0.813	763	6.202	0.957	0.482	0.096
Personal Control	66	6.249	0.893	765	6.175	0.896	0.516	0.084
Leadership	66	5.441	1.318	765	5.475	1.263	0.833	-0.027
Creativity	66	5.533	1.255	765	5.608	1.124	0.604	-0.063

All the p-values of the t-tests are greater than 0.05, implying that there are no statistical differences between the mean construct ratings for students with self-employed mothers or female guardians against those without self-employed mothers or female guardians.

Although students with self-employed mothers or female guardians rated the constructs Achievement and Personal Control more positively than their counterparts from families without a self-employed mother or female guardian, and students from families without a self-employed mother or female guardian rated Leadership and Creativity more than their counterparts, the differences between the mean values were not practically significant (Achievement, $d = 0.096$; Personal Control, $d = 0.084$; Leadership, $d = -0.027$ and Creativity, $d = -0.063$).

Based on Cohen’s guidelines (Cohen, 1992), proposition four (P5) could not be accepted for self-employed mother or female guardian.

5.8.3 ‘Male Parents’ Difference between Means in Constructs

Table 10 shows the difference in means between constructs for male parents. All the p-values of the t-tests are greater than 0.05, implying that there are no statistical differences between the mean construct ratings for students with self-employed fathers or male guardians against those without self-employed fathers or male guardians.

Table 10: Difference in Means between constructs for “male parents”

Construct	Yes			No			Comparison	
	N	Mean	Std.	N	Mean	Std.	P-	d
Achievement	51	6.242	0.860	778	6.207	0.952	0.797	0.039
Personal	51	6.356	0.723	780	6.169	0.905	0.148	0.229
Leadership	51	5.603	1.306	780	5.464	1.265	0.447	0.108
Creativity	51	5.668	1.121	780	5.598	1.136	0.669	0.062

Although students with self-employed fathers or male guardians rated the constructs more positively than their counterparts from families without a self-employed father or male guardian, the differences between the mean values were not practically significant (Achievement, $d = 0.039$; Personal Control, $d = 0.229$; Leadership, $d = 0.108$ and Creativity, $d = 0.062$).

Based on Cohen’s guidelines (Cohen, 1992), proposition 5 (P5) could not be accepted for self-employed father or male guardian.

Therefore P5 could not be accepted for both male and female parents.

5.9 Overall Results of the ATE Test in participating schools (n=831)

Proposition 6 seeks to compare the findings of the studies conducted by Athayde (2009a) and those of Steenekamp *et al.* (2011) based on the ATE test² conducted in the urban areas in the United Kingdom and South Africa respectively.

P6: There is a difference in the entrepreneurial attitudes of Grade 10 learners in the Sekhukhune district compared to the Sedibeng sample and British learners (Steenekamp *et al.*, 2011, Athayde, 2009a) with regard to the constructs of Leadership, Achievement, Creativity, Personal Control and Intuition.

The results achieved from the Sedibeng test were obtained from the report by Steenekamp *et al.*, (2011) and were compared to the current study. The results of the Moutse study are presented in Table 11. When compared to the results obtained from Steenekamp *et al.* (2011), it can be suggested that the Sekhukhune sample achieved higher mean scores for Achievement (87.79 per cent) and leadership (76.38 per cent) than the Sedibeng sample, which had 86.86 per cent and 72.05 per cent respectively. The Sekhukhune sample however achieved lower scores for Personal Control (87.01 per cent) and Creativity (78.30 per cent) than the Sedibeng sample which had 90.51 per cent and 82.21 per cent respectively.

Table 11: Comparison of rural entrepreneurship attitude to the London and Sedibeng results

	No of items	Minimum score	Maximum Score	Actual Score	ATE Test Score as % (Moutse)	ATE Test Score as % Sedibeng	ATE Test Score as % London
Achievement	6	6	42	36.87	87.79%	86.86%	79.21%
Personal	6	6	42	36.54	87.01%	90.52%	74.24%
Leadership	4	4	28	21.39	76.38%	72.05%	79.26%
Creativity	4	4	28	21.92	78.30%	82.21%	80.20%
Overall Test	20	20	140	116.72	83.37%	82.40%	80.63%

Sekhukhune sample however achieved lower scores for Personal Control (87.01 per cent) and Creativity (78.30 per cent) than the Sedibeng sample which had 90.51 per cent and 82.21 per cent respectively. The overall ATE test² score for the Sekhukhune sample (83.37 per cent) is higher than the score from Sedibeng (82.40 per cent) and London (80.63 per cent).

Though the finding suggests G10 learners in the Sekhukhune's scores were higher compared to Sedibeng and British learners (Steenekamp *et al.*, 2011; Athayde, 2009a), it is therefore recognized that there was no statistical facts to draw a conclusion that such dissimilarity certainly is present. Proposition 6 (P6) could therefore not be accepted.

5.9.1 Learners' future aspirations

Athayde (2009a) states that the ATE test² can also be used to make comparisons with other dependent variables, to provide a more complete picture of young people's attitudes towards their future working life and career aspirations, and in providing more context for evaluation.

In the following sections, the results are analysed using the more objective measure of young people’s enterprise potential as provided for by the ATE test², which can be usefully compared to subjective measures, such as future employment intentions, particularly intentions to run their own business (Athayde, 2009a). Students were asked what they are likely to do when they leave school and Table 12 shows the summarised statistics, including mean and standard deviations.

- (i) **Proposition 7 (P7):** Students with positive future aspirations are more likely to start their own what?

Table 12: Learner's future aspirations

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std.
Q2.6_1 Leave school and get a job straight away	603	1	7	2.831	2.450
Q2.6_2 Join a work-based training scheme	575	1	7	4.708	2.149
Q2.6_3 Start my business	594	1	7	4.990	2.205
Q2.6_4 Be unemployed.	543	1	7	2.145	2.000
Q2.6_5 Be a full-time homemaker	543	1	7	2.565	2.230
Q2.6_6 Go to University	647	1	7	6.325	1.498
Q2.6_7 Go to College	590	1	7	5.897	1.744

“Go to university” (6.3) was the highest rated, followed by “Go to college” (5.9), “Start my own business” (5.0) was the third and the least rated was “Be unemployed” (2.1).

5.9.2 Correlations of constructs to future aspirations

Furthermore, correlation analysis was conducted to check the relationship between the four constructs and what the students would want to do when they leave school. The results are shown in Table 13 below.

The results reveal that the construct “Achievement” has a significantly positive correlation with variables “Go to college” and “Go to university” at 1 per cent significance level. The construct however also has a significant negative correlation with the variables “Be unemployed” and “Be a full-time homemaker”

There is a statistically significant relationship between the construct “Personal Control” and the variables “Go to college” and “Go to university” at 1 per cent significance level. The construct however has a significant negative correlation with the variable “Be unemployed”.

“Leadership” has a statistically significant correlation at 1 per cent significant level with the variables “Start my business”, “Go to college” and “Go to university”. There is a statistically significant relationship between the construct “Creativity” and the variables “Go to college” and “Go to university” to the constructs at 1 per cent significance level.

