

# **ENTREPRENEURIAL ORIENTATION OF GENERATION Y STUDENTS IN THE VAAL TRIANGLE AREA**

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## DECLARATION

**I, Habofanwe Andreas Koloba** declare that ENTREPRENEURIAL ORIENTATION OF GENERATION Y STUDENTS IN THE VAAL TRIANGLE AREA is my own work, that all the sources used or quoted have been identified and acknowledged by means of complete references, and that this dissertation has not previously been submitted by me for a degree at any other university.

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## **ABSTRACT**

### **ENTREPRENEURIAL ORIENTATION OF GENERATION Y STUDENTS IN THE VAAL TRIANGLE AREA**

**KEY WORDS:** Entrepreneurship, Entrepreneurial orientation, Generation Y, Autonomy, Innovation, Risk propensity.

There is consensus among entrepreneurship scholars regarding the importance of entrepreneurship toward the economies of countries. There is sufficient evidence to support the view that entrepreneurs are characterised by unique characteristics. Entrepreneurship and entrepreneurial orientation have been widely studied and entrepreneurial orientation is considered instrumental for motivating individuals to engage in entrepreneurial activities. Previous research has also identified a correlation between entrepreneurial orientation and the performance of a firm.

Many studies on the subject of entrepreneurial orientation have revealed that entrepreneurial orientation is multi-dimensional, for example, previous studies have identified autonomy, innovation, risk taking, competitive aggressiveness and pro-activeness as some of the factors that may influence entrepreneurial orientation. Given the importance of entrepreneurship with regard to job creation, the study attempted to identify the entrepreneurial orientation of Generation Y students. South Africa is experiencing high unemployment levels among the youth and the need to identify the entrepreneurial perceptions of the youth is significant as future entrepreneurs will come from this cohort. The findings of this research study may assist different stakeholders such as government, businesses and higher education institutions among others to take appropriate actions to address the problem of unemployment and create a favourable environment where persons may engage in entrepreneurial activities.

The purpose of this research study was to determine the entrepreneurial orientation of Generation Y students in the Vaal Triangle area. Autonomy, innovation and risk taking were identified as factors that may possibly influence the entrepreneurial orientation of Generation Y students in this area.

The findings in this research study indicate that students regard themselves as being autonomous, innovative and risk takers. No significant differences were found with regard to the entrepreneurial orientation of males and females. In comparing different designated groups in terms of the three constructs, significant differences were noted among certain items, for example, Coloureds and Indians tend to perceive themselves as more innovative compared to other groups. However, further research is needed because there is no sufficient evidence to suggest that one group is more entrepreneurial than the other. The findings in this research study revealed that Generation Y students perceive themselves as being autonomous, innovative and risk takers. This is encouraging because entrepreneurial activities, to a large extent, are known to be influenced by entrepreneurial orientation. It is evident that the youth can be encouraged to be job creators instead of job seekers.

## **OPSOMMING**

### **ENTREPRENEURIESE ORIËNTASIE VAN GENERASIE Y-STUDENTE IN DIE VAALDRIEHOEK GEBIED**

**SLEUTELWOORDE:** Entrepreneurskap, entrepreneuriese oriëntasie, Generasie Y, outonomie, innovasie, risikogeneigdheid

Daar heers konsensus onder entrepreneurskapgeleerdes ten opsigte van die belang van entrepreneurskap rakende die ekonomieë van lande. Daar is voldoende bewyse wat die opvatting dat entrepreneurs deur unieke kenmerke gekarakteriseer word, ondersteun. Entrepreneurskap en entrepreneuriese oriëntasie is al wyd bestudeer en entrepreneuriese oriëntasie word as instrumenteel beskou om individue te motiveer om aan entrepreneuriese aktiwiteite deel te neem. Vorige navorsing het ook 'n korrelasie tussen entrepreneuriese oriëntasie en die prestasie van 'n firma geïdentifiseer.

Baie studies wat oor entrepreneuriese oriëntasie onderneem was, het onthul dat entrepreneuriese oriëntasie multidimensioneel is. Vorige studies het byvoorbeeld outonomie, innovasie, risikogeneigdheid, kompeterende aggressiwiteit en proaktiwiteit as van die faktore geïdentifiseer wat entrepreneuriese oriëntasie kan beïnvloed. Gegewe die belangrikheid van entrepreneurskap met betrekking tot werkskepping in gedagte, poog hierdie studie om die entrepreneuriese oriëntasie van Generasie Y-studente te bepaal. Suid-Afrika ondervind hoë werkloosheidsvlakke onder die jeug en die behoefte om die entrepreneuriese persepsies van die jeug te identifiseer is veelseggend, aangesien toekomstige entrepreneurs moontlik hierdie groep sal kom. Die bevindings van hierdie navorsing kan ondersteuning aan verskillende belanghebbendes verleen, wat onder andere instansies soos die regering, besighede en hoër onderwysinstellings kan insluit, om op die geskikte wyse op te tree en sodoende die probleem van werkloosheid aan te spreek en 'n gunstige omgewing te skep waar mense aan entrepreneuriese aktiwiteite kan deelneem.

Die doel van hierdie navorsingstudie was om die entrepreneuriese oriëntasie van Generasie Y-studente in die Vaaldriehoekgebied te bepaal. Outonomie, innovasie en risikogeneigdheid is as faktore geïdentifiseer wat moontlik die entrepreneuriese oriëntasie van Generasie Y-

studente in die gebied kan beïnvloed.

Die bevindings van hierdie navorsingstudie toon aan dat studente hulleself as outonomies, innoverend en risikogeneigdheid beskou. Geen beduidende verskille is tussen die entrepreneuriese oriëntasie van mans en vroue gevind nie. By die vergelyking tussen verskillende aangeduide groepe ingevolge die drie samestellings, is beduidende verskille tussen sekere items opgemerk, soos byvoorbeeld Kleurlinge en Indiërs, wat hulleself as meer innoverend beskou in vergelyking met ander groepe. Meer navorsing word egter benodig, aangesien daar geen bewyse is wat te kenne gee dat een groep meer entrepreneuries is as 'n ander een nie. Die bevindings in hierdie navorsingstudie het onthul dat Generasie Y-studente hulleself as outonomies, innoverend en risikogeneigdheid beskou. Dit is bemoedigend, want dit is bekend dat entrepreneuriese handelinge grotendeels deur entrepreneuriese oriëntasie beïnvloed word. Dit is duidelik dat die jeug aangemoedig kan word om eerder werkskeppers as werksoekers te wees.

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## **CHAPTER 1**

### **INTRODUCTION AND BACKGROUND TO THE RESEARCH STUDY**

#### **1.1 INTRODUCTION**

Many scholarly entrepreneurship authors agree on the importance of entrepreneurship. Timmons and Spinelli (2004:5) see entrepreneurship as a necessity for job creation, wealth, growth and development. Shastri, Kumar and Ali (2009:085) state that entrepreneurship is a life moving force behind any economy, while Kuratku and Hodgetts (2007:32) describe an entrepreneur as an aggressive catalyst for change in the world of business. Certo, Moss and Short (2009:319) describe entrepreneurs as the foundation of doing something new and identifying opportunities where others cannot. Lee and Peterson (2000:402) conclude that there is a need for a unified conceptualisation of entrepreneurship that can be useful at the societal level.

According to Mueller and Thomas (2000:51), entrepreneurship research has identified a number of personal characteristics believed to be instrumental in motivating entrepreneurial behaviour. Kuratku and Hodgetts (2007:116) contend that every person has the potential and freedom to pursue a career as an entrepreneur. Timmons and Spinelli (2004:245) point out that certain attitudes and behaviours anchor the entrepreneur in thought and action. They caution however, that there is no single set of attitudes and behaviour that every entrepreneur must have. Longenecker, Moore and Petty (2003:21) also state that there is not one well-defined profile of an entrepreneur; however, many of the entrepreneurial profiles developed have identified some common qualities. Frank, Korunka, Lueger and Mugler (2005:260) clearly show the connection between entrepreneurship and entrepreneurial orientation when they say, “Two of the most important prerequisites for success in starting a new business are the desire and the ability to do so.”

The contention about the motives for entrepreneurship has necessitated the need to distinguish between necessity and opportunity-driven entrepreneurship (Williams, 2009:214). According to Block and Wagner (2010:155), an existing opportunity pulls opportunity entrepreneurs into entrepreneurship while pushing necessity entrepreneurs into entrepreneurship due to a lack of employment opportunities. Block and Sander (2009:122) support this argument after analysing data from the German Socio-economic Panel Study (GSOEP) at the German Institute for Economic Research. One of the findings was the significantly higher percentage of necessity-driven entrepreneurs living in East Germany

compared to opportunity-driven entrepreneurs. They concluded that this could be because of the high unemployment in East Germany. Furthermore, the findings indicated that necessity entrepreneurs earned significantly less and were less satisfied with their occupational situation than opportunity entrepreneurs.

## **1.2 ENTREPRENEURSHIP VS ENTREPRENEURIAL ORIENTATION**

There is the view that a distinction should be made between entrepreneurship and entrepreneurial orientation. Mueller and Thomas (2000:62) define entrepreneurial orientation as a tendency that is likely to lead to conduct associated with entrepreneurial activity. Lumpkin and Dess (1996:136) describe entrepreneurship as referring to new entry and entrepreneurial orientation as processes, practices and decision-making activities that managers use to act entrepreneurially. Hermansen-Kobulnicky and Moss (2004:2) describe entrepreneurial orientation as beliefs, behavioural intentions, and self-reported behaviours that suggest one's preference to start new market-entry activities. According to Schmitt-Rodermund and Vondracek (2002:66), entrepreneurial orientation is a combination of entrepreneurial interests, skills and traits.

According to Lumpkin and Dess (1996:136), autonomy, innovativeness, risk taking, proactiveness and competitive aggressiveness have been useful for characterising and distinguishing entrepreneurial orientation. Certo *et al.* (2009:320) also state that entrepreneurial orientation is enacted through these five dimensions, which are important for entrepreneurial behaviour, and they are a useful angle through which to view entrepreneurial processes. Mueller and Thomas (2000:62) conclude that an individual who is self-reliant, self-confident, with strong determination and perseverance to initiate and grow enterprises will be entrepreneurially oriented. Koh (1996:22) conducted a study among MBA students from the Hong Kong University of Science and Technology, and the results showed that those who were entrepreneurially inclined had a higher tendency to take risk, were more tolerant of ambiguity, and were more innovative. Furthermore, a study by Li, Huang and Tsai (2009:447) among firms listed on the Taiwan Securities and Futures Institute revealed that entrepreneurial orientation had a positive impact on a firm's performance.

### 1.3 ENTREPRENEURSHIP AND CULTURE

Lee, Lim, Pathak, Chang and Li (2006:351) highlight the popularity of entrepreneurship around the world and advise on customising a country's education according to its unique cultural context. Pretorius and Van Vuuren (2003:516) contend that there is a greater tendency towards entrepreneurship in some societies compared to others. Mueller and Thomas (2000:66) point out that the results of a study they conducted among third- and fourth-year students at 25 universities in 15 countries supported the proposition that some cultures are more conducive than others are to entrepreneurship. Individualist cultures showed strong entrepreneurial values that promote self-reliance and independent action compared to collectivist cultures. Individualism refers to societies in which social links and commitments are weak and the expectation is that everyone looks after themselves and their immediate family. Collectivism pertains to societies in which people integrate into strong cohesive in-groups, which throughout a lifetime continue to protect them in exchange for wholehearted loyalty (Hofstede, 1991:51).

According to Mueller and Thomas (2000:51), culture shapes the development of certain personality traits and motivates individuals to behave differently to others. Given the culture in different countries, Lee *et al.* (2006:364) also found that countries like the United States, Korea, China and Fiji can provide customised entrepreneurship curriculum.

A country's culture can be significant with regard to innovativeness, risk taking, proactiveness, competitive aggressiveness and autonomy of its people (Lee & Peterson, 2000:401). A study conducted by Pistruì, Welsch, Wintermantel, Liao and Pohl (2000:260) in the new Germany revealed that East and West German entrepreneurs have significantly different entrepreneurial characteristics. West German entrepreneurs indicated that they received a greater level of family encouragement, while the East German families withheld their support. The study also revealed that the East German entrepreneurs were younger, averaging forty-five years of age, whereas the West German entrepreneurs averaged fifty years of age.

The results of a study by Pruett, Shinnar, Toney, Llopis and Fox (2009:590) among university students in the United States, Spain and China has shown that entrepreneurial exposure of students and social norms helped explain the students' entrepreneurial orientation. Students with family members who are entrepreneurs were more likely to start

their own businesses. Parnell, Shwiff, Yalin and Langford (2003:131) further highlighted this in a study conducted among Chinese management students studying in the United States and those studying on mainland China. The results showed that entrepreneurial orientation among Chinese students on mainland China was a lot higher, compared to Chinese students in the United States. They concluded that this finding was likely due to sampling differences, as Chinese students in the United States were more likely to have family connections in mainland China that could have resulted in strong career opportunities with existing firms.

#### **1.4 PROBLEM STATEMENT**

In South Africa a high number of small and micro enterprises fail during the first few years of operation, this can be attributed to a lack of entrepreneurial orientation (Nieman & Nieuwenhuizen, 2009:35). According to Lee *et al.* (2006:354), an entrepreneur's personal attributes determine motivations and objectives, which result in a better performance.

According to Bosma and Levie (2009:10), entrepreneurial attitudes and perceptions play an important role in creating an entrepreneurial culture. Some countries have a more favourable attitude towards entrepreneurship, for example, according to the Global Entrepreneurship Monitor Report for 2010, Latin American countries have a significantly more favourable attitude towards entrepreneurship (Herrington, Kew, & Kew, 2010:17). The GEM study of 2010 showed that South Africa scored below the average regarding attitudes and perceptions towards entrepreneurship. Furthermore, in terms of both perceived capabilities and entrepreneurial intentions, South Africa ranked in the bottom third, of all efficiency-driven economies. For example, in terms of new firm activity, South Africa achieved a rate of 3.9 percent, which was below the GEM average of 5.9 percent as well as the average for efficiency-driven economies of 5.2 percent (Herrington *et al.*, 2010:15).

South Africa's total entrepreneurship activity rate of 8.9 percent was lower than the average of all the participating countries of 11.8 percent - see Table 1.1(Herrington *et al.* 2010:44). The table includes only the data of the years in which respective countries participated in the GEM survey. Total early-stage entrepreneurship activity indicates the participation of individuals in early-stage entrepreneurial activity, and expresses this measure as the percentage of the adult population between the ages of 16 and 64 years that is in the process of starting, or has recently started a business. These statistics paint a disturbing picture in a country such as South Africa where unemployment is a huge problem.

**Table 1.1: Early-stage entrepreneurial rates across selected GEM countries.**

| Sub-Saharan Africa  | Country      | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---------------------|--------------|------|------|------|------|------|------|------|------|------|------|
|                     | Angola       |      |      |      |      |      |      |      | 22.7 |      | 32.5 |
|                     | Ghana        |      |      |      |      |      |      |      |      |      | 34.0 |
|                     | South Africa | 9.4  | 6.5  | 4.3  | 5.4  | 5.1  | 5.3  |      | 7.8  | 5.9  | 8.9  |
|                     | Uganda       |      |      | 2.3  | 31.6 |      |      |      |      | 33.6 | 31.3 |
| South American      | Argentina    | 11.1 | 14.2 | 19.7 | 12.8 | 9.5  | 10.2 | 14.4 | 16.5 | 14.7 | 14.2 |
|                     | Brazil       | 12.7 | 13.5 | 12.9 | 13.5 | 11.3 | 11.7 | 12.7 | 12.0 | 15.3 | 17.5 |
|                     | Chile        |      | 15.1 | 16.9 |      | 11.1 | 9.2  | 13.4 | 14.1 | 14.6 | 16.8 |
| All GEM average TEA |              | 9.9  | 8.0  | 8.8  | 9.4  | 8.4  | 9.5  | 9.1  | 10.6 | 11.3 | 11.8 |

**Source:** Adapted from Herrington *et al.* (2010:44)

There is a need to investigate and continuously research entrepreneurial attributes because not all efforts to characterise entrepreneurs have led to any consensus (Lumpkin & Dess, 1996:135; Nieman & Nieuwenhuizen, 2009:32). Lee *et al.* (2006:351) point out that entrepreneurship in many countries has been emphasised as a way of boosting economic growth and job creation. South Africa is no exception, and more entrepreneurs are needed to grow the economy and create jobs. They further suggest that, in order for entrepreneurial activity to occur, both opportunities and entrepreneurial capabilities need to be present. South Africans are in need of these entrepreneurial capabilities. This study will focus on the entrepreneurial orientation of Generation Y students because future entrepreneurs are likely to emerge from this cohort.