Table 13: Correlation analysis of career aspiration against constructs

		Achievement	Personal	Leadership	Creativity
Q2.6_1 Leave school and get a job straight away	Pearson	-.073	-.080(*)	.037	-.062
	Sig. (2-tailed)	.075	.049	.368	.126
	N	601	603	603	603
Q2.6_2 Join a work-based training scheme	Pearson	-.020	.065	.098(*)	.047
	Sig. (2-tailed)	.632	.120	.018	.261
	N	574	575	575	575
Q2.6_3 Start my business	Pearson	.002	.073	.143(**)	.040
	Sig. (2-tailed)	.964	.076	.000	.325
	N	593	594	594	594
Q2.6_4 Be unemployed.	Pearson	-.212(**)	-.123(**)	.023	-.085(*)
	Sig. (2-tailed)	.000	.004	.600	.047
	N	542	543	543	543
Q2.6_5 Be a full-time homemaker	Pearson	-.177(**)	-.098(*)	.098(*)	-.047
	Sig. (2-tailed)	.000	.022	.022	.277
	N	542	543	543	543
Q2.6_6 Go to University	Pearson	.320(**)	.273(**)	.198(**)	.195(**)
	Sig. (2-tailed)	.000	.000	.000	.000
	N	646	647	647	647
Q2.6_7 Go to College	Pearson	.189(**)	.154(**)	.163(**)	.184(**)
	Sig. (2-tailed)	.000	.000	.000	.000
	N	589	590	590	590

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Due to the reasons stated above, Proposition 7 (P7) could therefore not be accepted.

5.9.3 Learners' future aspirations by the age of 21 years

Students were asked what they would likely to be doing at the age of 21 and Table 14 below shows the summarised statistics. "Working in a profession (lawyer, doctor)" (6.0) was the highest rated, followed by "Have my own business" (5.7) while the least rated was "Be unemployed" (2.2).

Table 14: Aspirations by age 21 years

	N	Minimum	Maximum	Mean	Std.
Q2.7_1 Working in a large organisation	574	1	7	5.256	2.139
Q2.7_2 Working in a small business	537	1	7	2.862	2.135
Q2.7_3 Have my own business	602	1	7	5.698	1.984
Q2.7_4 Working in a profession (lawyer, doctor.)	635	1	7	6.035	1.823
Q2.7_5 Be unemployed.	538	1	7	2.171	2.021
Q2.7_Other Other please specify:	246	1	7	4.646	2.169

5.9.4 Correlations for future aspirations at the age of 21 years

Correlation analysis was conducted to check the relationship between the four constructs and what the students think they will be doing at the age of 21. The tests were carried out at 1 per cent significance level. The results are shown in Table 15 below.

The variable “Working in a large organisation” is significantly correlated to all the four constructs at 1 per cent significance level. There is a statistically significant negative correlation between the variable “Working in a small business” and “Achievement”. “Working in a profession (lawyer, doctor)” is significantly related to all the four constructs except for “Leadership”. “Be unemployed” has a statistically significant negative correlation with “Achievement” and “Personal Control”.

Table 15: Correlations for Learner’s future aspirations by the age of 21 years

		Achievement	Personal	Leadership	Creativity
Q2.7_1 Working in a large organisation	Pearson Correlation	.232(**)	.226(**)	.122(**)	.194(**)
	Sig. (2-tailed)	.000	.000	.004	.000
	N	572	574	574	574
Q2.7_2 Working in a small business	Pearson Correlation	-.205(**)	-.094(*)	.068	.003
	Sig. (2-tailed)	.000	.029	.115	.939
	N	536	537	537	537
Q2.7_3 Have my own business	Pearson Correlation	.012	.085(*)	.106(**)	.040
	Sig. (2-tailed)	.775	.036	.009	.330
	N	601	602	602	602
Q2.7_4 Working in a profession (lawyer,	Pearson Correlation	.214(**)	.199(**)	.080(*)	.141(**)
	Sig. (2-tailed)	.000	.000	.043	.000
	N	634	635	635	635
Q2.7_5 Be unemployed.	Pearson Correlation	-.271(**)	-.126(**)	-.030	-.088(*)
	Sig. (2-tailed)	.000	.003	.486	.042
	N	537	538	538	538

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Proposition 7 (P7) could not therefore be accepted.

5.10 Summary

This chapter focused on the results obtained from the students’ responses to the questionnaire. The chapter was divided into descriptive statistics which reviewed the demographic profiles and the test score distribution. The second part showed the learners’ attitudes towards entrepreneurship, analysed using a statistical tool (SPSS).

In the next chapter, the results presented are analysed and discussed in terms of the propositions and in terms of the literature theory base. These are presented aligned to the research objectives.

CHAPTER 6

6. DISCUSSION OF RESULTS AND ANALYSIS

6.1 Introduction

The main objective of this study was to determine the attitudes of young rural students based on the rationale that the number of unemployed youth in rural areas of South Africa is increasing. The study focused on the applicability of the ATE test² instrument on rural students and determined entrepreneurial potential by evaluating the attitudes of young South Africans. The learners' socio-demographic backgrounds and its influence on their attitudes are evaluated in this chapter; together with drivers that positively influence attitudes towards entrepreneurship.

The research followed a descriptive qualitative research methodology, where research questions were raised, propositions were made and the results of the Attitude Towards Entrepreneurship tests results were presented in the preceding Chapter (5). The results were tabulated in the form of descriptive statistics and statistical analysis was conducted using the SPSS (version 15) tool and presented in Chapter 5.

In order to absorb some of the younger work-seekers into the existing economy, a new approach has to be configured to stimulate and support rural entrepreneurship amongst the youth.

This chapter analyses and discusses the results presented in Chapter 5 within the context of the research questions, the propositions, and the literature.

6.2 The Theory Base

The literature review confirms the need for entrepreneurial education amongst youth and it is evident from the discussion in the section below that South Africa's young people are becoming increasingly disillusioned, facing challenges of growing unemployment.

6.2.1 Problems Facing South African Youth

The youth of today are faced with acute problems of unemployment (North, 2002; GEM, 2009; National Treasury, 2011; Mahadea *et al.*, 2011). The problem is a persistent one, as can be seen from the publication in 1995 of the new political dispensation as stated by Trevor Manuel (in GEM, 1995); Gouws (1997); North (2002); Herrington, Kew & Kew (2009; in GEM, 2009); and Pravin Gordhan in Budget Speech (2011).

The South African economy is growing at too slow a pace to absorb the number of youth coming into the market (Statistics SA QLFS, 2011; SARB, 2009, 2010). An estimated 826 000 young people arrive annually on the labour market, having completed Grade 12 or having dropped out of school, seeking employment (Morrow *et al.*, 2005). Mahadea *et al.* proclaim that given the labour market dynamics in South Africa it is a reality that most people will not find employment, while Horn (2006) states that only 5 – 7 per cent will find employment. The greatest concern is for the increasing number of work-discouraged work seekers which has grown in the last quarter of 2010 to 2,2 million. Signs of economic disillusionment

abound as the economy fails to generate sufficient employment opportunities to absorb these school leavers (Mahadea, Ramroop & Zewotir; 2011).