## **1.5 THE RESEARCH OBJECTIVE OF THE STUDY**

### **1.5.1 The primary research objective**

The aim of the research study is to determine the entrepreneurial orientation of Generation Y students in the Vaal Triangle area. The research study focused on the following:

The influence of autonomy, risk taking and innovation, as factors influencing the entrepreneurial orientation of students.

## **1.6 THE RESEARCH DESIGN**

### **1.6.1 Secondary research**

Secondary research incorporates both the local and international literature, which serve to underpin the empirical research. The following sources were consulted:

- The Internet
- Book publications
- Academic journals
- Databases (Emerald, EBSCO Host, Google scholar, SA Publications etc.)

### **1.6.2 Primary research**

#### **1.6.2.1 Population, sample frame and sampling method**

The population comprised of Generation Y students from tertiary institutions in the Vaal Triangle area. A sample of 400 registered senior undergraduate and postgraduate students was drawn from the institutions for the 2012 academic year. The sample size was consistent with previous studies conducted in understanding entrepreneurial orientation of students (Schmitt-Rodermund & Vondracek, 2002; Lee *et al.*, 2006; Parnell *et al.*, 2003). Permission was obtained from the respective institutions.

#### **1.6.2.2 Questionnaire design**

All questions were collated in a book format with a cover page explaining the purpose, objective and application of the research. The particulars of the author were also given including the address and contact numbers. The questionnaire comprised of three sections. Section A included the questions regarding the demographical make-up of the respondents. Section B contained questions regarding the factors that may influence the entrepreneurial orientation of students – five-point Likert-style scales were used. Section C comprised questions regarding the family history in business.

Content and face validity of the questionnaire were established by asking a number of experienced academics to review the questionnaire. A pilot survey was conducted to test the reliability of the questionnaire using Cronbach's alpha. Sixty-one students were selected to participate in the pilot project.

### **1.6.2.3 Data processing and analysis**

The Statistical Package for Social Sciences (SPSS) (version 20.0 for Windows) was used for the data processing and analysis. Basic descriptive statistics (means and standard deviations) and multi-variance analysis such as one-way between-groups analysis of variance (ANOVA) and independent sample t-tests were used. Principal factor analysis was used to see whether all questions loaded on the same three factors. Cronbach's alpha was used to determine the reliability of the instrument.

## **1.7 IMPORTANCE OF THE RESEARCH STUDY**

A study conducted by Frank *et al.* (2005:269) among Austrian secondary schools revealed that entrepreneurial orientation among pupils can be influenced during school education. Schmitt-Rodermund and Vondracek (2002:76) also argue that students with an entrepreneurial personality profile, and greater willingness to try, may be the best contenders to increase the number of future business start-ups.

There is a good deal of evidence that certain entrepreneurial attitudes and behaviours can be acquired, developed, practiced and refined through a combination of experience and academic studies (Timmons & Spinelli, 2004:249). Matlay (2006:711) highlights that there is agreement among policy makers and other important stakeholders, that entrepreneurship education can increase both the quality and quantity of graduate entrepreneurs entering the economy. According to Shastri *et al.* (2009:085), the benefit, among others, of entrepreneurial education is that it helps young students to develop their traits and attitudes. It serves to reason that once the students' entrepreneurial orientation is known, they can be guided to become entrepreneurs.

Many studies have shown that entrepreneurship is important for the overall development of the economies of countries (Koh, 1996:12; O'Neill & Viljoen, 2001:37). It is also evident that there is a link between entrepreneurial orientation and prospects of starting businesses (Rodermund & Vondracek, 2002:76). According to Lee *et al.* (2006:354), businesses run by entrepreneurially oriented individuals normally succeed or survive, compared to those run by individuals who lack these traits.

O'Neill and Viljoen (2001:37) state that entrepreneurs may be considered the most important prerequisite for the economic development of a country. However, South Africa's total

entrepreneurship activity dropped significantly from 7.8 percent in 2008 to 5.9 percent in 2009, while the emerging entrepreneurship rate for 2009 was 3.6 percent compared to 5.7 percent in 2008 (Herrington, Kew, & Kew, 2009:66). The 8.9 percent improvement of total entrepreneurship activity for 2010 is still low compared to the average of 11.8 percent of other GEM countries (Herrington *et al.* 2010: 44). Roodt (2005:19) sums it up when he writes, “South Africa cannot afford to have a high failure rate among the self-employed, as one of the “jobs” of the self-employed is to create job opportunities for others.” The study is important because, with proper guidance, students can be encouraged to engage in entrepreneurial activities, as this is essential for job creation.

## **1.8 LIMITATIONS OF THE STUDY**

The following limitations of the study are noted:

- The study focuses on Generation Y students in the Vaal Triangle area and their views do not necessarily represent that of the total student population in the country.
- The study focuses on autonomy, innovativeness and risk taking and excludes other factors that may influence entrepreneurial behaviour.

## **1.9 CHAPTER CLASSIFICATION**

### **Chapter 1: Introduction, problem statement and objectives.**

This chapter encompasses the introduction and background to the research study. The discussion includes the importance of the research study and the statement of the research problem. This chapter concludes with the organisation and structure of the research study.

### **Chapter 2: Literature review of entrepreneurship and entrepreneurial orientation.**

This chapter focuses on the literature review of entrepreneurship and entrepreneurial orientation. The discussion is on autonomy, innovation and risk taking that may possibly influence entrepreneurial orientation.

### **Chapter 3: Research methodology**

This chapter presents the research methodology. It defines the population and sample frame, and discusses the sampling procedure and problems experienced. Data analysis and statistical procedures used in the study are also discussed.

## **Chapter 4: Data Analysis and Interpretation**

This chapter analyses, interprets and evaluates the research findings.

## **Chapter 5: Recommendations and direction for future research**

This chapter presents the recommendations based on the findings of the research study, the limitations of the study and direction for future research, and the contribution the research study has made.

### **1.10 ETHICS STATEMENT**

The research project complied with ethical standards of academic research, which among other things, protected the identities and interest of the respondents. All responses were analysed in an aggregate format. The necessary approval was obtained to conduct the surveys in the institutions. Participation in the survey was voluntary.

### **1.11 CONCLUSION**

This chapter presented the introduction and background to the research study. The problem statement was also discussed and the research design and methodology outlined. Furthermore, the importance of the research study was also presented and limitations to the study mentioned. It ended with the chapter classification. The following chapter focuses on the literature review of the research study.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Chapter 1 highlights the importance of entrepreneurship to the economies of the world, and South Africa in particular. Furthermore, a discussion on many findings from different studies supports the proposition that there is a link between entrepreneurship and entrepreneurial orientation. Certo *et al.* (2009:320) argue that the dimensions of entrepreneurial orientation are a useful perspective through which to view entrepreneurial processes. The discussion included the contention that culture can influence entrepreneurial behaviour, and included presenting research findings supporting this view. The debate about the difference between necessity and opportunity-driven entrepreneurship was also discussed.

This chapter highlights the importance of entrepreneurship among the youth. Furthermore, it includes a literature review pertaining to an overview of entrepreneurship in South Africa. In the absence of consensus regarding a common definition of entrepreneurship and entrepreneurial orientation, an attempt is made to present various definitions according to many scholars. The discussion includes the relationship between entrepreneurial orientation and the performance of a firm. Furthermore, the three dimensions of autonomy, risk taking and innovation are considered as factors believed to influence entrepreneurial orientation. The role that culture as an influence on entrepreneurial behaviour is also discussed by focusing on the South African situation. The chapter concludes with a further discussion about necessity and opportunity-driven entrepreneurship in South Africa.

#### **2.2 THE IMPORTANCE OF ENTREPRENEURSHIP AMONG THE YOUTH**

The youth with entrepreneurial interest is an important element of each society and need guidance to contribute towards the development of the country through entrepreneurial activities. For this reason, an understanding of their entrepreneurial aspirations, interests and intentions is essential. According to Kroon, de Klerk and Dippenaar (2003:319), young people are a major facet in shaping the entrepreneurial future of a country. Furthermore, they highlight that the youth is a significant force necessary for guiding and dealing with the rapid changes. The youth also epitomises the future capacity for economic growth and development. Hence, Ndedi (2009:464) advises that through entrepreneurship, the youth can earn their living by supporting themselves and their families with the income they make from

their entrepreneurial activities. For this reason, the need to determine the entrepreneurial orientation of Generation Y students in South Africa is of utmost importance.

Knowledge of the factors linked with entrepreneurial tendency can have practical importance, for example, as a career guidance tool for students, or as a device for selection of entrants into an entrepreneurship curriculum (Koh, 1996:12). Similarly, Mitchell (2004:167) advises that discovering the factors that encourage the individual to embark on an entrepreneurial career becomes significant in stimulating entrepreneurship. Cromie (2000:12) is also of the view that if entrepreneurs are needed to secure economic development it is essential to think about how they can be identified. Furthermore, Dhliwayo (2008:333) highlights the fact that students are looking for skills that enable them to thrive in a dynamic and divergent business world. He further notes that government and education are important sources to encourage students to value the importance of self-employment.

In view of this, this study seeks to understand the entrepreneurial orientation of Generation Y students. The reason is that, although characteristics of this generation are documented, very few studies have focused on Generation Y entrepreneurship (Tremblay, Audet & Gasse, 2009:2). Nevertheless, Zimmerer and Scarborough (2008:19) note that this generation is exhibiting high levels of awareness in entrepreneurship. Similarly, Tremblay *et al.* (2009:1) perceive Generation Y as making up a considerable pool of prospective entrepreneurs who will likely play a leading role in business success.

However, there is no consensus on the exact years that define Generation Y. According to Hill (2004:35), they were born between 1981 and 2004. Zimmerer and Scarborough (2008:2) state that these are people born between 1982 and 1995, while Tremblay *et al.* (2009:2) maintain that they are generally considered to be born between 1978 and 1990. Table 2.1 presents a summary of characteristics of Generation Y and other three Generations classes. Despite these different views, Zimmerer and Scarborough (2008:2) argue that young people see entrepreneurship as the perfect method to build their own job security and success, and they are keen to control their own destiny. It is public knowledge that the youth is mostly affected by unemployment, and a Generation Y student in the Vaal Triangle is no exception.

**Table 2.1: A comparison of Generation Y with other generations**

|                         | <b>Traditionalists</b><br>Born pre-1945 | <b>Baby boomers</b><br>Born 1945 to 1964              | <b>Generation X</b><br>Born 1965 to 1980                       | <b>Generation Y</b><br>Born post-1980                                             |
|-------------------------|-----------------------------------------|-------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>Formative events</b> | Great depression<br>world war           | Post-war prosperity                                   | Globalisation,<br>downsizing,<br>technology boom               | Prosperity/uncertainty,<br>violence/terrorism,<br>outsourcing,<br>underemployment |
| <b>Qualities</b>        | Loyal, self-sacrificing                 | Pro-growth/<br>change,<br>competitive,<br>optimistic. | Independent,<br>individualistic,<br>entrepreneurial            | Skilled/energetic,<br>sophisticated/demanding                                     |
| <b>Value</b>            | Family,<br>patriotism                   | Success/materially,<br>free expression                | Skill more than<br>title, work-life<br>balance                 | Work to live, shared<br>norms                                                     |
| <b>Assets</b>           | Wisdom,<br>experience,<br>perseverance  | Social skills                                         | Technology<br>skills,<br>education, fast<br>track to<br>manage | Educated/experienced,<br>social/technical/perform,<br>work ethic/multitask        |

**Source:** Adapted from Eisner (2005:12-13)

The Vaal Triangle is an industrial area located approximately 70 km south of Johannesburg (Slabbert, 2008:92). It is important to highlight that the Vaal Triangle was historically formed by the towns of Vanderbijlpark, Vereeniging and Sasolburg. Subsequent to the new municipal demarcation, Vanderbijlpark and Vereeniging are known as the Emfuleni Local Municipality while Sasolburg forms part of Metsimaholo Local Municipality in the Free State. Many still refer to the area as Vaal Triangle despite the new names of the municipalities, for example, the North West University campus in Vanderbiljpark is still referred to as the Vaal Triangle campus. For this reason, the name Vaal Triangle is thought to be more appropriate for this research study.

The community survey of 2007 estimated the population of this region to be 650 867 (Stats SA: 2007). Furthermore, it is also noted that 35 percent of the population was below the age of 34 years (Emfuleni IDP, 2007/2008:10). The unemployment rate in the area is estimated to be around 48 percent (Slabbert, 2008:92; Anonymous, 2011:35). In view of these

disturbingly high unemployment figures, urgent interventions are needed to improve the situation. Entrepreneurship is known to be one of the obvious solutions to create the much-needed jobs.

### **2.3 AN OVERVIEW OF ENTREPRENEURSHIP IN SOUTH AFRICA**

It is impossible to overemphasise the importance of entrepreneurship in South Africa. Borrowing from Mueller and Thomas (2000:53), South Africa is in need of individuals with the vital personal attitudes, aptitudes, values, perceptions, and ambitions to make use of opportunities and to start business ventures. Co and Mitchell (2006:348) highlight that the only way for South Africa to effectively deal with unemployment and revitalise the economy is through the rediscovery of the entrepreneur who takes risks, breaks new ground and is innovative. Similarly, Shastri *et al.* (2009:085) argue that the process of industrialisation and development of a country is not possible without entrepreneurial activities.

A study conducted by Davey, Plewa and Struwig (2011:345) on entrepreneurship perceptions and career intentions of students in four European and three African countries revealed that South Africa performed below other participating countries. The results of this study also showed that, of the respondents who had taken steps towards starting or had started a business, only 6 percent of South Africans have done so compared to 12.2 percent of other African respondent countries. Similarly, Sibanyoni (2011:2) reported that South Africa has not done enough to nurture entrepreneurship and as a result, the culture of entrepreneurship is in decline.

It is well known that entrepreneurship is considered an important mechanism for economic development through job creation, innovation and its welfare effect (Herrington *et al.*, 2010:14). However, since the first data collection in 1999, The Global Entrepreneurship Monitor has noted wide levels of dissimilarity in entrepreneurial activity throughout the nations of the world (Levenburg & Schwarz, 2008:16). The findings regarding the performance of South Africa showed a small increase in the percentage of owner-manager of new firms from an average of 2 percent for the period 2002-2007, to an average of 3 percent for the period 2008-2010 (Herrington *et al.* 2010:22). Furthermore, South Africans aged between 25 and 44 years were the most entrepreneurially active over the period 2005-2010 – See Table 2.2. This is despite the youth representing a high proportion of the total population within South Africa.

**Table 2.2: Involvement in early-stage entrepreneurial activity by age**

| Age category | 2005 | 2006 | 2008 | 2009 | 2010 |
|--------------|------|------|------|------|------|
| 18-24 years  | 16%  | 22%  | 17%  | 17%  | 20%  |
| 25-34 years  | 30%  | 31%  | 27%  | 26%  | 36%  |
| 35-44 years  | 25%  | 24%  | 23%  | 28%  | 24%  |
| 45-54 years  | 14%  | 13%  | 24%  | 21%  | 14%  |
| 55-64 years  | 15%  | 10%  | 9%   | 8%   | 6%   |

**Source:** Herrington *et al.* (2010:24)

Regarding entrepreneurship education, Co and Mitchell (2006:357) highlight that very little has been done, and there is a perception that research on entrepreneurship in South Africa is not rigorous. Ladzani and Van Vuuren (2002:157) conducted an analysis among service providers offering entrepreneurship training to small and medium enterprises in the Northern Province. They found that only 27 percent of the institutions provided significant entrepreneurship training. Furthermore, a study by Co and Mitchell (2006:357) among higher education institutions regarding entrepreneurship education revealed that the institutions' courses, teaching methodologies, as well as assessment methods, adhered to the teacher-centred way of teaching. According to Dhliwayo (2008:330), an appropriate teaching style is the one that is action-oriented to support empirical learning, problem solving and creativity, and at best, provide the blend of enterprising skills and behaviour required to create and manage a business.

More disturbing were the findings of a study by Mentoer and Friedrich (2007:231) among first-year university students at the University of the Western Cape. The purpose was to determine whether a normal first-year university course in business management, with an entrepreneurial element, could contribute to the entrepreneurial orientation of students. The findings showed that the course did not impact positively on the entrepreneurial orientation of students. They concluded that this could be because the course was offered in the traditional way, and appeared not to be contributing towards entrepreneurial orientation of students. Louw, Van Eeden, Bosch and Venter (2003:6) advise that institutions of higher learning in

South Africa should give attention to skills development with particular emphasis on those of an entrepreneurial nature. It is encouraging to note that many South African universities have embarked on programmes in entrepreneurship, and one can study for a Bachelor's, Master's and Doctorate's degree in entrepreneurship (Ndedi, 2009:469).