The other problem associated with unemployment is that of poverty, as evidenced by Cilliers (2009). Scholars agree that the world's extreme poverty is concentrated in rural areas (Hunger Project, 2011; FAO, 2004; Maxwell, 2001; SARPN, 2008). In South Africa too, poverty is high in rural areas, particularly in the former Bantustans – homelands, as stated by Seekings (2007); Terreblanche (2002); Woolard and Leibbrandt (cited in FAO, 2004) and Armstrong, Lekezwa and Siebrits (2009). Unemployment levels are higher amongst youth in the rural areas as there are fewer opportunities (Machete, 2004; Seekings, 2007; Armstrong, Lezekwa & Siebrits, 2007; SARPN, 2011).

The problems of high unemployment and poverty do not only impact on the youth, but also have adverse consequences on the economic growth potential of a country. Some of the suggested solutions to these problems include, but are not limited to, entrepreneurial education.

Entrepreneurial education has been recognised by scholars as the stimulant for economic growth and provides a solutions to social challenges for most countries' social problems, as cited in the works by Levi, Hart and Anyadike-Danes (2009); Liebenstein (1968); GEM (2009); Herrington, Kew & Kew (2009) in GEM (2009); Gibb (2007); Steenekamp, Van der Merwe, and Athayde (2010); and DeTienne and Chandler (2004).

The problem of youth unemployment and poverty requires a multi-pronged strategy to raise employment levels and support inclusion and social cohesion. Since South Africa has a substandard TEA scoring when compared to other developing countries, (Herrington, Kew & Kew, 2009, in GEM, 2009; Swanepoel, Strydom & Nieuwenhuizen, 2010), a culture of entrepreneurship needs to be nurtured amongst the youth, in order to unleash their economic potential. They need to be provided with opportunities that allow them to be active participants in the economy. This route may be more appealing to the youth if they are adequately exposed to the basics of micro-business entrepreneurship in schools (Mahadea *et al.*, 2011).

In other countries, including the European Union countries, Japan and the US, policy for the development of youth entrepreneurship has been developed and applied in various youth development programmes. This confirms the widespread view that there is a need to build a culture of entrepreneurship and encourage entrepreneurial activity, especially amongst young people. In the UK for example, substantial investment has been made, by the government, in primary, secondary and tertiary institutions over the last decade, and enterprise education is now a mandatory requirement in secondary schools (BERR, 2008; Ofsted, 2005).

As outlined in this section, a clear understanding of the attitudes of learners (from different backgrounds) towards entrepreneurship is required in order to influence policy designs and to develop the required intervention strategies for the

development of entrepreneurial educational programmes that have credible impact for youth entrepreneurship development. Consequently, a tool (ATE test²) to determine entrepreneurial attitudes was then assessed. The next section discusses the ATE test² tool.

6.2.2 The ATE test² tool

Authors such as Athayde (2004) found that personality traits cannot be used to determine the attitudes of young people towards entrepreneurship, and hence developed a tool that allowed for more accurate evaluation (the ATE test²). Though built around the EAO, the tool has been successfully applied in London (UK) on numerous research tests, and in South Africa in the Sedibeng area (Gauteng), both predominantly urban areas.

The main aim of this study was to assess the entrepreneurial attitudes of young rural secondary school learners, using the ATE Test² questionnaire as a measuring tool. The second objective was, to determine the validity and reliability of the entrepreneurial attitudes test amongst young rural learners in schools in rural areas of South Africa. Subsequent to that, the study explores the demographics associated with the socio-economic activities that influence learners' attitudes towards entrepreneurship, and determines whether there are aspirations that can drive learners towards a culture of entrepreneurship.

6.3 Gathering of Data

The senior district manager of the Department of Education (DoE) in Limpopo Province's greater Sekhukhune district was contacted through a letter requesting permission to conduct research in the schools around his area (See Appendix 3).

A letter from the Gordon Institute of Business Sciences (GIBS) MBA second-year manager was required by the district manager's office, as proof that the research was indeed a genuine MBA study and conducted for no other purpose but academic knowledge (See Appendix 3).

Data was gathered using the ATE test² questionnaires. The sample was collected from the 836 learners, 831 questionnaires were usable, and the remaining five were discarded, having errors and being incomplete. The 831 questionnaires were found to be adequate samples with which to conduct statistical analysis, and from which the inferences for this report were drawn. The KMO and Bartlett's tests confirmed the adequacy of the sample size.

It is important to note the size of the sample was not a challenge in this study as compared to the study of Athayde (2009a) where the author states that one of the main weaknesses of the study was the small sample sizes (193), limiting the depth of multivariate analyses that could be carried out.

6.4 Distribution of Responses

The questions in the questionnaires were grouped into five categories representing the five constructs. The ATE test² code (see Appendix 2) establishes the format within which the questions are to be segregated within the broader context of the ATE test².

The schools where the tests were conducted differed in terms of size, with three schools (Nala, Mohlamme, Kgothala) representing 78 per cent of the sample. Across all six schools, the majority of the learners were of African origin (black) representing 98 per cent, with the other 2 per cent representing mixed origin ('coloured').

The results showed that the learners do have a substantial number of people within their family structures that have owned a business. 'Aunt' or 'uncle' is highest at 24 per cent, followed by 'mother' at 20 per cent, then 'cousin' and 'father' at 18 and 17 per cent respectively. It is interesting to note that on the question of self-employed parents, learners indicated that 6 per cent of male parents and 8 per cent of female parents owned, or had owned, a business, implying that many parents had tried running a business at some stage or another. It is important to note that business type was not qualified in the questionnaire and could range from personal survival-type of business to multi-billion rand turn-over business.

The distribution of the demographic results shown in section 5.2 of the proceeding chapter reveals that the learners are from family backgrounds with very low levels

of education, with only 11 per cent of male parents and only 3 per cent of female parents having a degree. The majority of parents have an up-to-Matric level education, followed by a Grade 10 level education. This implies that most of the learners turn to mentors from outside their homes to define a future that includes a higher level of education, such as a degree. Accordingly, the learners indicated that their expected highest qualifications are a university degree (29 per cent), and a higher degree at post-graduate level (27 per cent).

Over 86 per cent of the questions in the questionnaire were completed across all the construct questions. This reveals that the learners were determined to complete the questionnaires to the best of their abilities.

The distribution of the responses to the construct questions shows that the learners 'strongly agree' with questions of achievement and by personal control. The responses to leadership and personal creativity questions were moderate, and there were contradictory responses regarding the reversed question of intuition. The learners have high ambitions, as shown in these results, and believe strongly that their personal success lies in their hands, as indicated by achievement and personal control. The learners have insufficient leadership skills, but these can be developed over time. A factor of concern is that of creativity, as the research reveals that the learners are not yet comfortable with forming creative ideas, let alone with turning these ideas into reality. This is an area that will require a strong focus amongst policy makers. The intuition response shows that the students are

unwilling to take risks, and this is also of concern if they are to become entrepreneurs.

6.5 Applicability of the ATE test² in Rural Schools

The ATE test² questionnaire was tested in two different parts of the world, namely UK (London) and South Africa (Gauteng, Sedibeng). As this study focuses on rural schools, the ATE test² questionnaire had to be evaluated for validity within this context.

6.6 Construct Validity of the ATE Test

The determination of construct validity assures that the constructs that were used for the purpose of this research could be applied within the context of young learners at school; in this case determining the attitudes of the young learners from rural schools. The section responds to the second proposition (P2) and the second research question, “Whether the ATE tool can be applied to rural students?”

There is still some uncertainty about the reliability of the “Intuition” sub-scale. There is a case therefore, for further development of the measuring tool, particularly the intuition scale, hence only four of the five constructs were used, as the construct “Intuition” did not meet the criteria even after four iterations. “Intuition” being below the acceptable limits as based on Fields’ (2005) concession that the attitude tests can be acceptable at lower alphas, a value of 0.5 was used as cut-off point but, the intuition scale still showed a lower reliability in sub-scale. This is

consistent with the studies conducted by Athayde (2009a) and Steenekamp *et al.*(2011), and therefore “Intuition” was not used in the analysis.

6.6.1 Exploratory Factor Analysis (Varimax) for ATE Test

This shows the effect of removing the reversed score variables as well as the variable “Other people will get the best jobs” as it had a complex structure (loading highly on more than one factor), resulted in the retention of constructs viz:

- “Achievement”,
- “Personal Control”,
- “Leadership” and
- “Creativity”.

Carmines and Zeller (1979) posit that an instrument must be both validated and tested for reliability in order to qualify as a usable tool for future studies within the context. The exploratory factorial analysis, together with the interpretability of the factors, provided evidence that the construct validity is acceptable.

6.6.2 Nomological Validity between Constructs

In order to compare the validity of the constructs with the previous studies, Athayde (2009a) states a further measure within structural validity is discriminant validity (Haynie & Shepherd, 2009; Fornell & Larcker, 1981).

The explored relationship between the four constructs, namely Achievement, Personal Control, Leadership and Creativity, using Pearson’s correlation

coefficient, was found to have high structural validity as the correlation matrix also showed discriminant validity of sub-groups for nomological validity.

The instrument was therefore ready for reliability testing.

6.6.3 Reliability of the Measuring Instrument (ATE test²)

Cronbach's Alpha showed that the measuring instrument was acceptable in terms of reliability. This implies that, should the study be repeated, the same results will be obtained. Carmines and Zeller (1979) state that scientific measurements are regarded as being consistent if they can be validated and are reliable.

In this study, the ATE was found to be both reliable and valid for testing entrepreneurship amongst rural school learners. This supports the findings by Athayde (2004, 2009a) and Steenekamp (2009). The ATE test² is suitable for research amongst learners and youth.

6.7 Relationship between Constructs

The relationship between the four constructs, namely Achievement, Personal Control, Leadership and Creativity, were explored using Pearson's correlation coefficient. There is a statistically significant relationship among all pairs of constructs at 1 per cent significance level, since all the p-values are less than 0.01. Although all the correlation coefficients are statistically significant, the strongest correlation is between Personal Control and Achievement, followed by that

between Personal Control and Creativity. Leadership and Achievement have the smallest correlation coefficient.

This implies that the students regard personal control as a way to achieving greater things in life. Also, there are qualities within leadership that the students regard as key to achieving more in life.

6.8 Comparison between the Mean Differences between Constructs

There are four propositions relating to the difference in ATE test² scores. It was hypothesised that the scores would differ between males and females; between pupils with a family background of business ownership and those with no such background; and between rural schools and urban schools in South Africa and United Kingdom, as in the previous studies by Athayde (2004; 2009a) and Steenekamp *et al.* (2009).

6.8.1 Comparison between male and female students

It was found that there is no difference between the entrepreneurial attitudes of male and female Grade 10 learners with regard to the constructs of leadership, achievement, creativity, personal control and intuition.

As found by Steenekamp *et al.*, (2010), gender basis is insignificant as a hypothesis when conducting attitude studies. Gender does not play a role in the attitude of learners towards entrepreneurship.

6.8.2 Verifying the impact of parents in business

There is no difference in the entrepreneurial attitudes of Grade 10 learners with self-employed parents or guardians when compared to those learners whose parents or guardians are not self-employed, regarding the constructs of leadership, achievement, creativity, personal control and intuition.

Contrary to studies that point to the positive influence of a family background of self-employment on young people's decisions to become self-employed, as stated by Botham (2005); and Davies (2002), there was no evidence of this found amongst learners in Sekhukhune, supporting the findings of Athayde (2009a) and Steenekamp *et.al.* (2010).

6.8.3 Comparison to previous findings

Ramroop *et al.* (2011) found that African black learners have a greater positive disposition towards becoming entrepreneurs when compared to learners belonging to other ethnic groups. Their study references this fact that was also echoed in Burger *et al.* (2004:203) and GEM reports (Orford *et al.*, 2003; Herrington *et al.*, 2009).

There is no statistical evidence pointing to a difference in the entrepreneurial attitudes of Grade 10 learners in the Sekhukhune compared to those of other studies.

The results of the ATE Test² scores for each construct, as well as the overall score for comparison to the Sedibeng and British youth as discussed in section 5.9. shows that the learners in Moutse achieved a higher overall percentage when compared to the learners in Sedibeng and London. Though the results are higher, there is not statistical evidence to support this.

6.8.4 Future aspirations

Further socio-economic demographics of learners that were evaluated included the influence of future aspirations on entrepreneurial attitudes. Students were asked what they are likely to do when they leave school. There was no statistical evidence that students with positive future aspirations are more likely to start their own business. The section evaluates the attitudes of learners towards building their own futures as perceived by them.

The students regarded going to university and acquiring a tertiary qualification as their first priority. This is encouraging as these acquiring tertiary qualifications are required for entrepreneurship.

6.9 Discussion and Analysis

The ATE test² was designed to assess the latent enterprise “potential” in learners by measuring “attitudes” toward achievement, personal control, creativity, leadership and intuition (Athayde, 2009a). It was further argued by Athayde (2009a) that these constructs combine to represent the essence of what it takes to become an entrepreneur, given favourable situational factors. In this study, it was

found that not all the constructs correlated well, as only three constructs (Achievement; Leadership; and Personal Control) were closely related (as found by Athayde, 2009a); while Creativity had statistical insignificance. The meta-construct was found to be multi-dimensional and required a unique attitude measuring scale for Creativity.

The literature and the statistical analysis of the empirical data shows that the ATE test² is valid and reliable as a tool, and there is validity between constructs for application to rural school learners in South Africa. The ATE test² questionnaire can therefore be applied to both rural school learners (as per this study) and in urban areas as per the study conducted by Steenekamp *et al.* (2010).

In the literature review, gender, race, parents or guardians' participation in enterprise, and the career aspiration of learners, were highlighted as key socio-demographic factors for entrepreneurial attitudes.