## **2.4 ENTREPRENEURSHIP**

### **2.4.1 Definition of entrepreneurship**

The word entrepreneurship is derived from the French word *entreprendre*, meaning to commence, to chase opportunities and to accomplish needs and wants through innovation. This may include starting businesses inside or outside an established organisation (Ndedi, 2009:464). Gürol and Atsan (2006:25) highlight that, for a considerable time, entrepreneurship has been an important field of study among economists and scholars worldwide. Similarly, Nyström (2008:269) also remarks that during the last decade, entrepreneurship has been the object of increasing attention from researchers and policymakers. According to Levenburg and Schwarz (2008:15), a growing worldwide awareness in entrepreneurship is shaping the discussion of academics and politicians on a regular basis. Davey *et al.* (2011:335) also draw attention to the fact that academics, practitioners and policymakers have increased their energies in promoting an entrepreneurial mindset within society.

The construct of entrepreneurship is both complex and controversial, as there is no agreement on the definition (Pretorius & Van Vuuren 2003:515; Longernecker *et al.* 2003:21; Koh 1996:13). Similarly, Ma and Tan (2006:704) also highlight that despite entrepreneurship gaining admiration from the research community as a field of scholarly study, it remains poorly defined, and its interpretation lacks coherence. This lack of consensus has compelled many scholars and researchers to contextualise the definition of entrepreneurship. Peneder (2009:78) highlight that the interdisciplinary nature of entrepreneurship contributes to the different definitions of the concept. Scholars of business strategy and management apply a behavioural and process perspective, while sociologists and scholars of organisation studies look into the social and organisational impact of entrepreneurship. Furthermore, psychologists describe how entrepreneurship relates to personal characteristics and individual cognitive processes, while economists characterise entrepreneurship by the functions it fulfils to develop the economy. Gürol and Atsan (2006:28) distinguish three factors that may

influence entrepreneurial behaviour as a way of defining the concept; they are individual, social and environmental. A brief description of these factors is:

- **Individual factors:** The view is that entrepreneurs are individuals with distinctive values, attitudes and needs, which steer them and differentiate them from non-entrepreneurs (Koh, 1996:13).
- **Social factors:** The focus is on social factors such as personal background, family background, stage of career, early experience, and growth environment (Green, David, Dent & Tyshkovsky, 1996:49).
- **Environmental factors:** This model looks at the changing economic and market conditions that can affect the desire and perceived abilities of individuals to establish a new business (Alstete, 2002:223; Lee & Peterson 2000:402).

Despite this lack of consensus, researchers have continued to make an effort to define entrepreneurship. The following entrepreneurship definitions are provided:

Ma and Tan (2006:704) provide this definition: “Entrepreneurship is a particular type of mindset, a unique way of looking at the world, a creative kind of adventure, and the ultimate instrument toward self-realisation and fulfilment.” Furthermore, they suggest (2006:704-705) that at the heart of entrepreneurship lies the wish to achieve, the zeal to create, the longing for free will, the drive for independence, and the embodiment of entrepreneurial visions and dreams through determined hard work, calculated risk taking, continuous innovation and undying perseverance.

Gürol and Atsan (2006:26) describe entrepreneurial activity for developed economies as a means of revitalising stagnated economies and of coping with unemployment problems by providing new job opportunities, while for developing economies, they see it as a system of economic progress, job creation and social change. Shastri *et al.* (2009:086) define an entrepreneur as an individual or group of individuals trying to create something new, which organise production, and undertake risk involved in the establishment and operation of a business enterprise.

It is important to note that no single trait or characteristic defines the entrepreneur, nor does it allow one to predict entrepreneurial behaviour (Mueller & Thomas, 2000:61). Mitchell (2004:169) states: “The decision to behave entrepreneurially is the result of several factors”. Cromie (2000:7) also suggests that entrepreneurs are products of various societal, organisational, and individual factors such as need for achievement, locus of control, and creative tendencies.

#### **2.4.2 Characteristics of entrepreneurs**

There is agreement among scholars that entrepreneurs distinguish themselves from the rest by some of the common characteristics they have. According to Levenburg and Schwarz (2008:20), most scholars agree that enduring traits and other individual differences are important, since the entrepreneur is fundamental to the creation and launch of a new venture. Mueller and Thomas (2000:54) are also of the view that personal characteristics play a role in new venture initiation. Furthermore, Cromie (2000:12) states that there is a contention that the important determinants of entrepreneurial behaviour are the inherent personality traits that individuals possess.

Similarly, Beugelsdijk and Noorderhaven (2005:160) contend that entrepreneurs differ from the rest of the population and can be characterised by an incentive structure based on individual responsibility and effort, and strong work ethic. According to Gürol and Atsan (2006:28), the commonly cited characteristics of entrepreneurs from different studies and entrepreneurship literature are innovativeness, need for achievement, locus of control, risk taking propensity, tolerance for ambiguity and self-confidence. In the same way, Roodt (2005:18) also notes that many of the characteristics normally associated with entrepreneurs are, amongst others: creativity, a need for independence, commitment and high energy levels. A study conducted by Entrialgo, Fernández and Vázquez (2000:187) among different firms in Spain, supports the importance of entrepreneurial characteristics to the success of a business. The results revealed that individuals with greater locus of control, a higher need for achievement and a greater tolerance for ambiguity manage most entrepreneurial firms. Ma and Tan (2006:711), who suggest that successful entrepreneurs often share some common traits, further support these findings. They argue that successful entrepreneurs are passionate believers in what they are doing and are determined to realise their entrepreneurial dreams

and achieve success against all odds. Table 2.3 illustrates a summary of entrepreneurial characteristics.

**Table 2.3: Characteristics of entrepreneurs**

| <b>Date</b> | <b>Authors</b>     | <b>Characteristic</b>                                                                   |
|-------------|--------------------|-----------------------------------------------------------------------------------------|
| <b>1848</b> | Mill               | Risk bearing                                                                            |
| <b>1934</b> | Schumpeter         | Innovation, Initiative                                                                  |
| <b>1961</b> | McClelland         | Risk taking, need for achievement                                                       |
| <b>1963</b> | Davids             | Ambition, desire for independence, responsibility, self-confidence                      |
| <b>1971</b> | Hornaday and Aboud | Need for achievement, autonomy, aggression, power, recognition, innovation/independence |
| <b>1974</b> | Borland            | Internal locus of power                                                                 |
| <b>1982</b> | Casson             | Risk, innovation, power, authority                                                      |
| <b>1987</b> | Begley and Boyd    | Risk taking, tolerance of ambiguity                                                     |
| <b>2000</b> | Thomas and Mueller | Risk, power, internal locus of control, innovation                                      |
| <b>2001</b> | Lee and Tsang      | Internal locus of control                                                               |

**Source:** Adapted from Timmons and Spinelli (2009:44)

## **2.5 ENTREPRENEURIAL ORIENTATION**

### **2.5.1 Definition of entrepreneurial orientation**

According to Covin and Wales (2011:2), it is not surprising that researchers have yet to settle upon a widely accepted definition, given a range of labels attached to the concept. Table 2.4 presents definitions of entrepreneurial orientation.

**Table 2.4: Selected past definitions of (or pertaining to) entrepreneurial orientation**

| <b>Authors</b>                                | <b>Definition of entrepreneurial orientation</b>                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Lumpkin and Dess (1996:136-137)</b>        | “EO refers to the processes, practices, and decision-making activities that lead to new entry” as characterised by one or more of the following dimensions: “a propensity to act autonomously, a willingness to innovate, and take-risks, and a tendency to be aggressive toward competitors and proactive relative to market opportunities.” |
| <b>Voss, Voss and Moorman (2005:1134)</b>     | “...we define EO as a firms-level disposition to engage in behaviours reflecting risk taking, innovativeness, pro-activeness, autonomy and competitive aggressiveness that lead to change in the organisation or marketplace.”                                                                                                                |
| <b>Avlonitis and Salavou (2007:567)</b>       | “EO constitutes an organisational phenomenon that reflects a managerial capability by which firms embark on proactive and aggressive initiatives to alter the competitive scene to their advantage.”                                                                                                                                          |
| <b>Cools and Vanden Broeck (2007/2008:27)</b> | “EO refers to the top management’s strategy in relation to innovativeness, pro-activeness and risk taking.”                                                                                                                                                                                                                                   |
| <b>Pearce, Fritz and Davis (2010:219)</b>     | “EO is conceptualised as a set of distinct but related behaviours that have the qualities of innovative, pro-activeness, competitive aggressiveness, risk taking and autonomy.”                                                                                                                                                               |

**Source:** Adapted from: Covin and Wales (2011:3)

Despite a lack of consensus regarding the definition, entrepreneurial orientation remains important to anyone engaged in entrepreneurial activities.

### **2.5.2 Entrepreneurial orientation and the performance of a firm**

Rauch, Wiklund, Lumpkin and Frese (2009:778) analysed 51 studies on the relationship between entrepreneurial orientation and business performance, and concluded that it is an expectation that businesses benefit from pursuing an entrepreneurial orientation. First, the analysis was performed by searching various databases on entrepreneurial behaviour, strategic orientation, strategic posture and entrepreneurial orientation. Secondly, they conducted manual searches of journals that publish research on entrepreneurship. Thirdly, they analysed conference proceedings of the Academy of Management (1993 to 2004), Babson College-Kaufman Foundation Entrepreneurship Research Conference (1981 to 2004) and International Council of Small Businesses (1993 to 2004). Lastly, they examined lists of located articles and reviews. They further concluded that entrepreneurial orientation

symbolises a promising feature in order to put together a cumulative body of knowledge about entrepreneurship.

Lumpkin, Cogliser and Scheider (2009:48) state that entrepreneurial orientation is important because it keeps firms on the alert by exposing them to new technologies, marketplace trends, and helping them to evaluate new possibilities. Dess and Lumpkin (2005:147) are also of the view that businesses that want to succeed, need to have an entrepreneurial orientation because it represents a frame of mind and a perspective about entrepreneurship. Table 2.5 illustrates the importance of entrepreneurial orientation. They further note that entrepreneurial orientation has different dimensions that tend to vary independently of each other – see Table 2.6.

The findings of a study conducted by Krauss, Frese, Friedrich and Unger (2005:340) among Southern African small business owners support this positive relationship between entrepreneurial orientation and business performance. The aim was to study the relationship between entrepreneurial orientation and business success. The findings indicated entrepreneurial orientation and its components are important predictors for business success. In South Africa, it was found that risk taking, autonomy, innovation and competitive aggressiveness have a positive impact on business growth and success.

**Table 2.5: Applying an entrepreneurial orientation**

| <b>Entrepreneurial Orientation (EO) Element</b> | <b>Application for individuals/employees</b>                                                                 | <b>Application for startups/founders/entrepreneur</b>                                 | <b>Application for established corporations/top management teams/boards</b>                            |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Autonomy</b>                                 | Show an ability to develop independent thought and not require step-by-step instructions.                    | Create processes and systems that allow employees to develop independent thinking.    | Allow individuals and teams freedom to champion new ideas.                                             |
| <b>Innovation</b>                               | Highlight how you can provide new and creative ideas or processes.                                           | Identify how new combinations of current products and services can serve new markets. | Be willing to cannibalise existing products, services, or processes and venture beyond current limits. |
| <b>Risk taking</b>                              | Recommend proposals that have more attractive returns although they may have a lower probability of success. | Incur debt or take other risks in order in order to seize an opportunity.             | Commit significant resources to a project to ensure high returns.                                      |

**Source:** Adapted from Certo *et al.* (2009:322)

### 2.5.3 Dimensions of entrepreneurial orientation

A tendency to act autonomously, a willingness to be innovative and take risk, a propensity to be aggressive towards competitors, and be proactive relative to market opportunities, are the key dimensions of entrepreneurial orientation see – Table 2.6 (Lumpkin & Dess, 1996:137). According to Jun and Deschoolmeester (n.d:5), entrepreneurial orientation can be studied through searching into related facts within the dimensions. For the purpose of this study autonomy, innovation and risk taking are selected because they are frequently cited as reasons for starting a business, and a discussion of the three dimensions follows.

**Table 2.6: Dimensions of entrepreneurial orientation**

| <b>Dimension</b>                  | <b>Definition</b>                                                                                                                                                                                      |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Autonomy</b>                   | Independent action by an individual or team aimed at bringing forth a business or vision and carrying it through to completion.                                                                        |
| <b>Innovativeness</b>             | A willingness to introduce newness and novelty through experimentation and creative processes aimed at developing new products and services, as well as new processes.                                 |
| <b>Pro-activeness</b>             | A forward-looking perspective, characteristic of a marketplace leader, that has the foresight to seize opportunities in anticipation of future demand.                                                 |
| <b>Competitive aggressiveness</b> | An intense effort to outperform industry rivals. It is characterised by a combative posture or an aggressive response aimed at improving position or overcoming a threat in a competitive marketplace. |
| <b>Risk taking</b>                | Making decisions and taking action without certain knowledge of probable outcomes; some undertakings may also involve making substantial resources in the process of venturing forward.                |

**Source:** Dess and Lumpkin (2005:148)

#### 2.5.3.1 Autonomy

Lumpkin and Dess (2001:431), define autonomy as independent action by an individual or team, intended at bringing forth a business concept or vision, and carrying it through to conclusion. Similarly, Brock (2003:58) defines autonomy as the degree to which one may make important decisions without the consent of others. Janz and Prasarnphanich (2005:4) describe autonomy as the extent to which an individual or group has the freedom and discretion to determine what actions are required, and how best to accomplish them. Krauss

*et al.* (2005:320) also assert that autonomy-orientation implies that business owners value their own decision-making abilities and dislike receiving orders.

It is argued that autonomy is a significant component of entrepreneurial orientation because it affords organisational members the free will and flexibility to develop and perform entrepreneurial initiatives (Lumpkin *et al.*, 2009:47). Similarly, Van Gelderen and Jansen (2006:28) also note that, key among self-employment drivers, are that people want to run the business themselves instead of working for someone else. A study they conducted among emerging entrepreneurs supports this, and 167 out of 193 interviewees regarded autonomy as important. They obtained the data by randomly calling phone numbers of emerging entrepreneurs. Beugelsdijk and Noorderhaven (2005:165) used data of norms and values in 13 countries to find distinguishing characteristics of entrepreneurs. The findings indicated that the self-employed attach more value to individual freedom and responsibility.

Lee and Peterson (2000:406) show the significance of autonomy as a dimension of entrepreneurial orientation when they say, “The catalyst driving entrepreneurial activity is the independent spirit and freedom necessary to create new ventures.” Mitchell (2004:180) conducted a study among entrepreneurs in the Northern Province of South Africa who had been advanced loans by Get Ahead Financial Services, a non-governmental organisation. The results of the study showed that among other factors, the need for independence was considered an important motivational factor. Furthermore, the results of a study by Pruett *et al.* (2009:591) among students in the United States, China and Spain indicated that all students ranked independence and decision-making autonomy as most important motive to start a business. The purpose of the study was to explain entrepreneurial intentions of university students.

#### **2.5.3.2 Innovation**

According to Lumpkin, and Dess (2001:431), innovation refers to a willingness to support creativity and experimentation in introducing new products or services, originality, technological leadership, research and development, in developing new processes. Similarly, Gürol and Atsan (2006:28) note that innovation has a comprehensive definition including creating new products or new quality, to create new methods of production, to get into a new market, to create a new source of supply, or to create a new organisation or structure in business. Furthermore, Krauss *et al.* (2005:320) consider an innovative individual as having a

positive mind-set towards new ideas regarding products, services, administration or technological processes.

The findings of a study conducted by Zhao (2005:39) among six organisations in Australia support the significance of innovation to the success of a business. The aim was to understand the relation between entrepreneurship and innovation. The findings show that entrepreneurship and innovation are positively related and the combination of the two is important to organisational success and sustainability. One electronic company indicated that innovation is considered a shared value of the organisation.

According to Mueller and Thomas (2000:57), there appears to be strong practical evidence to support the claim that entrepreneurs are more innovative as compared to non-entrepreneurs. Engle, Mah and Sadri (1997:48) undertook a study among entrepreneurs and employees. The purpose was to find ways that can enable companies to select employees with entrepreneurial characteristics. The results indicated that entrepreneurs exhibit a tendency to be notably more innovative than their employee counterparts do.

#### **2.5.3.3 Risk taking**

Risk taking means a tendency to take bold actions such as venturing into unknown new markets, committing a large portion of resources to ventures with uncertain outcomes, and/or borrowing heavily (Lumpkin & Dess, 2001:431). The degree of risk taking refers to the tendency of an individual to display risk taking when confronted with risky situations (Gürol & Atsan, 2006:30). According to Koh (1996:15), a person's risk-taking propensity can be defined as his/her orientation towards taking chances in uncertain decision-making context. Nonetheless, Dess and Lumpkin (2005:152) warned that only cautiously managed risk is likely to lead to competitive advantages, and actions taken without adequate care, research and planning may prove to be very costly.

Tan (2001:362) contends that the willingness to take risks distinguishes entrepreneurs from managers. A study Tan (2001:368) conducted among entrepreneurs and managers of state-owned enterprises in China supports this view. The findings indicate that managers were less willing to make risky decisions compared to entrepreneurs. Similarly, Stewart and Roth (2001:150) analysed studies pertaining to risk tendency differences between entrepreneurs

and managers, the results also indicate that risk tendency of entrepreneurs is greater than that of managers.

Hermansen-Kobulnicky and Moss (2004:7) conducted a study among pharmacy students in the United States to determine their entrepreneurial orientation. The results showed that being willing to take risks appeared to be a distinct dimension of being an individual pharmacist entrepreneur. Furthermore, Naldi, Nordqvist, Sjöberg and Wilkund (2007:41) conducted a study among family and non-family small and medium enterprises (SME's) in Sweden. The results of the study supported the proposition that risk taking is a distinct dimension of entrepreneurial orientation. One of the findings was that family businesses tend to take less risk compared to non-family businesses. Of interest in this study was the finding that a family firm's risk taking had a negative influence on the firm's performance. This finding is in conflict with the findings of Li *et al.* (2009:447) among the firms listed on the Taiwan Securities and Futures Institute. The aim of the study was to determine the link between entrepreneurial orientation and firm performance. It showed a positive link between entrepreneurial orientation and a firm's performance.

## **2.6 ENTREPRENEURIAL CULTURE IN SOUTH AFRICA**

Mueller and Thomas (2000:51) describe culture as the fundamental system of values belonging to a specific group or society that influence the development of certain personality traits and motivate individuals in a society to behave differently to others. Similarly, Pretorius and Van Vuuren (2003:516) refer to culture as shared values, beliefs and norms of a society. For this reason, there is a contention that societies with cultures that put emphasis on achievement would exhibit greater levels of entrepreneurial behaviour compared to those that do not. According to Morrison (2000:67-68), it appears that there is an important correlation between entrepreneurship and culture. Communal versus individual, conformist versus divergent, and equal versus elitist, have been identified as cultural dimensions that are significant to the extent to which entrepreneurial behaviour is supported by society. Bosma and Levie (2009:15) suggest that because of historical, socio-economic or cultural reasons, there may be demographic differences in entrepreneurial capabilities.

Herrington *et al.* (2008:4) state that the profile of South African entrepreneurs has not changed because there is a greater likelihood of men to engage in entrepreneurial activities than women. This finding is consistent with the findings of O'Neill and Viljoen (2001:42) in

a study undertaken to determine whether the position of female entrepreneurs in South Africa has improved. The results indicated that there were inhibiting factors contributing to fewer female entrepreneurs, such as insufficient business experience, little support from families and subjection to male prejudice, among others.

Whites and Indians were more likely to start a business compared to Coloureds or Black Africans (Herrington *et al.* 2008:4). This trend is continuing as Herrington *et al.* (2010:25) note that businesses that Black Africans start were less likely to mature into new and established firms compared to those started by Whites and Asians. This is because of inadequate business infrastructure development, and fewer entrepreneurial role models in previously disadvantage communities. One of the findings regarding entrepreneurial culture in South Africa is that fear of failure is higher, compared to other Sub-Saharan countries, and continues to be one of the inhibiting factors in starting a business (Herrington *et al.* 2010:49).

## **2.7 NECESSITY VS OPPORTUNITY ENTREPRENEURSHIP IN SOUTH AFRICA**

According to Block and Wagner (2010:155), the distinguishing factor between necessity and opportunity-driven entrepreneurs is the driving force to start the business. Bosma and Levie (2009:16) state that many people resort to entrepreneurial activities because of necessity, especially in poor countries. Herrington *et al.* (2010:26) highlight that necessity-driven entrepreneurial activities are well known for contributing less to the economy. This is consistent with the findings of Block and Wagner (2010:166) after analysing data from the German Socio-economic Panel Study (GSOEP) at the German Institute for Economic Research. The findings revealed that opportunity entrepreneurs pursue more profitable opportunities than necessity entrepreneurs do. However, Williams (2009:215) cautions against the presumption that informal business entrepreneurs are motivated by necessity rather than opportunity.

Burger, Mahadea and O'Neill (2004:190) draw attention to the fact that South Africa has a problem similar to many other developing countries, in that a growing number of people start businesses, not because they have found an appropriate niche in the market, but because of necessity. The findings of a study conducted by Mitchell (2004:179) among entrepreneurs in the Northern Province of South Africa support this observation. These findings indicated that in order of importance, survival was mentioned as the main reason to engage in

entrepreneurial activity. Nevertheless, Herrington *et al.* (2008:4) observed that there has been a steady increase in the contribution of opportunity-driven entrepreneurial activity in South Africa from 2004 onwards. In 2008, necessity-driven entrepreneurs accounted for 21 percent of total entrepreneurial activity, compared to opportunity-driven entrepreneurs that accounted for 79 percent.

Furthermore, in 2003 the number of White opportunity-motivated entrepreneurs was approximately three times higher, compared to Black African opportunity-motivated entrepreneurs (Herrington *et al.* 2008:4). Also over the period 2008 to 2010, Black Africans showed a consistent increase in necessity-motivated entrepreneurial activity - see Table 2.7 (Herrington *et al.* 2010:25). The Black African necessity-motivated entrepreneurial activity increased from 27 percent in 2008 to 40 percent in 2010. This could be attributed to the global economic recession experienced during the period.

**Table 2.7: Motivation for entrepreneurial activity by population group**

| <b>Population group</b> | <b>Opportunity (2008)</b> | <b>Necessity (2008)</b> | <b>Opportunity (2009)</b> | <b>Necessity (2009)</b> | <b>Opportunity (2010)</b> | <b>Necessity (2010)</b> |
|-------------------------|---------------------------|-------------------------|---------------------------|-------------------------|---------------------------|-------------------------|
| <b>Black African</b>    | 73%                       | 27%                     | 62%                       | 38%                     | 60%                       | 40%                     |
| <b>Coloured</b>         | 78%                       | 22%                     | 75%                       | 25%                     | 78%                       | 22%                     |
| <b>Indian/Asian</b>     | 89%                       | 11%                     | 83%                       | 17%                     | 79%                       | 21%                     |
| <b>White</b>            | 82%                       | 18%                     | 87%                       | 13%                     | 78%                       | 22%                     |

**Source:** Herrington *et al.* (2010:25)

## 2.8 CONCLUSION

This chapter highlighted the importance of entrepreneurship among the youth and the significance of identifying those with entrepreneurial interests. Furthermore, the state of entrepreneurship in South Africa was investigated and findings pertaining to that provided. In the absence of consensus regarding the definition of entrepreneurship and entrepreneurial orientation, an attempt was made to define the concepts by providing different views. This was established by looking at the characteristics of entrepreneurs and the dimensions of entrepreneurial orientation as provided by different scholars and authors. The relationship between entrepreneurial orientation and a firm performance was also discussed. Given the

fact that South Africa is such a multi-cultural society, an overview of culture in South Africa, regarding entrepreneurship was also investigated and findings provided. The chapter concluded with the discussion about the difference between necessity and opportunity-driven entrepreneurship. Chapter 3 presents the research methodology employed for the study.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

The previous chapter reviewed the literature pertaining to the research study. This chapter focuses on the research methodology used in the research study. Among others, the chapter presents the research design and research approach. Furthermore, it outlines the sampling strategy and data collection method used. It also presents the design and administration of the questionnaire, together with the data preparation. The chapter concludes with the discussion on the statistical analysis.

Zikmund (2003:3) defines research as a systematic and objective process of generating information to help in making decisions. In the same way, Welman, Kruger and Mitchell (2010:3) describe research as a process that encompasses obtaining scientific knowledge by means of a number of objective methods and procedures. The purpose of this research study is to determine the entrepreneurial orientation of Generation Y students in the Vaal Triangle area.

#### **3.2 RESEARCH DESIGN**

According to Zikmund (2003:55), a research design is a master plan that specifies the methods and procedures implemented to collect and analyse the needed information. There are three types of research, namely exploratory, descriptive and casual types of research. Zikmund (2003:43) defines descriptive research as research designed to describe characteristics of a population or a phenomenon. Descriptive research was chosen for this study because the purpose of the study was to determine the entrepreneurial orientation of Generation Y students in the Vaal Triangle area. Cant, Gerber-Nel, Nel and Kotzé (2003:31) highlight that, the purpose of descriptive research is to provide information about characteristics and behaviour, and to make specific predictions about a population. According to Zikmund (2003:55), a survey is a research technique that gathers information from a sample of people using a questionnaire. Information was collected from the targeted population by means of a survey.

### **3.3 RESEARCH APPROACH**

There are two basic research approaches, namely quantitative and qualitative (Berndt & Petzer, 2011:31). The difference between the two approaches is that quantitative research seeks to quantify data by applying some form of statistical analysis, while qualitative research is an unstructured exploratory research founded on small samples that provide insights and understanding to the research problem (Cant *et al.*, 2003:144). Consequently, quantitative research was chosen as the appropriate approach because the research study involved statistical analysis of data collected from the students by way of a questionnaire.

### **3.4 SAMPLING STRATEGY**

#### **3.4.1 Target population**

According to Zikmund (2003:292), carefully defining the target population is important because this helps the researcher to identify the proper sources from which the data is to be collected. A population can be described as any complete group of entities such as people, sales territories, retail stores or university students that share some common set of characteristics (Zikmund, 2003:291).

For the purpose of this research study, the population is defined as Generation Y students in the Vaal Triangle area. This includes undergraduate and postgraduate, male and female students registered for the 2012 academic year. The target population was registered students at the two public higher education institutions (HEIs) in the Vaal Triangle area.

#### **3.4.2 Sampling frame**

A sampling frame is defined as a list of elements from which a sample may be drawn (Zikmund, 2003:293; Berndt & Petzer, 2011:171). As the aim of the research study is to determine the entrepreneurial orientation of students, the sample frame comprised of all higher education institutions in the Vaal Triangle area of South Africa. The list consists of traditional universities, universities of technology and further education and training colleges.

### **3.4.3 Method of sampling**

There are two main sampling methods, namely probability and non-probability sampling. The probability method is defined as a sampling technique in which each component of the target population has a known, non-zero probability of being selected. On the other hand, the non-probability method refers to a sampling technique in which units of the sample are selected based on personal judgement or convenience, and the likelihood of selection of a member of the population is unknown. For the purpose of this study, non-probability sampling was selected. The two higher education institutions in the Vaal Triangle were selected for the research study because it was cost effective and accessible to conduct the survey.

Berndt and Petzer (2011:174) refer to four examples of non-probability samples, namely convenience, judgement, snowball and quota sampling. The following are the explanations of the various non-probability samples:

- Convenience sampling: The researcher draws the sample from a segment of the population that is reachable to the researcher.
- Judgement sampling: Refers to a situation where the researcher chooses the elements subjectively, especially when large sampling is not necessary.
- Snowball sampling: The researcher selects a number of respondents with definite characteristics as specified by the research question.
- Quota sampling: A combination of judgement and convenience sampling.

Convenience sampling was selected for this research study because the students at the two institutions were accessible and available. A sample of 200 undergraduate and postgraduate students was selected from each institution.

### **3.4.4 Sample size**

According to Cant *et al.* (2003:136), the total number of elements included in the research constitutes the sample size. Zikmund (2003:339) advises that a researcher can use a sample size similar to those used in previous studies, as this may help with the comparison of previous studies. Parnell *et al.* (2003:126) conducted a study to determine the entrepreneurial and managerial orientation of American and Chinese management students and used a sample size of 254 students. Therefore, for this research study, the decision was to use a convenience

sample of 400 students from the two institutions; 200 students from each institution were selected on the basis that it was consistent with previous studies.

### **3.5 DATA COLLECTION**

There are different methods that the researcher can use to collect data. Berndt and Petzer (2011:204) identified three methods of collecting data, namely human methods, electronic methods and self-completion questionnaires. Human methods are all methods that comprise the use of people in the collection process while electronic methods comprise the use of technology. Self-completion questionnaires are forms that are distributed and the respondents who read the instructions and complete them without any help. According to Welman *et al.* (2010:134), each method has advantages and disadvantages, and in different circumstances, some are better than others are, for example, persons who cannot read or write cannot complete questionnaires, but they can be interviewed.

Cant *et al.* (2003:118) define a questionnaire as a set of questions formalised to acquire information from respondents. Zikmund (2003:158) states that a self-administered questionnaire is a survey in which the respondent takes the responsibility for reading and answering the questions. Maree (2011:157) notes that a questionnaire is the most often used method to collect data because, among its advantages, many respondents can complete it in a short space of time and they are relatively cheap and easy to use. In this research study, a self-administered questionnaire was used to collect data from the respondents.

#### **3.5.1 Questionnaire design**

According to Zikmund (2003:250), relevance and accuracy are the two basic conditions a questionnaire must meet if it is to accomplish a researcher's purposes. Furthermore, a good problem definition and clear research objectives of the study will indicate the type of information that must be collected by the researcher. It is also important for the researcher to consider the type of statistical analysis when designing a questionnaire.

Zikmund (2003:251) refers to two types of questions that can be used when designing a questionnaire, namely open-ended response and fixed-alternative questions. Open-ended responses are questions that pose some problem and ask the respondent to answer in his or her own words. Fixed-alternative questions are questions in which the respondents are given specific, limited alternative responses and asked to choose the ones closest to their viewpoint.

According to Koh (1996:18), fixed-alternative questions are used to simplify scoring to ensure a high response rate and facilitate the coding and data analysis. Therefore, the instrument used in this study was a self-administered, fixed-alternative questionnaire.

The questionnaire was developed by taking question items from four previous studies and adapting them to fit the South African environment. The items pertaining to autonomy were derived from a study conducted by Parnell *et al.* (2003:128) among American and Chinese management students (see items 5 to 10 of the questionnaire – Appendix A). The aim of the study by Parnell *et al.* (2003:128) was to determine the entrepreneurial and managerial orientation of students. This study only focused on the entrepreneurial orientation of students. Items regarding innovation were derived from two studies. The first was by Hermansen-Kobulnicky and Moss (2004:10). The purpose of this study was to determine the entrepreneurial orientation of pharmacy students in the United States. The items were adapted to suit the South African environment (see items 11 to 14 of the questionnaire – Appendix A). The second study was by Mueller and Thomas (2000:62) among third- and fourth-year students at 25 universities in 15 countries. The study was about culture and the entrepreneurial potential of students (see items 15 to 16 – Appendix A).

The risk taking component of the questionnaire was designed after adapting the questionnaire used in a study conducted by Lee *et al.* (2006:364) among university students in the United States, Korea, China and Fiji (see items 17 to 22 - Appendix A). The main purpose of the study was to identify differences among the selected nations in terms of factors that are important to enhance the pedagogical effect of entrepreneurship education (see Appendix B for the different questionnaires used in the previous studies).

In designing this questionnaire, the research objectives were clearly stated, as advised by Zikmund (2003:250). The objective of the study was to determine the entrepreneurial orientation of Generation Y students in the Vaal Triangle area. In order for the respondents to understand what was expected of them, the cover letter explained the purpose of the research study to the respondents, and clearly stated the instructions for each statement. Berndt and Petzer (2011:186) advise that the researcher should use simple direct questions so that persons with a basic understanding of English are not confused. Consequently, the statements were compiled using simple and direct language. Content and face validity of the

questionnaire was established by asking a number of experienced academics to review the questionnaire.

### **3.5.2 Questionnaire format**

There are a number of ways to design response formats. According to Maree (2011:147), there are four different scales of measurement, namely nominal, ordinal, interval and ratio. Nominal scales are distinguished from each other by different names and entail two or more categories. Ordinal scales are meaningfully arranged in an order and include numeric data that has been grouped into classes. Interval scales measure differences in quantity or magnitude, and as regards to ratio scales, the attribute that is measured is not present and one is permitted to take ratios. In this research study, nominal scales were used to answer the demographic questions and questions pertaining to respondents' family history in business.

Furthermore, different rating scales are highlighted, namely simple attitude scales, category scales and the Likert-scales, among others. A simple attitude scale is defined as attitude scaling that requires an individual to agree or disagree with a statement or respond to a single question. Category scales refer to rating scales that consists of a number of response categories often providing respondents with alternatives to indicate positions on a scale. A Likert scale is defined as a measure of attitudes in which respondents rate how strongly they agree or disagree with carefully constructed statements.

A five point Likert-scale was used to get responses from students regarding their entrepreneurial orientation. Students were asked to indicate the degree to which they agree or disagree with the statements regarding the three dimensions of entrepreneurial orientation, namely autonomy, innovation and risk taking. Each dimension consisted of six statements to which the students had to respond.