The results of this study and statistical analysis show that in the South African rural schools context, it is important to acknowledge that the socio-demographics are but one of the many key determinants of entrepreneurial attitudes and the desire for business ownership.

Contrary to Athayde's (2009a) findings where she states that learner's with parents in business had more positive attitudes towards entrepreneurship, this factor was found to be statistically insignificant in this current study and no evidence could be drawn to support this.

This confirms the findings of Steenekamp *et al.*,(2011), that the catalytic factors, such such as exposure to entrepreneurship at school and having self-employed parents, which should positively influence the attitudes of young people, have not had any practically significant effect on learners in the Sedibeng sample. In this study, the learners were asked if their immediate family members (parents, brothers, sisters and cousins) were involved in business but none of these appeared to impact on the willingness to do business.

Steenekamp *et al.*, (201, p.328) state that *“In so far as the influence of self-employed parents in this study is concerned, the nature of self-employment was not qualified and no distinction was made between necessity and opportunity entrepreneurs. Accordingly, learners’ perceptions of self-employment could have included anything from a street vendor to the chief executive officer (CEO) of a multinational organisation. The potential impact of a street vendor on the entrepreneurial attitude of a young learner remains debatable, and on the other hand, it should be considered that large firm CEOs may have lost their entrepreneurial flair by virtue of the corporate culture they manage”*. In this current study the nature of self-employed parents was also not qualified, and the students could have interpreted the question in many ways as posited in the quote above.

Although the ATE Test scores suggest that learners from Moutse (83.37 per cent) achieved a higher overall mean score than British learners (80.63 per cent) in the study by Athayde (2009a) and the Sedibeng (82.40 per cent) study by Steenekamp

(2009), there was insufficient statistical evidence to conclude that there is indeed a difference between the entrepreneurial attitudes of Grade 10 learners in the Sedibeng sample and British learners with regard to the constructs of *Leadership*, *Achievement*, *Creativity* and *Personal control*.

Although the ATE test² was found to be applicable to the South African rural schools context, there is a need for further testing of the questionnaire to make it more adaptable to rural learners in South Africa, as most of the proposed hypothesis (socio-demographics) developed from literature were found to have no impact on the learners' attitudes towards starting their own business. Athayde (2009a) concludes that the ATE test² can be improved by refining some of the underlying constructs and the test itself, by wider application during further research, which was also one of the findings of this study.

The sub-par Cronbach Alphas presented in this study may have been caused by the Moutse learners' interpretation of the statements in the ATE Test. As per the Sedibeng learners (Steenekamp *et al.*, 2010), culture and educational approaches may account for these differences, when compared to the British learners. Certain concepts (such as "self-employed" as demonstrated above) are interpreted very differently by South African learners, making it difficult to compare the two countries' results.

Students in the Moutse district all read, write, speak and understand Sepedi and iSindebele, as these are their vernacular subjects at the schools researched. The

medium of instruction in these schools is English, and therefore the ATE was administered in English only. Taking note of Steenekamp's (2009) recommendations, the concepts were explained in Sepedi and iSindebele by the researcher and the learners always had access to the researcher in the event clarity was needed. Responses were given in the learners' home languages (Sepedi and iSindebele). The research questions were not converted to Sepedi as the researcher feared content being lost in translation, and thus the explanation and clarification by the researcher (who can converse in Sepedi and iSindebele) was deemed a better option.

The lack of an entrepreneurial educational training programme and the difficulty in accessing the students in the fourth term of the year due to logistical reasons, rendered it impossible to pursue a pre- and post- study to determine the impact of entrepreneurship training on the attitudes of learners towards entrepreneurship as conducted by Athayde (2009a).

The respondents can be described as a homogenous group, being from the same categories of educational systems (a public school) in the rural area of Moutse in Sekhukhune in the Province of Limpopo. No respondents from private schools were included.

The respondents were homogenous as far as race is concerned – mainly black students (98 per cent and 2 per cent coloured). The background from which the

students came is similar, the majority coming from poor families with low-income earning parents.

The discussion above shows the urgent need for intervention by the South African government, businesses, and communities to find solutions to reducing levels of poverty in the rural areas. A discussion held with the learners at the end of the tests revealed that most of them dream of escaping poverty and of making a better living for themselves and their families, but all cited a lack of funding to further their studies as their biggest challenge.

Based on the context, it can therefore be noted that in this study the additional independent variables such as socio-economic background and ethnicity (Athayde, 2009a) were eliminated by taking students from the same socio-economic and ethnic background.

To determine the motivational factors that positively drive attitudes towards entrepreneurship, it is evident that a great deal more understanding of, and investigation into, learners' backgrounds and environments are required. It is therefore imperative to add a qualitative study to support the ATE test² with interviews, focus groups and literature about rural poverty, and the impact of entrepreneurial education.

The kind of information provided in this report and in similar studies can provide valuable feedback to policy makers, by indicating who currently benefits the most

from enterprise programmes, and which groups could benefit even more (Athayde, 2009a).

6.10 Summary

The ATE test² has been well designed for determining the attitudes of learners in high schools, as it focuses on the entrepreneurial potential in pupils by measuring their attitudes towards the predetermined constructs. These constructs, except for “Intuition” were found to be statistically significant with Cronbach Alphas that were sub-minimal but acceptable. The ATE test² tool was found to have reliable validity. Though applicable in South African rural schools, the ATE test² cannot be applied in isolation, and qualitative analysis in the form of interviews and focus groups should be conducted. The proposed hypotheses focused on incorrect socio-demographic aspects for the rural learners and this was shown by almost all of them having unacceptable or statistically insignificant results.

CHAPTER 7

7. CONCLUSIONS

The entrepreneurial attitudes of young rural students in an emerging market were studied using South African rural schools as a reference. The study incorporated the use of the ATE test² developed by Rosemary Athayde (2004, 2009a) of the Small Business Research Centre at the Kingston University in London, United Kingdom.

The study was conducted in one of the poorest rural areas of South Africa as shown in the demographics. Most of the learners' parents had low levels of educational qualifications and the majority were in either low paying jobs or unemployed. Therefore, it can be concluded that though these questions of parents' employment and academic qualifications are important, not much inference can be drawn from them. Additionally, the question of ethnicity was irrelevant for this study.

This research is based on the fact that youth entrepreneurship plays a critical role in South Africa's efforts to promote a business environment conducive to sustainable growth, as well as to long-term economic and social prosperity (Steenekamp *et al.*, 2010), by contributing to a greater absorption of young people into economic activities.

The study concludes that there is an urgent need to prioritise and formulate policies for entrepreneurship development, in order to reduce the level of

unemployment and to stimulate economic participation by the youth. The literature provides ample evidence that all over the world, countries have acknowledged that entrepreneurship is the key catalyst to a successful economic future. Therefore, it is imperative to promote and enhance entrepreneurial spirit, and South Africa needs to act urgently in this regard.

The literature review has demonstrated that education is important in the development of entrepreneurial spirit amongst the rural South African youth. It was also noted that South Africa needs to nurture an environment within which entrepreneurial training results in the growth of successful small businesses that, in turn, can create further employment opportunities. Consequently, a conceptual modification of the current way of educating learners is required. Learners need to be taught entrepreneurship at an early age to increase the country's TEA rating.