### **3.5.3 Questionnaire layout**

Maree (2011:158) advises that in the design of the questionnaire, the researcher needs to give attention to the appearance of the questionnaire, question sequence, wording and response categories. Similarly Cant *et al.* (2003:118) highlight that the researcher needs to specify the information required in the research and consider factors such as question content, structure, wording and sequence, and questionnaire layout.

In this research study, the questionnaire consisted of three sections. Section A comprised of questions regarding the demographical data of students. Students had to answer questions regarding age, gender, designated group and year of study. Section B comprised of statements pertaining to the entrepreneurial orientation of students. Each dimension consisted of six statements, starting with autonomy followed by innovation and risk taking. Section C comprised of questions about the students' family history in business. Students had to indicate whether a family member owns a business, and to specify the member. Furthermore, students also had to indicate the number of years that the family member had the business, and specify the reasons for the establishment of the business. They were also asked to indicate whether they took part in the operation of the business, and whether they regard the family member as a role model or not. Refer to Appendix A with regard to the questionnaire used in the study.

### **3.6 ADMINISTRATION OF THE QUESTIONNAIRE**

The research study used a self-administered questionnaire. The survey was conducted during March 2012 on 400 Generation Y students at the two higher education institutions (HEIs) in the Vaal Triangle area. The researcher arranged to visit the students in their respective classes, and to administer the questionnaire before the commencement of the lecture. The collection of the questionnaires took place immediately after the students completed the questionnaire.

### **3.7 DATA PREPARATION**

According to Cant *et al.* (2003:149), data preparation includes the checking of the quality of the data collected and converting it into an electronic format for computer software to read and manipulate it. This process involves the data validation, editing, coding, entry and cleaning. Data validation is defined as the process that determines whether a survey's observations were conducted correctly and are free of fraud or bias. Data editing involves the checking for errors by either the interviewer or the respondents. Coding is a process that assigns a code or symbol to each possible answer to a particular question, thereby making it easy to enter data, and read by a statistical analysis software package. Data entry consists of the tasks involved with input of coded data into a software package. Data cleaning involves carefully checking data for errors before starting data analysis.

The coding process helps the researcher to retrieve and collect data that have been associated with an idea in order for it to be examined and compared with different cases. Similarly, Welman *et al.* (2010:214) describe the purpose of coding as the understanding of material that is not clear, by assigning names or symbols. In this study, items measuring a specific construct were grouped together – see Table 3.1.

**Table 3.1 Coding information**

| TYPE OF DATA               | VARIABLE   | SECTION NUMBER |
|----------------------------|------------|----------------|
| Demographic data           | A1 to A4   | Section A      |
| Autonomy                   | B5 to B10  | Section B      |
| Innovation                 | B11 to B16 | Section B      |
| Risk taking                | B17 to B22 | Section B      |
| Family history in business | C23 to C28 | Section C      |

### **3.8 RELIABILITY**

According to Welman *et al.* (2010:145), reliability is concerned with the outcomes of the research and relates to the integrity of the findings. In the same way, Zikmund (2003:231) defines reliability as the degree to which a measure is free from mistakes and therefore, produces consistent results. According to Cant *et al.* (2003:123), the researcher can use pilot tests to improve the reliability, and by doing this, errors can be detected and resolved. Maree (2011:215) mentions different types of reliability, namely test-retest reliability, equivalent form reliability, split-half reliability and internal reliability.

For the purpose of this research study, the internal reliability test was used because there should be a high degree of similarity among items since they are supposed to measure one common construct (Maree, 2011:216). Cronbach's alpha coefficient was used to measure the internal reliability of the instrument. According to Welman *et al.* (2010:147), coefficient alpha indicates the degree to which all the items in a measurement or test measure the same construct. Maree (2011:216) states that the generally accepted guidelines for the interpretation of Cronbach's alpha coefficient are the following:

- 0.90 – high reliability
- 0.80 – moderate reliability
- 0.70 – low reliability

However, in the literature, most research case studies reported Cronbach alpha coefficient values greater than 0.70 as the acceptable level for the reliability of an instrument. To test the reliability of the instrument a pilot test was conducted among 61 students, and there were no missing data for scale items. The first factor encompassed six items of autonomy, and the reliability was acceptable. The second factor included six items of innovation, and the reliability was acceptable. Lastly, the third factor had six items that accounted for risk taking, and the reliability was acceptable. Table 3.2 shows the reliability scores of the pilot test in comparison to the actual reliability in the previous studies from which the items were drawn. Note that the comparison is relative as the studies had a different number of items compared to this study. The reliability of the actual study for the three constructs will be discussed in Chapter 4.

**Table 3.2: Cronbach’s alpha reliability scores**

| <b>Factor</b> | <b>Pilot</b> | <b>Previous study (actual)</b>            |
|---------------|--------------|-------------------------------------------|
| Autonomy      | 0.841        | 0.725                                     |
| Innovation    | 0.815        | From 0.82 (Canada) to 0.66 (China 0.9163) |
| Risk taking   | 0.810        | Only factor analysis reported             |

### **3.9 VALIDITY**

According to Zikmund (2003:232), validity refers to the instrument’s ability to measure what it is intended to measure. Maree (2011:217) highlights different types of validity, namely face validity, content validity, construct validity, and criterion validity.

#### **3.9.1 Face validity**

Face validity deals with the extent to which the instrument gives the impression that it measures what it intends to measure. Any instrument should be examined by experts to

ensure a high degree of face validity (Maree, 2011:217). In this study, the supervisor, the statistician and two experienced researchers reviewed the questionnaire.

### **3.9.2 Content validity**

Content validity deals with the extent to which the instrument covers the complete content of the construct that it sets out to measure (Maree, 2011:217). The scales used in the design of the questionnaire for this study were derived from previous similar studies (Mueller & Thomas 2000:62; Parnell *et al.*, 2003:128; Herman-Kobulnicky & Moss 2004:10; Lee *et al.*, 2006:364). To be in line with the level of understanding of the South African student, some of the words were altered without changing the meaning. The supervisor, the statistician and two experienced researchers further reviewed the questionnaire.

### **3.10.3 Construct validity**

According to Deng and Dart (1994:736), a measure has construct validity if the construct is designed to measure what it is supposed to measure. The construct validity is evaluated by examining convergent and/or discriminant validity. Factor analysis in any case measures construct validity by identifying which items load on a particular construct.

## **3.10 STATISTICAL ANALYSIS**

The data analysis mainly used descriptive analysis. According to Maree (2011:183), descriptive statistics refers to a collective name for a number of statistical techniques used to organise and condense data in a meaningful way. The aim is to easily comprehend and interpret data. According to Cant *et al.* (2003:168), descriptive statistics include measures of central tendency, measures of variability, and measures of shape. Maree (2011:186-189) outlines three widely used measures of central tendency, namely mode, mean and median. There are also four measures of variability, namely the range, interquartile, variance and standard deviation. In the same way, there are two measures of shape, namely skewness and kurtosis.

This research study used factor analysis to check the construct validity of the questions. The purpose is to determine which items belong together in the sense that they are answered in the same way, and as a result, they measure the same element. The outcome thereof will be discussed in the next chapter. In order to determine significant differences among groups,

one-way between-groups analysis of variance (ANOVA) was used. The captured data was analysed using the Statistical Package for Social Sciences (SPSS) version 20.0 for Windows.

### **3.11 TESTS OF SIGNIFICANCE**

Zikmund (2003:361) highlights that statistical techniques allow researchers to decide whether the empirical evidence confirms the theoretical hypothesis. Cant *et al.* (2003:176) state that hypotheses are developed before the collection of data, and they form an important part of a research design. A hypothesis is defined as an unverified proposition that explains certain facts or phenomenon. Zikmund (2003:361) mentioned two types of hypotheses, namely null hypothesis ( $H_0$ ) and alternative hypothesis ( $H_1$ ). The null hypothesis is a conservative statement that communicates the belief that any change from what has been thought to be true in the past, will be because of random error. On the other hand, alternative hypothesis indicates that there is a difference between two groups.

The significance level is the criterion used in determining whether to reject the null hypothesis and accept the alternative hypothesis (Zikmund 2003:362). The significance level is further defined as the probability level that is considered too low to warrant the backing of the null hypothesis. However, this study addressed a research question with various subcomponents. Statistical analysis such as ANOVA will highlight, for example, significant differences, if any.

According to Maree (2011:225), statistical tests of hypotheses may be grouped into parametric and non-parametric methods. Parametric methods are used when the researcher has knowledge of the underlying distribution of the variables; while non-parametric methods are used when very little is known. Zikmund (2003:367) advises that the number of variables, the scale of measurement, and the type of questions, will determine the method of analysis. In this study, analysis of variance (ANOVA) was used as it determines whether statistically significant differences occurred on the means among three or more groups (for example, Blacks, Whites, Indians and Coloureds).

### 3.11.1 Statistical significance

According to Maree (2011:209), whenever a null hypothesis is rejected, whatever is tested is then considered statistically significant. Zikmund (2003:383) highlights that when comparing the means of more than two groups, one-way analysis of variance (ANOVA) becomes the appropriate statistical instrument.

### 3.11.2 Practical significance

Maree (2011:210-211) notes that the size of the sample can have an influence on the statistical significance of the results, for example, in small samples a reasonably big difference may come out as statistically insignificant, while in big samples, even small differences may turn out to be statistically significant. As a result, researchers calculate the effect size to assist them in determining if the magnitude of the finding is of any practical significance. The effect size is denoted by  $d$ . Table 3.3 shows the guidelines for the interpretation of the magnitude of  $d$ .

**Table 3.3: Guidelines for the interpretation of the magnitude of  $d$**

| $d$ | Meaning       |
|-----|---------------|
| 0,2 | Small effect  |
| 0,5 | Medium effect |
| 0,8 | Large effect  |

**Source:** Maree (2011:211)

## 3.12 CONCLUSION

This chapter discussed the research methodology used in this study. Furthermore, it outlined the research design and research approach. This study uses the quantitative research approach where students complete a questionnaire in order to collect data regarding their entrepreneurial orientation. The chapter also discussed the methods and procedures followed in the collection of data, and it concluded with the statistical analysis techniques and procedures used to analyse the data. The following chapter deals with the analysis and interpretation of the data collected.

## **CHAPTER 4**

### **ANALYSIS AND INTERPRETATION OF THE RESEARCH FINDINGS**

#### **4.1 INTRODUCTION**

The previous chapter outlined the research methodology used in this research study. This chapter provides the analysis and interpretation of the research findings. The research objectives are again stated to ascertain whether they have been achieved. The reliability of the scales of the three constructs of autonomy, innovation and risk taking, are measured using Cronbach's alpha. Factor analysis was used to measure sampling adequacy and whether factor analysis was indeed appropriate. Profiles of the respondents are provided as well as the frequencies of responses on the questions posed.

#### **4.2 RESEARCH OBJECTIVES**

The aim of the research study is to determine the entrepreneurial orientation of Generation Y students in the Vaal Triangle area. This study identifies autonomy, risk taking and innovation as factors that may possibly influence the entrepreneurial orientation of students. According to Mitchell (2004:167), identifying the factors that encourage the individual to embark on an entrepreneurial career becomes important in stimulating entrepreneurship.

#### **4.3 RESPONSE RATE**

Four hundred questionnaires were distributed among the students who were targeted at the two institutions and 350 were returned, a response rate of 87.5 percent. As previously mentioned, this number was accepted, as it was consistent with similar studies. Three of the returned questionnaires were rejected because they were incomplete and could not be used. Consequently, 347 questionnaires were used.

#### **4.4 RELIABILITY OF THE THREE CONSTRUCTS**

This study used Cronbach's alpha to test the reliability of the three scales in this study. Only Section B of the questionnaire was tested for reliability because the other sections did not require a test for reliability. Table 4.1 presents the results for the reliability in this study, with the Cronbach alpha values well above the 0.70 value for the three constructs.

**Table 4.1: Reliability measures**

| <b>Factor measured</b> | <b>Number of items</b> | <b>Cronbach's alpha</b> |
|------------------------|------------------------|-------------------------|
| Autonomy               | 6                      | 0.867                   |
| Innovation             | 6                      | 0.793                   |
| Risk taking            | 6                      | 0.790                   |

#### **4.5 FACTOR ANALYSIS**

Factor analysis was conducted to check the construct validity of the three constructs. Researchers can use two statistical measures to assist in evaluating the data, namely, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test (Pallant, 2010:183). In terms of the KMO index, a value close to one indicates that patterns of relationship are close, and that reliable factors are yielded. Similarly, the Bartlett method indicates that when the p-value is less than the 0.05 significance level, then factor analysis would be considered appropriate. All three constructs met these requirements, and the statistics thereof are provided in the next paragraph.

In this study, factor analysis was appropriate for all three constructs. For the autonomy construct, the KMO value was 0.842 and the Bartlett's test was significant at 0.00 – see Appendix C. For innovation, the KMO value was 0.795 and the Bartlett's test 0.00 – see Appendix C. For the risk taking factor, the KMO value was 0.83 and Bartlett's test was significant at 0.00 – see Appendix C. The next section presents the Eigenvalues, component loadings, and the scree plot for all the constructs.

For the autonomy construct, only one component with an Eigenvalue of more than one was extracted (see Table 4.2). Component 1 explained 60.64 percent of the variance on the autonomy construct. Furthermore, the component matrix Table 4.3 provides more information as to how the items loaded on to the one component. The item “I have a strong desire to own my own business” had the highest loading, and the item “I consider myself to be entrepreneurial” the lowest loading. Figure 4.1 provides the scree plot (also called the Cattell scree test plot). The general rule is to drop all components starting after the elbow that

is in this case after Component 1 (Pallant, 2010:184). All of the tables and scree plots of the constructs of innovation and risk taking presented similar findings.

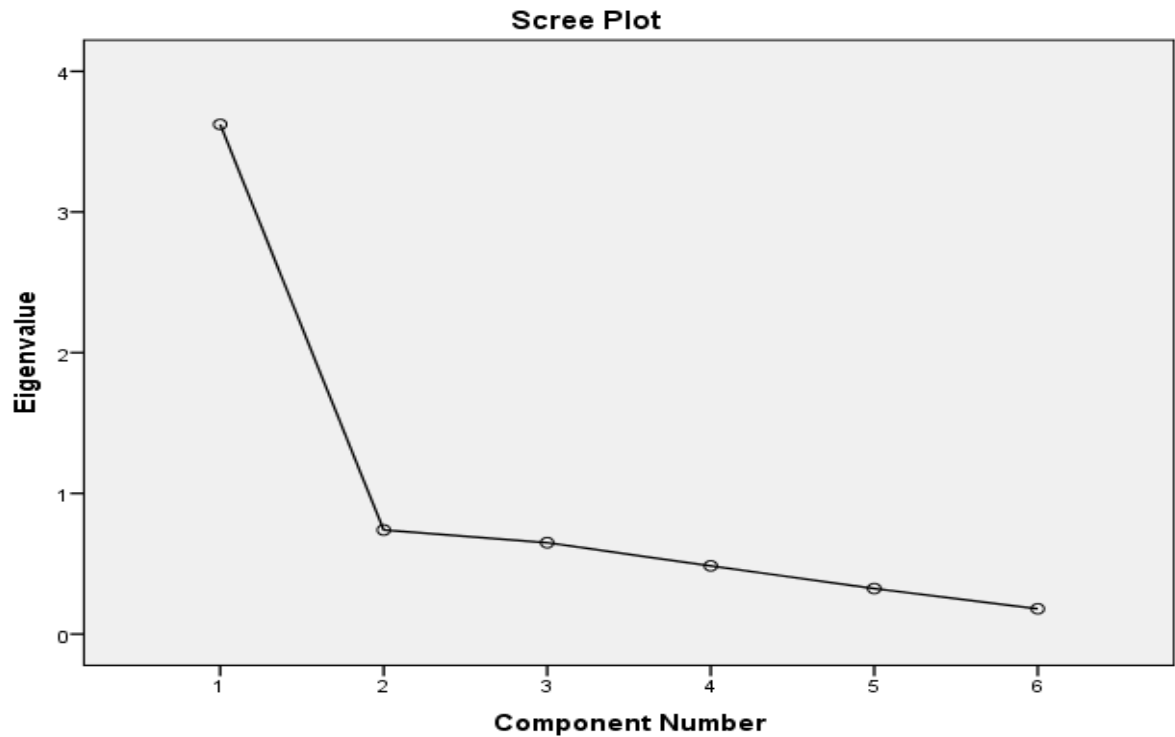
**Table 4.2: Eigenvalues for the autonomy construct**

| Component | Total Variance Explained |               |              |                                     |               |              |
|-----------|--------------------------|---------------|--------------|-------------------------------------|---------------|--------------|
|           | Initial Eigenvalues      |               |              | Extraction Sums of Squared Loadings |               |              |
|           | Total                    | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % |
| 1         | 3.623                    | 60.383        | 60.383       | 3.623                               | 60.383        | 60.383       |
| 2         | .740                     | 12.330        | 72.712       |                                     |               |              |
| 3         | .649                     | 10.825        | 83.537       |                                     |               |              |
| 4         | .484                     | 8.073         | 91.610       |                                     |               |              |
| 5         | .324                     | 5.395         | 97.005       |                                     |               |              |
| 6         | .180                     | 2.995         | 100.000      |                                     |               |              |

Extraction Method: Principal Component Analysis.

**Table 4.3: Component matrix for the autonomy construct**

|                                                               | Component |
|---------------------------------------------------------------|-----------|
|                                                               | 1         |
| I have a strong desire to own my own business                 | .889      |
| I plan on opening my own business at some point in the future | .855      |
| I aspire to be my own boss                                    | .800      |
| I desire to be self-employed                                  | .749      |
| I own (or plan to own) my own business                        | .674      |
| I consider myself to be entrepreneurial                       | .668      |



**Figure 4.1:** Scree plot for the autonomy construct

**Table 4.4** Eigenvalues for the innovation construct

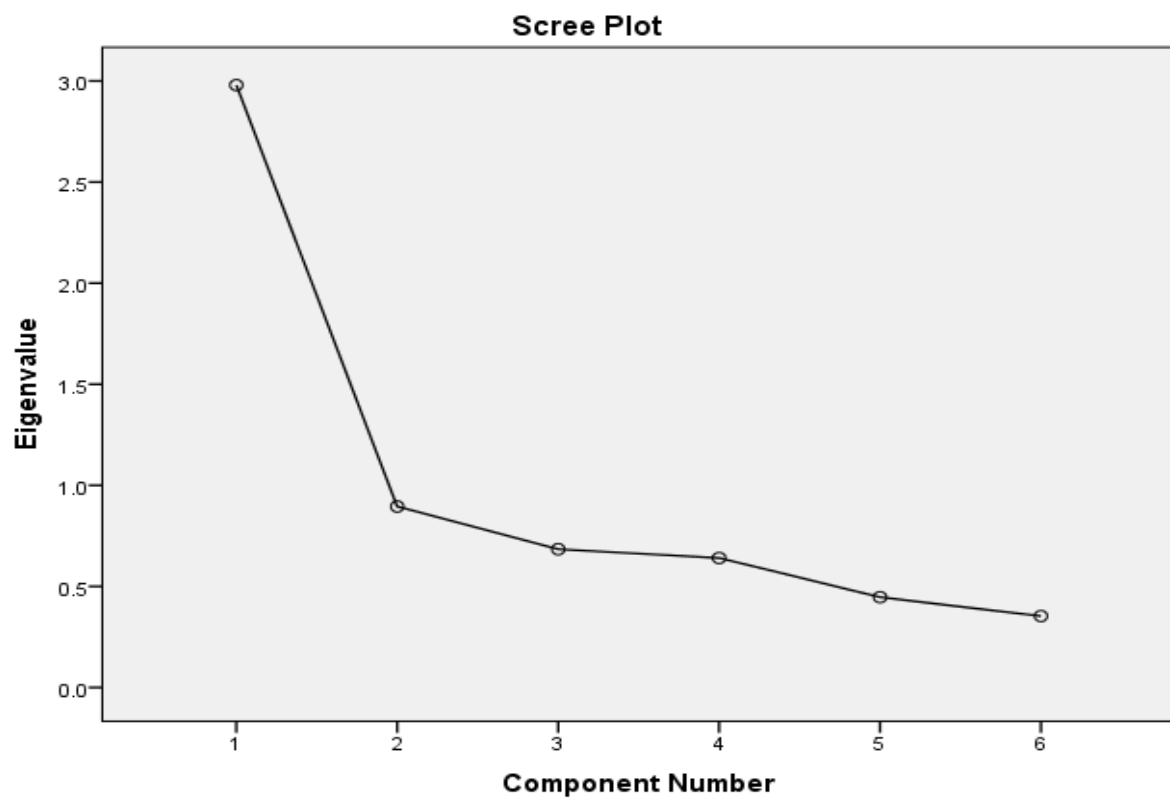
| Total Variance Explained |                     |               |              |                                     |               |              |
|--------------------------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| Component                | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              |
|                          | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % |
| 1                        | 2.980               | 49.662        | 49.662       | 2.980                               | 49.662        | 49.662       |
| 2                        | .895                | 14.922        | 64.584       |                                     |               |              |
| 3                        | .684                | 11.401        | 75.984       |                                     |               |              |
| 4                        | .641                | 10.678        | 86.663       |                                     |               |              |
| 5                        | .447                | 7.448         | 94.110       |                                     |               |              |
| 6                        | .353                | 5.890         | 100.000      |                                     |               |              |

Extraction Method: Principal Component Analysis.

**Table 4.5: Component matrix for the innovation construct**

|                                                                       | Component |
|-----------------------------------------------------------------------|-----------|
|                                                                       | 1         |
| I want to be known as an innovator among my colleagues                | .789      |
| I can imagine myself doing something innovative as a business person  | .768      |
| I believe I will one day have skills needed to develop a new business | .731      |
| I can see myself starting something innovative in the work-place      | .717      |
| I prefer work that requires original thinking                         | .613      |
| I like to experiment with various ways of doing the same thing        | .585      |

**Figure 4.2: Scree plot for the innovation construct**



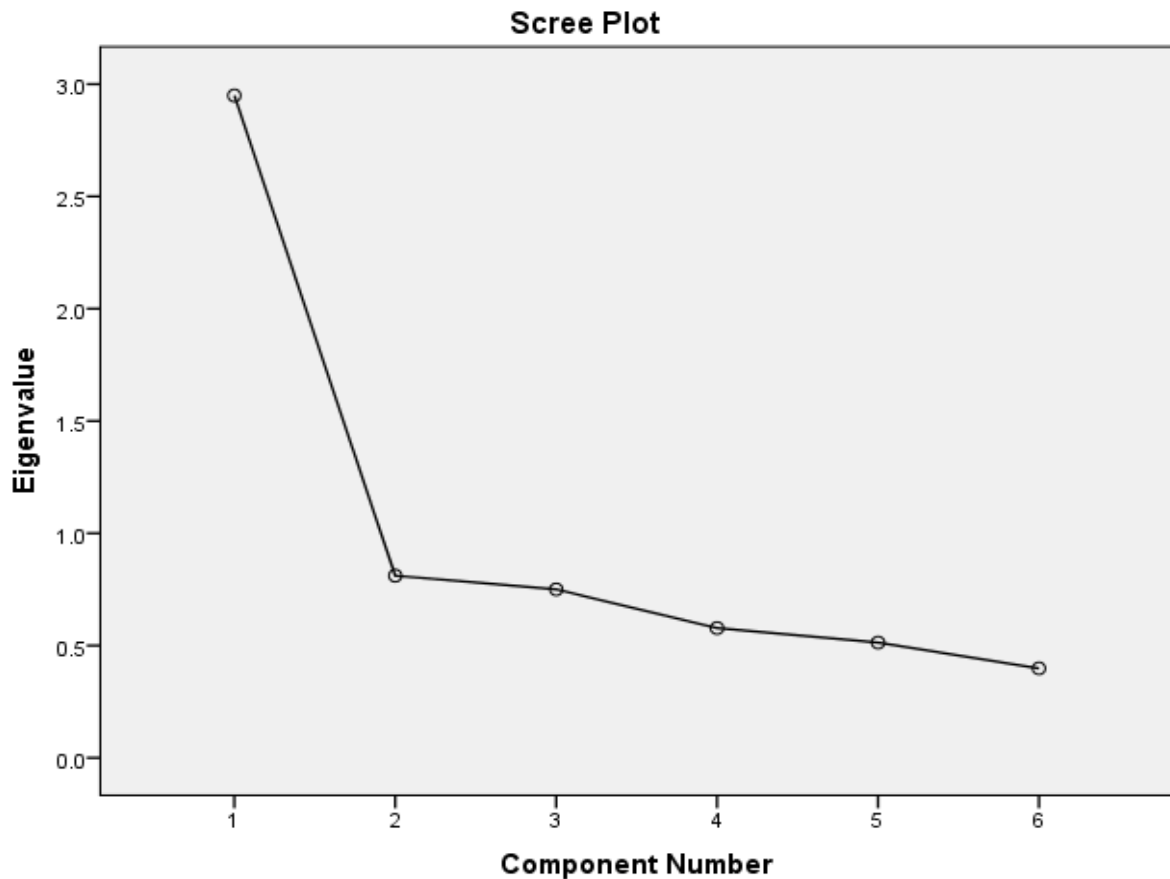
**Table 4.6: Eigenvalues associated with risk taking construct**

| Component | Total Variance Explained |               |              |                                     |               |              |
|-----------|--------------------------|---------------|--------------|-------------------------------------|---------------|--------------|
|           | Initial Eigenvalues      |               |              | Extraction Sums of Squared Loadings |               |              |
|           | Total                    | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % |
| 1         | 2.949                    | 49.153        | 49.153       | 2.949                               | 49.153        | 49.153       |
| 2         | .811                     | 13.520        | 62.673       |                                     |               |              |
| 3         | .750                     | 12.506        | 75.179       |                                     |               |              |
| 4         | .578                     | 9.629         | 84.808       |                                     |               |              |
| 5         | .513                     | 8.554         | 93.362       |                                     |               |              |
| 6         | .398                     | 6.638         | 100.000      |                                     |               |              |

Extraction Method: Principal Component Analysis.

**Table 4.7: Component matrix for the risk taking construct**

|                                                                                                             | Component |
|-------------------------------------------------------------------------------------------------------------|-----------|
|                                                                                                             | 1         |
| I would like to dedicate my life to establishing a new business even if my parents were strongly against it | .787      |
| I am more interested in establishing my own business then getting a job                                     | .765      |
| Even if I launch a new business and fail many times, I will keep on trying until I succeed                  | .742      |
| I want to launch a new business of my own before graduation                                                 | .681      |
| I am confident that I can successfully launch a new business on my own                                      | .631      |
| If I launch a new business, I will like to expand it to all over the world                                  | .577      |



**Figure 4.3: Scree plot for the risk taking construct**

## **4.6 DEMOGRAPHIC PROFILE OF RESPONDENTS**

### **4.6.1 Gender**

Out of the 347 questionnaires that were accepted, 207 (59.7 percent) were female respondents and 140 (40.3 percent) were male respondents.

**Table 4.8: Gender distribution**

|            | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid male | 140       | 40.3    | 40.3          | 40.3               |
| female     | 207       | 59.7    | 59.7          | 100.0              |
| Total      | 347       | 100.0   | 100.0         |                    |

#### 4.6.2 Age

Most of the respondents were in the age category of 19 to 21, constituting 73.8 percent - see Table 4.9.

**Table 4.9: Age distribution**

|                | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------|-----------|---------|---------------|--------------------|
| 18 and Younger | 8         | 2.3     | 2.3           | 2.3                |
| 19-21          | 248       | 71.5    | 71.5          | 73.8               |
| Valid 22-24    | 73        | 21.0    | 21.0          | 94.8               |
| 25 to 32       | 18        | 5.2     | 5.2           | 100.0              |
| Total          | 347       | 100.0   | 100.0         |                    |

#### 4.6.3 Designated groups

Blacks constituted 79.5 percent of the on sample followed by Whites who constituted 17.6 percent ( see Table 4.10). The aim of this question was to draw comparisons among different ethnic groups in South Africa regarding their entrepreneurial orientation. The Coloureds and Indians made up a very small percentage of the sample.

**Table 4.10: Distribution of designated groups**

|                | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------|-----------|---------|---------------|--------------------|
| Black          | 276       | 79.5    | 79.5          | 79.5               |
| White          | 61        | 17.6    | 17.6          | 97.1               |
| Valid Coloured | 5         | 1.4     | 1.4           | 98.6               |
| Indian         | 5         | 1.4     | 1.4           | 100.0              |
| Total          | 347       | 100.0   | 100.0         |                    |

The fourth question of Section A asked respondents to specify their year of study. This information could assist in establishing whether there is a difference between students at different levels of their studies. Table 4.8 presents the year of study for the respondents.

#### **4.6.4 Year of study**

In this study, 163 respondents (47 percent) indicated that they are in their second year of study. A further 144 respondents (41.5 percent) indicated that they are in their third year and 40 respondents (11.5 percent) were postgraduate (– see Table 4.11).

**Table 4.11: Year of study**

|                       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------------------|-----------|---------|---------------|--------------------|
| Valid second year     | 163       | 47.0    | 47.0          | 47.0               |
| third year            | 144       | 41.5    | 41.5          | 88.5               |
| post graduate honours | 40        | 11.5    | 11.5          | 100.0              |
| Total                 | 347       | 100.0   | 100.0         |                    |

#### **4.7 A COMPARISON OF THE PERCEPTIONS OF MALES AND FEMALES WITH REGARD TO BEING AUTONOMOUS, INNOVATIVE AND A RISK TAKER**

Section B of the questionnaire required respondents to indicate on a five-point Likert scale, the degree to which they agreed or disagreed with the statements regarding three dimensions of entrepreneurial orientation, namely autonomy, innovation and risk taking. Each factor consisted of six items, and the first six items measured the autonomy.

##### **4.7.1 Differences between male and female students' perceptions as to regarding themselves as being autonomous**

Cromie (2000:21) notes that many entrepreneurs find it hard to work in a restrictive environment and want to be in control. Henceforth autonomy can be linked to entrepreneurial behaviour. Male respondents' responses were therefore compared to their female counterparts' responses along the six items for autonomy. Table 4.12 shows the mean scores for the male and female respondents in terms of autonomy items. Given the way the questions were coded (1 = Strongly agree and 5 = Strongly disagree), the mean scores indicate that male respondents were more in agreement with all the autonomy items compared to the female respondents. This suggests that male respondents in this study prefer to be more autonomous compared to their female counterparts.

**Table 4.12: Mean values of male and female students' perceptions as to regarding themselves as being autonomous**

|                                                               | Gender | N   | Mean   | Std. Deviation | Std. Error Mean |
|---------------------------------------------------------------|--------|-----|--------|----------------|-----------------|
| I consider myself to be entrepreneurial                       | male   | 140 | 1.9857 | .88135         | .07449          |
|                                                               | female | 207 | 2.2560 | .96399         | .06700          |
| I desire to be self-employed                                  | male   | 139 | 1.7266 | 1.01300        | .08592          |
|                                                               | female | 205 | 1.8976 | 1.06837        | .07462          |
| Own (or plan to own) my own business                          | male   | 140 | 2.0143 | 1.24071        | .10486          |
|                                                               | female | 207 | 2.2850 | 1.31862        | .09165          |
| I plan on opening my own business at some point in the future | male   | 140 | 1.5929 | .87241         | .07373          |
|                                                               | female | 206 | 1.7524 | 1.04619        | .07289          |
| I have a strong desire to own my own business                 | male   | 140 | 1.4714 | .80861         | .06834          |
|                                                               | female | 206 | 1.7961 | 1.03461        | .07208          |
| I aspire to be my own boss                                    | male   | 140 | 1.5214 | .85215         | .07202          |
|                                                               | female | 206 | 1.6456 | .95030         | .06621          |

An independent sample t-test was conducted to determine whether any of the male and female perceptions regarding their own autonomy was significant. Significant differences were found on three of the six items between male and female respondents. The three items in which significant differences were noted were the following: “I consider myself to be entrepreneurial”; “I plan on opening my own business at some point in the future”; and “I have a strong desire to own my own business” (see Table 4.13). From these, it can be perceived that males tend to be more entrepreneurial compared to females. It may also indicate that males, compared to their female counterparts, are also more likely to open a business at some point in the near future. Another observation, based on the findings, is that males, compared to their female counterparts, showed a stronger desire to own their own businesses.

These findings were consistent with the findings of the Global Entrepreneurship Monitor Report of 2008 for South Africa (Herrington *et al.*, 2008:4). The results of that study

indicated that there was a greater likelihood for men than women, to engage in entrepreneurial activities. Although the perception of male respondents tends to be more positive towards autonomy than that of females, it is encouraging to see that more female respondents are in favour of autonomous behaviour.