The ATE Test² employed in this study had acceptable levels of construct validity (P1), reliability (P2) and relationships between the constructs of Leadership, Achievement, Personal Control and Creativity (P3) to measure the entrepreneurial attitudes of Grade 10 learners. Sufficient statistical evidence was provided in this study.

There were strong correlations between the constructs of Achievement and Personal Control and that of Personal Control and Creativity. This implies that there are elements of that personal control that can lead to achievement in the future. It is also found that the students need to be creative to have total control in

their lives. It can therefore be concluded that learners have accepted that due to the circumstances in their socio-economic backgrounds, their future success rests entirely in their hands. This finding is important as it illustrates that learners from rural South Africa have an attitude of self-reliance; an important factor in entrepreneurship.

The research revealed that there is no practical significant difference in the entrepreneurial attitudes of Grade 10 learners based on gender (P4); or self-employed parents (P5). Moutse learners (rural) scored higher on both entrepreneurial (P6) and career attitudes (P7) when compared with the urban Sedibeng and British learners. This implies that policymakers do not have to consider factors such as gender, self-employed parents, urban or rural areas, and learners with higher ambitions, when developing training programmes.

Based on the findings above, it can be concluded that the results of this study and statistical analysis, show that in the South African rural schools context, it is important to acknowledge that the socio-demographic details are not the only key determinants of entrepreneurial activity. Therefore further work is needed to understand the key influences to attitudes in rural areas as this is beyond the scope of this work.

Although studies using ATE test² provide statistical evidence which may be useful to policymakers in particular, there is a case for using it alongside a qualitative

approach that includes interviews and focus groups, in order to provide greater insight into young people's perceptions and aspirations.

7.1 Recommendations

There are underlying factors that need to be investigated amongst rural learners from pre-dominantly poor backgrounds, and these influences are not only the same as the key parameters proposed, such as having a parent involved in business, gender difference, parents' occupation, ethnicity, or career aspiration, but should include structured questions for the interviews and group forums.

It is recommended that during the proposed interviews and focus group forums, questions such as 'what other alternative measure will you take if all does not go well regarding financial assistance after completing Grade 12?' or 'would you start a business to fund your future educational needs?', and 'what trade or technical skills will you find appropriate to help you survive while looking for employment?', could be more appropriate for rural learners.

Since most of the students cannot use their parents as professional career role models, it is recommended that the learners be asked to name a role model who has experienced similar 'challenges' in life, and who has innovatively used work, study, or a small business, to escape the poverty trap. Such questions may be useful in developing a teaching aid to give learners from such backgrounds the survival skills required to escape poverty, and to build their own sustainable futures.

It is recommended that the conventional method of entrepreneurial teaching should be adapted to include more innovative aspects such as experiential learning. The methods require the learners to learn by doing, whereby they start by formulating an idea, conceptualise it, develop it into a business opportunity, and write up a business plan with financial projections. Subsequently, learners can then be exposed to registering the business with CIPRO, and complying with the regulators. The business idea should then be converted into reality, with the learners being personally involved in growing the business. Such experiential learning will allow students to learn by trial and error, and will develop the skills required to start businesses within their own communities.

Educators' training is also recommended. Teachers should be trained to deliver, mentor and assess the students' progress in enterprise development. These educators must be able to motivate learners in order for a culture of entrepreneurship to flourish, and this requires specialised skills. Hence, the training for educators needs to be rigorous.

The attitude of learners towards entrepreneurship can be improved by exposing them success stories that they can relate to. Local business persons and positive role models should be involved in addressing students on how they attained their goals, thereby presenting actual case studies and allowing students to weigh their options and choose the path they see fit.

There is a need for a longer-term evaluation, to properly investigate the impact of participating in an enterprise programme on future choices, while still at school. Occupational choices such as starting businesses need to be investigated to provide a more objective measure of the impact of participation (Athayde, 2009a).

One of the recommendations, which was also found to be a gap in the study, is to have a tailor-made entrepreneurship training programme in secondary schools. This can be used for pre- and post-test control-group design in the study to increase potential for focused entrepreneurial training on the attitudes of rural young South Africans (Steenekamp, Van der Merwe, & Athayde, 2009).

7.2 Limitations of the Research

- There are acknowledged weaknesses to the ATE test² regarding the measurement of attitudes, and “creativity” may require a separate measuring scale to the one currently used.
- The question on self-employment of parents was not qualified and in future studies the type of business that the parents are involved in, should be qualified.
- Language was a limitation, and it is advised that the questionnaire be written in basic language that is easily understood by South African learners with the concepts being clarified for the learners.

- The questions that were reversed should be removed or rephrased and all the questions should be on the same scale projection. This reduces the confusion for students.

7.3 Future Research

As a result of these issues, large-scale evidence concerning the influence of entrepreneurship training and education on entrepreneurial activity is still lacking (Bécharde & Grégoire, 2005). Studies should focus on the effects of enterprise education and training on the necessary antecedents of entrepreneurial activity (Reynolds *et al.*, 2005), start-up skills perception and opportunity recognition. It is suggested that if training has primed individuals to be more aware of opportunities as they present themselves, and if those individuals believe they have the knowledge, skills and experience to start a business, then they are more likely to do so. It is proposed that general business training, in addition to enterprise training, may enhance learners' belief in their own ability to start a business.

Further work should consider a pilot run, where students will be assessed using the ATE test² tool, together with qualitative methods (pre-test) as suggested in the recommendations. They should then be exposed to a training programme over a period in time, followed by a reassessment (post-test) using the same assessment method as applied at the beginning.

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[http://www.policy.org.za/gov.docs/white](http://www.policy.org.za/gov.docs/white%20paper/rdpwhite.html) paper/rdpwhite.html

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APPENDIX 1: ATE Questionnaire

Kingston University London



Enterprise Questionnaire

YOUR EFFORT IN COMPLETING THIS QUESTIONNAIRE IS GREATLY APPRECIATED. AS THIS PAPER DOES NOT HAVE YOUR NAME ON IT, IT REMAINS CONFIDENTIAL. SO, WE ASK YOU TO BE BOTH SERIOUS AND HONEST.

SOME OF THE QUESTIONS ASK YOU TO DRAW A CIRCLE AROUND AN OPTION. YOU MAY BE ASKED TO TICK A BOX. THIS MAY MEAN TICKING JUST ONE BOX PER QUESTION, OR TICKING ONE BOX IN A LINE OF OPTIONS.

PLEASE ANSWER ALL THE QUESTIONS.

PLEASE INDICATE HOW MUCH YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS BY CIRCLING ONE NUMBER IN EACH LINE.