**Table 4.13: Difference between male and female students' perceptions as to regarding themselves as being autonomous**

|                                                               |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |         |
|---------------------------------------------------------------|-----------------------------|-----------------------------------------|------|------------------------------|---------|
|                                                               |                             | F                                       | Sig. | t                            | df      |
| I consider myself to be entrepreneurial                       | Equal variances assumed     | 4.205                                   | .041 | -2.652                       | 345     |
|                                                               | Equal variances not assumed |                                         |      | -2.698                       | 315.543 |
| I desire to be self-employed                                  | Equal variances assumed     | .064                                    | .801 | -1.487                       | 342     |
|                                                               | Equal variances not assumed |                                         |      | -1.502                       | 306.657 |
| Own (or plan to own) my own business                          | Equal variances assumed     | 2.256                                   | .134 | -1.921                       | 345     |
|                                                               | Equal variances not assumed |                                         |      | -1.944                       | 310.301 |
| I plan on opening my own business at some point in the future | Equal variances assumed     | 5.844                                   | .016 | -1.487                       | 344     |
|                                                               | Equal variances not assumed |                                         |      | -1.539                       | 329.842 |
| I have a strong desire to own my own business                 | Equal variances assumed     | 8.579                                   | .004 | -3.121                       | 344     |
|                                                               | Equal variances not assumed |                                         |      | -3.269                       | 337.277 |
| I aspire to be my own boss                                    | Equal variances assumed     | 1.796                                   | .181 | -1.243                       | 344     |
|                                                               | Equal variances not assumed |                                         |      | -1.270                       | 318.829 |

#### 4.7.2 Differences between male and female perceptions as to regarding themselves as being innovative

To be innovative has also been identified as a characteristic of an entrepreneur. A study by Koh (1996:22) among MBA students in Hong Kong revealed that those who are innovative tend to be entrepreneurial. Respondents had to respond to six items on innovativeness. Table 4.14 shows the mean scores for the male and female respondents. Again, given the way the questions were coded, the mean scores on the first three items indicate that males tend to agree more with the items of innovation compared to females. In the same way, the mean

scores on the last three items of innovativeness indicate that females agree more with the items of innovativeness than their male counterparts do.

**Table 4.14: Mean values for male and female perceptions as to regarding themselves as being innovative**

|                                                                       | Gender | N   | Mean   | Std. Deviation | Std. Error Mean |
|-----------------------------------------------------------------------|--------|-----|--------|----------------|-----------------|
| I want to be known as an innovator among my colleagues                | male   | 140 | 1.6500 | .75793         | .06406          |
|                                                                       | female | 206 | 1.6796 | .77414         | .05394          |
| I can imagine myself doing something innovative as a business person  | male   | 140 | 1.6286 | .76189         | .06439          |
|                                                                       | female | 206 | 1.6796 | .78664         | .05481          |
| I believe I will one day have skills needed to develop a new business | male   | 140 | 1.5357 | .69335         | .05860          |
|                                                                       | female | 206 | 1.5680 | .72094         | .05023          |
| I can see myself starting something innovative in the work-place      | male   | 140 | 1.7571 | .74786         | .06321          |
|                                                                       | female | 206 | 1.7087 | .72085         | .05022          |
| I like to experiment with various ways of doing the same thing        | male   | 140 | 2.2000 | .97597         | .08248          |
|                                                                       | female | 205 | 1.9805 | .86297         | .06027          |
| I prefer work that requires original thinking                         | male   | 140 | 1.8643 | .87500         | .07395          |
|                                                                       | female | 206 | 1.8155 | .84099         | .05859          |

In the majority of the items for innovation that were investigated, no significant differences were found between males and females, except for the statement: “I like to experiment with various ways of doing the same thing” (see Table 4.15). On this item, females tend to agree more with the statement than males do. In other words, females appear to prefer experimenting with various ways of doing the same thing, more than their male counterparts do. This finding can be seen as suggesting that, on this item, females are more innovative than their male counterparts. Even though not all items for innovation showed significant difference, the finding for this item can be seen to be inconsistent with the results of a study by Mueller and Thomas (2000:66) among students at 25 universities in 15 countries. In that study, male students were found to be more innovative than their female counterparts.

**Table 4.15: Differences between male and female respondents as to regarding themselves as being innovative**

|                                                                       |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |         |
|-----------------------------------------------------------------------|-----------------------------|-----------------------------------------|------|------------------------------|---------|
|                                                                       |                             | F                                       | Sig. | t                            | df      |
| I want to be known as an innovator among my colleagues                | Equal variances assumed     | .029                                    | .864 | -.352                        | 344     |
|                                                                       | Equal variances not assumed |                                         |      | -.354                        | 302.774 |
| I can imagine myself doing something innovative as a business person  | Equal variances assumed     | .035                                    | .852 | -.600                        | 344     |
|                                                                       | Equal variances not assumed |                                         |      | -.604                        | 304.866 |
| I believe I will one day have skills needed to develop a new business | Equal variances assumed     | .592                                    | .442 | -.415                        | 344     |
|                                                                       | Equal variances not assumed |                                         |      | -.418                        | 306.215 |
| I can see myself starting something innovative in the work-place      | Equal variances assumed     | .024                                    | .876 | .604                         | 344     |
|                                                                       | Equal variances not assumed |                                         |      | .600                         | 291.223 |
| I like to experiment with various ways of doing the same thing        | Equal variances assumed     | 7.848                                   | .005 | 2.199                        | 343     |
|                                                                       | Equal variances not assumed |                                         |      | 2.149                        | 273.864 |
| I prefer work that requires original thinking                         | Equal variances assumed     | .522                                    | .470 | .521                         | 344     |
|                                                                       | Equal variances not assumed |                                         |      | .517                         | 290.644 |

#### 4.7.3 Differences between male and female perceptions regarding their own risk propensity

One of the characteristics of an entrepreneur is that of risk taking. According to Cromie (2000:19), when entrepreneurs are compared to other groups in terms of risk taking, entrepreneurs tend to exhibit a greater propensity to take risks than other groups. It is, therefore, important to know the risk taking behaviour for the respondents in order to determine their entrepreneurial orientation. In this study, male and female respondents' responses were compared along six items relating to risk taking behaviour. Table 4.16 shows

the mean scores for male and female respondents regarding risk taking. On all the items of risk taking, the mean values of male respondents indicate that males were more in agreement with the items of risk taking compared to females. This is indicative that males are more willing to take risks.

**Table 4.16: Mean values for male and female perceptions regarding their own risk propensity**

|                                                                                                             | Gender | N   | Mean   | Std. Deviation | Std. Error Mean |
|-------------------------------------------------------------------------------------------------------------|--------|-----|--------|----------------|-----------------|
| I want to launch a new business of my own before graduation                                                 | male   | 140 | 2.8357 | 1.08363        | .09158          |
|                                                                                                             | female | 206 | 3.0194 | 1.02629        | .07151          |
| I am confident that I can successfully launch a new business on my own                                      | male   | 140 | 1.9857 | .91341         | .07720          |
|                                                                                                             | female | 206 | 2.2427 | 1.16003        | .08082          |
| If I launch a new business, I will like to expand it to all over the world                                  | male   | 140 | 1.8929 | .92679         | .07833          |
|                                                                                                             | female | 205 | 1.9951 | .96252         | .06723          |
| I am more interested in establishing my own business then getting a job                                     | male   | 140 | 2.4143 | 1.01063        | .08541          |
|                                                                                                             | female | 205 | 2.7415 | 1.09656        | .07659          |
| I would like to dedicate my life to establishing a new business even if my parents were strongly against it | male   | 140 | 2.4643 | 1.10206        | .09314          |
|                                                                                                             | female | 205 | 2.5659 | 1.08547        | .07581          |
| Even if I launch a new business and fail many times, I will keep on trying until I succeed                  | male   | 140 | 1.9571 | 1.01692        | .08595          |
|                                                                                                             | female | 205 | 2.0976 | 1.08476        | .07576          |

In the majority of the items investigated for risk taking, no significant differences were found between male and female respondents, except in the statement: “I am confident that I can launch a new business on my own” (see Table 4.17). This indicates that males tend to show more confidence to start a business on their own. This finding is consistent with the results of the 2006 GEM report of South Africa. One of the key findings of that study was that women

were less likely to start a business than men were because they did not believe themselves to be entrepreneurial. Although, in this study males showed more risk taking propensity, females also showed that they are willing to take risks and engage in entrepreneurial activities.

**Table 4.17: Differences between male and female perceptions regarding their own risk propensity**

|                                                                                                             |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |         |
|-------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------|------|------------------------------|---------|
|                                                                                                             |                             | F                                       | Sig. | t                            | df      |
| I want to launch a new business of my own before graduation                                                 | Equal variances assumed     | 2.823                                   | .094 | -1.598                       | 344     |
|                                                                                                             | Equal variances not assumed |                                         |      | -1.581                       | 287.644 |
| I am confident that I can successfully launch a new business on my own                                      | Equal variances assumed     | 6.712                                   | .010 | -2.199                       | 344     |
|                                                                                                             | Equal variances not assumed |                                         |      | -2.299                       | 336.552 |
| If I launch a new business, I will like to expand it to all over the world                                  | Equal variances assumed     | .016                                    | .898 | -.984                        | 343     |
|                                                                                                             | Equal variances not assumed |                                         |      | -.991                        | 306.048 |
| I am more interested in establishing my own business then getting a job                                     | Equal variances assumed     | .883                                    | .348 | -2.808                       | 343     |
|                                                                                                             | Equal variances not assumed |                                         |      | -2.852                       | 314.042 |
| I would like to dedicate my life to establishing a new business even if my parents were strongly against it | Equal variances assumed     | .026                                    | .871 | -.848                        | 343     |
|                                                                                                             | Equal variances not assumed |                                         |      | -.846                        | 295.742 |
| Even if I launch a new business and fail many times, I will keep on trying until I succeed                  | Equal variances assumed     | 1.016                                   | .314 | -1.211                       | 343     |
|                                                                                                             | Equal variances not assumed |                                         |      | -1.226                       | 311.004 |

#### **4.8 A COMPARISON OF THE PERCEPTIONS OF THE DIFFERENT DESIGNATED GROUPS WITH REGARD TO BEING AUTONOMOUS, INNOVATIVE AND A RISK TAKER**

The three dimensions of entrepreneurial orientation were also investigated among the different designated groups to determine whether there were any significant differences as to their perceptions as being autonomous, innovative and risk takers. Burger, Mahadea and O'Neill (2004:193) conducted a study among grade 12 learners from eight schools in Stellenbosch. The purpose of the study was to determine the perceptions of learners regarding entrepreneurship as a career option. No significant differences were found among different designated groups.

##### **4.8.1 Differences among the different designated groups as to regarding themselves as being autonomous**

A comparison was made among all the different designated groups regarding their perceptions as to being autonomous. Table 4.18 shows the mean values for the different groups for all the items of autonomy. Given the way the questions were coded the mean value for Blacks on: "I aspire to be my own boss" indicate that Blacks agree more (Mean score, 1.5600) with the statement compared to other groups (see Table 4.18).

**Table 4.18: Mean values of perceptions of the different designated groups as to regarding themselves as being autonomous**

| Designated Group    |           | I consider myself to be entrepreneurial | I desire to be self-employed | Own (or plan to own) my own business | I plan on opening my own business at some point in the future | I have a strong desire to own my own business | I aspire to be my own boss |
|---------------------|-----------|-----------------------------------------|------------------------------|--------------------------------------|---------------------------------------------------------------|-----------------------------------------------|----------------------------|
| Black               | Mean      | 2.1051                                  | 1.8285                       | 2.1630                               | 1.6509                                                        | 1.6218                                        | 1.5600                     |
|                     | N         | 276                                     | 274                          | 276                                  | 275                                                           | 275                                           | 275                        |
|                     | Std.      |                                         |                              |                                      |                                                               |                                               |                            |
|                     | Deviation | .94955                                  | 1.03940                      | 1.31794                              | .99357                                                        | .94109                                        | .89148                     |
| White               | Mean      | 2.2951                                  | 1.7333                       | 2.1967                               | 1.8197                                                        | 1.8361                                        | 1.6721                     |
|                     | N         | 61                                      | 60                           | 61                                   | 61                                                            | 61                                            | 61                         |
|                     | Std.      |                                         |                              |                                      |                                                               |                                               |                            |
|                     | Deviation | .82349                                  | 1.03934                      | 1.20858                              | .90385                                                        | .98624                                        | .88922                     |
| Coloured and Indian | Mean      | 2.4000                                  | 2.4000                       | 2.4000                               | 1.9000                                                        | 1.8000                                        | 2.1000                     |
|                     | N         | 10                                      | 10                           | 10                                   | 10                                                            | 10                                            | 10                         |
|                     | Std.      |                                         |                              |                                      |                                                               |                                               |                            |
|                     | Deviation | 1.26491                                 | 1.26491                      | 1.17379                              | 1.10050                                                       | 1.31656                                       | 1.44914                    |
| Total               | Mean      | 2.1470                                  | 1.8285                       | 2.1758                               | 1.6879                                                        | 1.6647                                        | 1.5954                     |
|                     | N         | 347                                     | 344                          | 347                                  | 346                                                           | 346                                           | 346                        |
|                     | Std.      |                                         |                              |                                      |                                                               |                                               |                            |
|                     | Deviation | .93966                                  | 1.04823                      | 1.29280                              | .98141                                                        | .96175                                        | .91264                     |

The Coloured and Indian group only had 10 respondents and they were less in agreement on the first three items. No significant differences were found among the different designated groups on all the six items for autonomy (see Table 4.19).

**Table 4.19: Differences among the different designated groups as to regarding themselves as being autonomous**

| ANOVA                                                         |                |                |     |             |       |      |
|---------------------------------------------------------------|----------------|----------------|-----|-------------|-------|------|
|                                                               |                | Sum of Squares | df  | Mean Square | F     | Sig. |
| I consider myself to be entrepreneurial                       | Between Groups | 2.463          | 2   | 1.231       | 1.398 | .249 |
|                                                               | Within Groups  | 303.041        | 344 | .881        |       |      |
|                                                               | Total          | 305.504        | 346 |             |       |      |
| I desire to be self-employed                                  | Between Groups | 3.810          | 2   | 1.905       | 1.741 | .177 |
|                                                               | Within Groups  | 373.071        | 341 | 1.094       |       |      |
|                                                               | Total          | 376.881        | 343 |             |       |      |
| Own (or plan to own) my own business                          | Between Groups | .574           | 2   | .287        | .171  | .843 |
|                                                               | Within Groups  | 577.702        | 344 | 1.679       |       |      |
|                                                               | Total          | 578.277        | 346 |             |       |      |
| I plan on opening my own business at some point in the future | Between Groups | 1.885          | 2   | .943        | .979  | .377 |
|                                                               | Within Groups  | 330.404        | 343 | .963        |       |      |
|                                                               | Total          | 332.289        | 345 |             |       |      |
| I have a strong desire to own my own business                 | Between Groups | 2.480          | 2   | 1.240       | 1.343 | .262 |
|                                                               | Within Groups  | 316.630        | 343 | .923        |       |      |
|                                                               | Total          | 319.110        | 345 |             |       |      |
| I aspire to be my own boss                                    | Between Groups | 3.250          | 2   | 1.625       | 1.962 | .142 |
|                                                               | Within Groups  | 284.103        | 343 | .828        |       |      |
|                                                               | Total          | 287.353        | 345 |             |       |      |

#### **4.8.2 Differences among the different designated groups as to regarding themselves as being innovative**

The different groups were compared along the six items relating to innovation to see whether there were any significant differences. Table 4.20 shows the mean values for the different groups for all the items of innovation. The Coloured and Indian group scored the lowest (less in agreement) on the first five items, and the Black group scored the highest (more in agreement) on the sixth item, a mean score of 1.8109 (see Table 4.20). Again please note that a score meant (5 = strongly disagree and 1 = strongly agree). Significant differences were found on three of the items, namely: “I want to be known as an innovator among my colleagues”; “I believe I will one day have skills needed to develop a new business”; and “I can see myself starting something innovative in the work-place” (see Table 4.21). Blacks perceived themselves as more innovative.