Strongly disagree = 1.....strongly agree = 7

- | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|
| 1 | I believe a good imagination helps you do well at school. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | I work hard to make my projects successful. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3 | I think my future career success is largely up to me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 | My friends would say I am a follower rather than a leader. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 | I like lessons that really stretch my imagination. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 | If you don't know all the facts about a problem then there is no way you can find the answer. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | I'm good at motivating my classmates | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | I have a lot of faith in my own ability to succeed in my future career. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9 | It is important to finish off a project as well as you can. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10 | I am good at getting people to work well together. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11 | I trust my own instinct when solving problems in class. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12 | I think I show a lot of imagination in my schoolwork. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13 | It is important to plan my future career. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14 | It doesn't matter if my project work is no good. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15 | I believe I can persuade my classmates to agree on a plan. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



	1	2	3	4	5	6	7
16	Making mistakes is a good way of finding out how to solve a problem.						
	1	2	3	4	5	6	7
17	I am proud of my project work this year.						
	1	2	3	4	5	6	7
18	I dislike Teachers who are always coming up with new ideas.						
	1	2	3	4	5	6	7
19	I take responsibility for organising people in group work.						
	1	2	3	4	5	6	7
20	I am worried that I will not make a success of my future working life.						
	1	2	3	4	5	6	7
21	I'll keep trying out different solutions to a problem rather than give up.						
	1	2	3	4	5	6	7
22	Working hard on projects is well worth the effort.						
	1	2	3	4	5	6	7
23	Other people will get the best jobs.						
	1	2	3	4	5	6	7
24	I don't enjoy lessons where it is up to pupils to come up with ideas.						
	1	2	3	4	5	6	7
25	If I don't know the answer to a problem, then I'll have a guess.						
	1	2	3	4	5	6	7
26	I don't like being the centre of attention in class.						
	1	2	3	4	5	6	7
27	It feels good when a school project works out well.						
	1	2	3	4	5	6	7
28	I have as much chance as anyone else of getting a good job in the future.						
	1	2	3	4	5	6	7
29	I enjoy lessons where the Teacher tries out different ways of teaching.						
	1	2	3	4	5	6	7
30	Instinct helps me work out solutions to problems we are set.						
	1	2	3	4	5	6	7

PART TWO

2.1 Name of your sch

2.2 Please indicate your ethnic group by ticking one of the following boxes.

Black – African	<input type="checkbox"/>	Mixed (White and Black African)	<input type="checkbox"/>
White	<input type="checkbox"/>	Chinese	<input type="checkbox"/>
Indian	<input type="checkbox"/>	Mixed (Black African and Indian)	<input type="checkbox"/>

2.3 What type of work do your parents or guardians do?

	<i>Female</i>	<i>Male</i>
Full-time home-maker (does not do any paid work)		
In part-time employment		
In full-time employment		
Unemployed		
Self-employed or runs own business		
Don't know		

2.4 Please tell us what your parents or guardians do for a living? (Even if they are unemployed at the moment, please tell us what kind of work they normally do).

Please write in boxes:

Mother or Female Guardian
Father or Male Guardian

2.5 What is the highest type of qualification you expect to achieve?

	Please tick
Vocational course (e.g. mechanic, plumbing, electrician, arts) N3 – N6	
Matric	
Post-Matric certificate (e.g. Call Centre Certificate)	
Matric with School Leaving (S)	
Matric with Exemption	
University Degree	
Post graduate or Higher degree	
Other type of course <i>Please tell us what type</i>	

2.6 How likely is it that you will do any of the following things when you leave school?
(Please circle one number in each line)

	Very						Very
Leave school and get a job straight away	1	2	3	4	5	6	7
Join a work-based training scheme	1	2	3	4	5	6	7
Start my business	1	2	3	4	5	6	7
Be unemployed.	1	2	3	4	5	6	7
Be a full-time homemaker	1	2	3	4	5	6	7
Go to University	1	2	3	4	5	6	7
Go to College	1	2	3	4	5	6	7
Other (please tell us what)	1	2	3	4	5	6	7

2.7 What are you likely to be doing when you are 21? (Please circle one number in each line)

	Very						Very
Working in a large organisation	1	2	3	4	5	6	7
Working in a small business	1	2	3	4	5	6	7
Have my own business	1	2	3	4	5	6	7
Working in a profession (lawyer, doctor.)	1	2	3	4	5	6	7
Be unemployed.	1	2	3	4	5	6	7
Other <i>please specify:</i>	1	2	3	4	5	6	7

2.8 Has anyone in your family ever owned a business?

Mother or female guardian	
Father or male guardian	
Grandmother	
Grandfather	
Aunt or Uncle	
Sister or Brother	
Cousin	
Other (please say who.....)	

2.9 What is the highest educational qualification that your parents or guardians have?

Type of Course	Mother or	Father or
Vocational course (e.g. nursery nurse, plumbing, arts foundation)		
Std 8 or Grade 10		
Matric		

University Degree		
Higher Degree (e.g. Masters or PhD)		
Professional Qualifications (e.g. Lawyer, Doctor)		
Other type of course <i>Please tell us what type</i>		
Don't know		

THIS QUESTIONNAIRE IS NOW COMPLETE! THANK YOU VERY MUCH FOR ALL YOUR ANSWERS

APPENDIX 2: ATE test² Code

ATTITUDES TO ENTERPRISE TEST

02/09/2004

CODING PROCEDURES AND CALCULATION OF RESULTS

The ATE Test comprises 5 constructs:

1. Attitudes towards creativity (beliefs about the importance of creativity and personal assessment of creativity, i.e. 'how creative am I?')
2. Attitudes to personal control over future career (internal i.e. I am in control; or external i.e. others are in control).
3. Attitudes towards achievement in project work (seeing things through, taking pride in project work).
4. Attitudes towards using intuition in problem solving (preferring informality to formality; coping with uncertainty, being prepared to take risks in problem-solving).
5. Attitudes to leading others: fellow students and friends (bringing people together, achieving consensus, persuading others).

ITEMS IN TEST CONSTRUCTS

All items are coded on a 1-7 scale from 1= strongly disagree to 7= strongly agree

Perceptions about creativity at school.

Q1 I believe a good imagination helps you do well at school.

Q12 I think I show a lot of imagination in my schoolwork

Q5 I like lessons that really stretch my imagination.

Q29 I enjoy lessons where the teacher tries out different ways of teaching.

Q18 I dislike teachers who are always coming up with 'new ideas'. **Reverse scores**

Q24 I don't enjoy lessons where it is up to pupils to come up with ideas. **Reverse scores.**

Maximum score = 42 Minimum = 6

Self-perceptions of ability to lead others

Q15 I believe I can persuade my classmates to agree on a plan.

Q4 My friends would say I am a follower rather than a leader. **Reverse score**

Q10 I am good at getting people to work well together.

Q26 I don't like being the centre of attention in class. **Reverse score**

Q19 I take responsibility for organising people in group work.

Q7 I'm good at motivating my classmates.

Maximum score = 42 minimum = 6

Intuition in problem solving.

Q6 If you don't know all the facts about a problem then there is no way you can find the answer. **Reverse score**

Q16 Making mistakes is a good way of finding out how to solve a problem.

Q30 Instinct helps me work out solutions to problems we are set.

Q11 I trust my own instinct when solving problems in class.

Q25 If I don't know the answer to a problem then I'll have a guess.

Q21 I'll keep trying out different solutions to a problem rather than give up.

Maximum score = 42 minimum score = 6

Achievement orientation in project work.

Q2 I work hard to make my projects successful.

Q27 It feels good when a project works out well in class.

Q14 It doesn't matter if my project work is no good. **Reverse score**

Q9 It's important to finish off a project as well as you can.

Q17 I am proud of my project work this year.

Q22 Working hard on projects is well worth the effort.

Maximum score = 42 minimum score = 6

Perceived personal control over career.

Q23 Other people will get the best jobs. **Reverse scores.**

Q3 I think my future career success is largely up to me.

Q8 I have a lot of faith in my ability to succeed in my future career.

Q13 It is important to plan my future career.

Q20 I am worried that I will not make a success of my future working life. **Reverse scores.**

Q28 I have as much chance as anyone else of getting a good job in future.

Maximum score = 42 minimum score = 6

CALCULATION OF RESULTS

To obtain a score for each construct sum the 6 item scores for that construct, remembering to reverse the scores on items as indicated. To obtain an overall ATE Test score sum the total scores for each construct (maximum score = 210 minimum score = 30).

If the Protestant Work Ethic Test is incorporated this needs to be coded separately. (please see appendix i)

APPENDIX i

Protestant Work Ethic Test – for concurrent validity of ATE Test

Work Involvement

Work involvement is defined as “the extent to which a person wants to be engaged in work” (i.e. paid employment). The scale comprises six items. There is a seven-point agree-disagree response dimension (same as the ATE Test).

Items:

1. Even if I won a great deal of money on the lottery I would continue to work. (***‘pools’ changed to lottery***)
2. Having a job is very important to me.
3. I would hate to live off benefits (***changed from*** ‘I should hate to be on the dole.’)
4. I would soon get very bored if I had no work to do.
5. The most important things that happen to me involve work.
6. If unemployment benefit was really high I would still prefer to work.

All items are positive therefore maximum score for each item is 7 and minimum is 1. Total possible score for construct is 42 and minimum is 6.

Sources:

Warr, P. B., Cook,, J. and Wall, T. D. (1979) Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology* 52, 129-148

Cook, J. D. Hepworth , S.J., Wall, T. D. and Warr, P. B. (1981) *The Experience of Work: A Compendium and Review of 249 Measures and their Use*. Academic Press.

APPENDIX 3: Permission Granted to Conduct Research in Schools



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION
SEKHUKHUNE DISTRICT

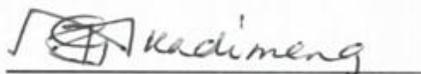
Enq: Mothiba B.O
Tel: 015 633 2902
Date: 15/06/2011

To: Rhulane Maluleke (Student: Masters in Business Administration)
Gordon Institute of Business Science
University of Pretoria

From: District Senior Manager
Sekhukhune District

SUBJECT: GRANTED PERMISSION TO CONDUCT A RESEARCH.

1. The above matter refers.
2. Kindly be informed that your research application to conduct research in schools around Moutse Cluster, which is within the confines of Sekhukhune District, is approved.
3. Please note you should conduct your research in line with ethics as prescribed by your institution and international norms and standards for research.
4. The district wishes you well in your project and awaits your findings with great interest.


NKADIMENG T.G

DISTRICT SENIOR MANAGER

15.06.2011

DATE



GORDON INSTITUTE
OF BUSINESS SCIENCE

University of Pretoria

11 May 2011

TO WHOM IT MAY CONCERN

This letter confirms that Rhulani Maluleke (stud nr: 10673050) is currently completing his Masters in Business Administration (MBA) at the Gordon Institute of Business Science, University of Pretoria. He is carrying out an Integrative Research Project as one of the components of the MBA and any assistance you could give him with collecting his data would be greatly appreciated. Should you have any queries please do not hesitate to contact me.

Kind Regards,

Adele Bekker
Senior MBA Manager
GIBS
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University of Pretoria

APPENDIX 4: Number of Responses per Question

In Table 16, the number of responses per test score as presented by the respondents on the questions relating to their attitude to enterprise, is presented. This table shows the number of respondents who chose each portion per question.

Table 16: The number of responses per test question

Question	Frequency of Ratings							No Ans.
	1	2	3	4	5	6	7	
Perceptions about creativity at school								
Q1 I believe a good imagination helps you do well at school	32	6	15	42	79	100	547	10
Q12 I think I show a lot of imagination in my schoolwork	26	8	16	56	96	155	468	6
Q5 I like lessons that really stretch my imagination	41	15	34	41	88	134	454	24
Q29 I enjoy lessons where the Teacher tries out different ways of teaching	34	7	17	37	61	102	566	7
Q18 I dislike Teachers who are always coming up with new ideas	162	49	31	64	39	46	421	19
Q24 I don't enjoy lessons where it is up to pupils to come up with ideas	123	66	105	99	62	73	284	19
Self-perceptions of ability to lead others								
Q15 I believe I can persuade my classmates to agree on a plan	79	24	63	128	121	116	272	28
Q4 My friends would say I am a follower rather than a leader	156	84	106	120	54	45	238	28
Q10 I am good at getting people to work well together	41	15	34	71	81	134	449	6
Q26 I don't like being the centre of attention in class	243	62	86	91	66	62	203	18
Q19 I take responsibility for organising people in group work	59	34	40	85	101	134	360	18
Q7 I'm good at motivating my classmates	69	20	34	68	93	122	405	20
Intuition in problem solving								
Q6 If you don't know all the facts about a problem then there is no way you can find the answer	311	92	73	76	48	32	180	19
Q16 Making mistakes is a good way of finding out how to solve a problem	124	25	41	59	76	98	397	11
Q30 Instinct helps me work out solutions to problems we are set	78	27	56	130	152	130	240	18
Q11 I trust my own instinct when solving problems in class	77	26	33	83	116	126	358	12

Q25 If I don't know the answer to a problem, then I'll have a guess	194	49	56	94	83	100	234	21
Q21 I'll keep trying out different solutions to a problem rather than give up	47	18	28	68	69	122	463	16
Achievement orientation in project work								
Q2 I work hard to make my projects successful	9	9	18	47	55	93	592	8
Q27 It feels good when a school project works out well	27	9	19	28	47	70	616	15
Q14 It doesn't matter if my project work is no good	62	30	51	44	49	53	527	15
Q9 It is important to finish off a project as well as you can	34	9	15	40	61	137	519	16
Q22 Working hard on projects is well worth the effort	34	17	25	64	96	135	444	16
Perceived personal control over career								
Q23 Other people will get the best jobs	445	92	80	92	43	16	50	13
Q3 I think my future career success is largely up to me	34	16	12	31	62	101	552	23
Q8 I have a lot of faith in my own ability to succeed in my future career	21	11	15	30	50	95	593	16
Q13 It is important to plan my future career	13	7	10	3	15	33	745	5
Q17 I am proud of my project work this year	41	16	23	53	83	127	475	13
Q20 I am worried that I will not make a success of my future working life	195	87	82	82	37	58	269	21
Q28 I have as much chance as anyone else of getting a good job in the future	23	9	17	48	55	109	562	8