**Table 4.20: Mean values of perceptions of the different designated groups as to regarding themselves as being innovative**

| Designated Group    |                | I want to be known as an innovator among my colleagues | I can imagine myself doing something innovative as a business person | I believe I will one day have skills needed to develop a new business | I can see myself starting something innovative in the work-place | I like to experiment with various ways of doing the same thing | I prefer work that requires original thinking |
|---------------------|----------------|--------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------|
| Black               | Mean           | 1.6618                                                 | 1.6364                                                               | 1.5164                                                                | 1.6945                                                           | 2.0584                                                         | 1.8109                                        |
|                     | N              | 275                                                    | 275                                                                  | 275                                                                   | 275                                                              | 274                                                            | 275                                           |
|                     | Std. Deviation | .75829                                                 | .76329                                                               | .67455                                                                | .73082                                                           | .92397                                                         | .86321                                        |
| White               | Mean           | 1.5902                                                 | 1.6885                                                               | 1.6393                                                                | 1.7869                                                           | 2.0164                                                         | 1.9344                                        |
|                     | N              | 61                                                     | 61                                                                   | 61                                                                    | 61                                                               | 61                                                             | 61                                            |
|                     | Std. Deviation | .73885                                                 | .69620                                                               | .68393                                                                | .68592                                                           | .84640                                                         | .79307                                        |
| Coloured and Indian | Mean           | 2.3000                                                 | 2.1000                                                               | 2.1000                                                                | 2.3000                                                           | 2.7000                                                         | 1.9000                                        |
|                     | N              | 10                                                     | 10                                                                   | 10                                                                    | 10                                                               | 10                                                             | 10                                            |
|                     | Std. Deviation | .94868                                                 | 1.37032                                                              | 1.37032                                                               | .82327                                                           | .94868                                                         | .99443                                        |
| Total               | Mean           | 1.6676                                                 | 1.6590                                                               | 1.5549                                                                | 1.7283                                                           | 2.0696                                                         | 1.8353                                        |
|                     | N              | 346                                                    | 346                                                                  | 346                                                                   | 346                                                              | 345                                                            | 346                                           |
|                     | Std. Deviation | .76666                                                 | .77601                                                               | .70906                                                                | .73121                                                           | .91552                                                         | .85399                                        |

**Table 4.21 Differences among the different designated groups as to regarding themselves as being innovative**

|                                                                       |                | ANOVA          |     |             |       |      |
|-----------------------------------------------------------------------|----------------|----------------|-----|-------------|-------|------|
|                                                                       |                | Sum of Squares | df  | Mean Square | F     | Sig. |
| I want to be known as an innovator among my colleagues                | Between Groups | 4.374          | 2   | 2.187       | 3.781 | .024 |
|                                                                       | Within Groups  | 198.403        | 343 | .578        |       |      |
|                                                                       | Total          | 202.777        | 345 |             |       |      |
| I can imagine myself doing something innovative as a business person  | Between Groups | 2.139          | 2   | 1.069       | 1.784 | .170 |
|                                                                       | Within Groups  | 205.618        | 343 | .599        |       |      |
|                                                                       | Total          | 207.757        | 345 |             |       |      |
| I believe I will one day have skills needed to develop a new business | Between Groups | 3.815          | 2   | 1.907       | 3.856 | .022 |
|                                                                       | Within Groups  | 169.642        | 343 | .495        |       |      |
|                                                                       | Total          | 173.457        | 345 |             |       |      |
| I can see myself starting something innovative in the work-place      | Between Groups | 3.791          | 2   | 1.896       | 3.599 | .028 |
|                                                                       | Within Groups  | 180.671        | 343 | .527        |       |      |
|                                                                       | Total          | 184.462        | 345 |             |       |      |
| I like to experiment with various ways of doing the same thing        | Between Groups | 4.181          | 2   | 2.091       | 2.516 | .082 |
|                                                                       | Within Groups  | 284.149        | 342 | .831        |       |      |
|                                                                       | Total          | 288.330        | 344 |             |       |      |
| I prefer work that requires original thinking                         | Between Groups | .805           | 2   | .402        | .550  | .577 |
|                                                                       | Within Groups  | 250.805        | 343 | .731        |       |      |
|                                                                       | Total          | 251.610        | 345 |             |       |      |

#### **4.8.3 Differences among the different designated groups as to regarding themselves as being risk takers**

The different groups were also compared in terms of their risk taking orientation. Table 4.22 shows the mean values for different designated groups on all items for risk taking. The scores were very mixed in terms of responses.

**Table 4.22: Mean values of perceptions of the different designated groups as regarding themselves as being risk takers**

| Designated Group    |                | I want to launch a new business of my own before graduation | I am confident that I can successfully launch a new business on my own | If I launch a new business, I will like to expand it to all over the world | I am more interested in establishing my own business then getting a job | I would like to dedicate my life to establishing a new business even if my parents were strongly against it | Even if I launch a new business and fail many times, I will keep on trying until I succeed |
|---------------------|----------------|-------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Black               | Mean           | 2.8509                                                      | 2.1164                                                                 | 1.9088                                                                     | 2.5365                                                                  | 2.4526                                                                                                      | 1.9051                                                                                     |
|                     | N              | 275                                                         | 275                                                                    | 274                                                                        | 274                                                                     | 274                                                                                                         | 274                                                                                        |
|                     | Std. Deviation | 1.04093                                                     | 1.14668                                                                | .92328                                                                     | 1.06928                                                                 | 1.06541                                                                                                     | 1.00463                                                                                    |
| White               | Mean           | 3.3934                                                      | 2.2623                                                                 | 2.0656                                                                     | 2.8689                                                                  | 2.7869                                                                                                      | 2.5410                                                                                     |
|                     | N              | 61                                                          | 61                                                                     | 61                                                                         | 61                                                                      | 61                                                                                                          | 61                                                                                         |
|                     | Std. Deviation | .95357                                                      | .72805                                                                 | 1.01438                                                                    | 1.04044                                                                 | 1.09719                                                                                                     | 1.08894                                                                                    |
| Coloured and Indian | Mean           | 2.8000                                                      | 2.0000                                                                 | 2.5000                                                                     | 3.0000                                                                  | 2.9000                                                                                                      | 2.7000                                                                                     |
|                     | N              | 10                                                          | 10                                                                     | 10                                                                         | 10                                                                      | 10                                                                                                          | 10                                                                                         |
|                     | Std. Deviation | 1.31656                                                     | .66667                                                                 | 1.08012                                                                    | 1.15470                                                                 | 1.52388                                                                                                     | 1.25167                                                                                    |
| Total               | Mean           | 2.9451                                                      | 2.1387                                                                 | 1.9536                                                                     | 2.6087                                                                  | 2.5246                                                                                                      | 2.0406                                                                                     |
|                     | N              | 346                                                         | 346                                                                    | 345                                                                        | 345                                                                     | 345                                                                                                         | 345                                                                                        |
|                     | Std. Deviation | 1.05220                                                     | 1.07318                                                                | .94816                                                                     | 1.07316                                                                 | 1.09178                                                                                                     | 1.05851                                                                                    |

Significant differences were found on three items: “I want to launch a new business of my own before graduation”; “I am more interested in establishing my own business than getting a job”; and even if “I launch a new business and fail many times, I will keep on trying until I succeed” ( see Table 4.23).

**Table 4.23: Differences among the different designated groups as to regarding themselves as being risk takers**

| ANOVA                                                                                                       |                |                |     |             |        |      |
|-------------------------------------------------------------------------------------------------------------|----------------|----------------|-----|-------------|--------|------|
|                                                                                                             |                | Sum of Squares | df  | Mean Square | F      | Sig. |
| I want to launch a new business of my own before graduation                                                 | Between Groups | 14.912         | 2   | 7.456       | 6.968  | .001 |
|                                                                                                             | Within Groups  | 367.045        | 343 | 1.070       |        |      |
|                                                                                                             | Total          | 381.957        | 345 |             |        |      |
| I am confident that I can successfully launch a new business on my own                                      | Between Groups | 1.261          | 2   | .631        | .546   | .580 |
|                                                                                                             | Within Groups  | 396.080        | 343 | 1.155       |        |      |
|                                                                                                             | Total          | 397.341        | 345 |             |        |      |
| If I launch a new business, I will like to expand it to all over the world                                  | Between Groups | 4.301          | 2   | 2.151       | 2.412  | .091 |
|                                                                                                             | Within Groups  | 304.957        | 342 | .892        |        |      |
|                                                                                                             | Total          | 309.258        | 344 |             |        |      |
| I am more interested in establishing my own business then getting a job                                     | Between Groups | 7.088          | 2   | 3.544       | 3.115  | .046 |
|                                                                                                             | Within Groups  | 389.086        | 342 | 1.138       |        |      |
|                                                                                                             | Total          | 396.174        | 344 |             |        |      |
| I would like to dedicate my life to establishing a new business even if my parents were strongly against it | Between Groups | 7.028          | 2   | 3.514       | 2.982  | .052 |
|                                                                                                             | Within Groups  | 403.013        | 342 | 1.178       |        |      |
|                                                                                                             | Total          | 410.041        | 344 |             |        |      |
| Even if I launch a new business and fail many times, I will keep on trying until I succeed                  | Between Groups | 24.651         | 2   | 12.326      | 11.684 | .000 |
|                                                                                                             | Within Groups  | 360.780        | 342 | 1.055       |        |      |
|                                                                                                             | Total          | 385.432        | 344 |             |        |      |

#### 4.9 THE FAMILY MEMBERS' HISTORY IN BUSINESS

Section C of the questionnaire required respondents to provide information regarding their family members' history in business. This information is important in order to understand the influence of South African family members who own businesses towards other members of their family regarding entrepreneurial intentions. A study by Pruett *et al.* (2009:590) among students in the United States, Spain and China revealed that students who were more likely to start their own businesses were the ones whose family members are entrepreneurs.

In this study 57.3 percent of respondents indicated that they have a family member who owns a business and 42.7 percent of the respondents showed no family member who owned a business (see Table 4.24).

**Table 4.24: Percentage of respondents' family members that owns a business**

|         |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid   | Yes    | 196       | 56.5    | 57.3          | 57.3               |
|         | No     | 146       | 42.1    | 42.7          | 100.0              |
|         | Total  | 342       | 98.6    | 100.0         |                    |
| Missing | System | 5         | 1.4     |               |                    |
| Total   |        | 347       | 100.0   |               |                    |

Respondents were further asked to indicate their relationship with the family member who owned a business. As shown in Table 4.25 respondents indicated that 31.6 percent of family members who owned a business are individuals such as uncles, aunts and cousins, followed by fathers who constitute 25.5 percent of all family members.

**Table 4.25: Respondents' family member who own a business**

|         |                            | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------------|-----------|---------|---------------|--------------------|
| Valid   | Father                     | 50        | 14.4    | 25.5          | 25.5               |
|         | Mother                     | 35        | 10.1    | 17.9          | 43.4               |
|         | Brother                    | 27        | 7.8     | 13.8          | 57.1               |
|         | Sister                     | 9         | 2.6     | 4.6           | 61.7               |
|         | Other                      | 62        | 17.9    | 31.6          | 93.4               |
|         | Two or more family members | 13        | 3.7     | 6.6           | 100.0              |
|         | Total                      | 196       | 56.5    | 100.0         |                    |
| Missing | System                     | 151       | 43.5    |               |                    |
| Total   |                            | 347       | 100.0   |               |                    |

The respondents were asked to indicate the number of years the family member had been in business. This information is important because in South Africa small and micro enterprises are known to fail during the first few years of operations. Encouraging in this study is that

almost 40 percent (39.1 percent) of the respondents' family members are shown as having spent 10 years or more in business, 21.3 percent have spent 6 to 10 years and 37.1 percent have spent 2 to 5 years ( see Table 4.26).

**Table 4.26: Number of years of family members in business**

|         |                    | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------------------|-----------|---------|---------------|--------------------|
| Valid   | less than a year   | 5         | 1.4     | 2.5           | 2.5                |
|         | 2 to 5 years       | 73        | 21.0    | 37.1          | 39.6               |
|         | 6 to 10 years      | 42        | 12.1    | 21.3          | 60.9               |
|         | more than 10 years | 77        | 22.2    | 39.1          | 100.0              |
|         | Total              | 197       | 56.8    | 100.0         |                    |
| Missing | System             | 150       | 43.2    |               |                    |
| Total   |                    | 347       | 100.0   |               |                    |

In section C, respondents were asked to indicate the main reason that the family member started the business. In this research study, respondents indicated that 68 percent of the family members identified an opportunity as the main reason they started a business (see Table 4.27). This observation is significant because opportunity-driven entrepreneurs are known to pursue more profitable opportunities than necessity-driven entrepreneurs (Block & Wagner 2010:166).

**Table 4.27: Main reason of family member to start a business**

|         |             | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------------|-----------|---------|---------------|--------------------|
| Valid   | unemployed  | 24        | 6.9     | 12.2          | 12.2               |
|         | opportunity | 134       | 38.6    | 68.0          | 80.2               |
|         | not sure    | 31        | 8.9     | 15.7          | 95.9               |
|         | other       | 8         | 2.3     | 4.1           | 100.0              |
|         | Total       | 197       | 56.8    | 100.0         |                    |
| Missing | System      | 150       | 43.2    |               |                    |
| Total   |             | 347       | 100.0   |               |                    |

Respondents were asked to indicate whether, when they have time, they take part in the operations of the business. In this study 37.1 percent of respondents indicated that they

sometimes take part, 21.8 percent that they take part more often, and 20.8 percent that they always take part (see Table 4.28).

**Table 4.28: Students involvement in the operations of the business**

|         |           | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------|-----------|---------|---------------|--------------------|
| Valid   | always    | 41        | 11.8    | 20.8          | 20.8               |
|         | often     | 43        | 12.4    | 21.8          | 42.6               |
|         | sometimes | 73        | 21.0    | 37.1          | 79.7               |
|         | never     | 40        | 11.5    | 20.3          | 100.0              |
|         | Total     | 197       | 56.8    | 100.0         |                    |
| Missing | System    | 150       | 43.2    |               |                    |
| Total   |           | 347       | 100.0   |               |                    |

Lastly, in Section C respondents were asked to indicate whether they regard the family member who owns a business as a role model or not. In this study 79.5 percent of respondents indicated that they regard the family member who owns a business as a role model (see Table 4.29).

**Table 4.29: Family members owning businesses considered as role models: Respondents' perceptions**

|         |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid   | yes    | 155       | 44.7    | 79.5          | 79.5               |
|         | No     | 40        | 11.5    | 20.5          | 100.0              |
|         | Total  | 195       | 56.2    | 100.0         |                    |
| Missing | System | 152       | 43.8    |               |                    |
| Total   |        | 347       | 100.0   |               |                    |

#### 4.10 A SUMMARY OF THE IMPORTANT FINDINGS

One of the key findings of this study was that male respondents perceived themselves as being autonomous, and that they are more likely to embark on entrepreneurial activities compared to their female counterparts. Furthermore, male respondents perceived themselves as risk takers whereas females' perceptions were indicative of being less prepared to take risks. These findings are consistent with previous studies where women had more often

shown less interest in entrepreneurship compared to men. These findings necessitate further research to determine the underlying reasons for women not to be keen to engage in entrepreneurial activities.

The results of this study further found significant differences among different designated groups regarding innovation and risk taking behaviour. However, there is a need to research these outcomes further, as there was no conclusive evidence that suggests that one ethnic group is more entrepreneurial than the other one.

Another interesting finding of this research study was that 68 percent of respondents indicated that the reason for a family member to start a business was that of taking advantage of a business opportunity. This can be viewed as an encouraging state of affairs, where the majority of those who started businesses were because of them identifying business opportunities. This is significant because opportunity-driven entrepreneurs are known to produce better results compared to necessity-driven entrepreneurs.

#### **4.11 CONCLUSION**

This chapter reported on the findings of this research study, providing a detailed analysis and interpretation of the results. The objectives of the research study were presented, and Section 4.3 presented a detailed discussion regarding the reliability of the three constructs, namely, autonomy, innovation and risk taking. The results of Cronbach's alpha were presented, and compared to previous studies of similar nature. Factor analysis was also conducted and the results thereof were illustrated graphically. Statistical analysis regarding the survey was done, and the results were presented using tables and figures. The chapter concluded with a summary of the main findings of the research study. Chapter 5 presents recommendations and directions for future research.

## **CHAPTER 5**

### **RECOMMENDATIONS AND DIRECTIONS FOR FUTURE RESEARCH**

#### **5.1 INTRODUCTION**

The previous chapter presented the findings of this research study. This chapter presents the recommendations and directions for future research. First, the chapter begins with an overview of the research study (Section 5.2). Secondly, the chapter presents the contributions that this study have made (Section 5.3). Thirdly, the chapter presents recommendations based on the findings in this research study (Section 5.4). Fourthly, future research opportunities are outlined (Section 5.5). Lastly, the chapter presents the concluding remarks emanating from the study (Section 5.6).

There is a good deal of evidence to support the view that entrepreneurship is important to the development of the economies of countries. Furthermore, quite a number of scholarly entrepreneurship authors agree that in order to behave entrepreneurially, one has to possess certain characteristics considered peculiar to entrepreneurs. In the same way, the performance of a firm has been widely linked by many researchers to entrepreneurial orientation of individuals who own or run the business.

South Africa is currently experiencing one of the highest unemployment rates in the world. Many research findings have revealed that the youth constitute the highest percentage of those who are without jobs in South Africa and it is perceived that self-employment could contribute to redress this phenomenon. Therefore, the need to investigate the entrepreneurial orientation among Generation Y students is seen as essential, as the future entrepreneurs will be from this group. The next section provides an overview of this research study.

#### **5.2 OVERVIEW OF THE STUDY**

As previously stated, the primary objective of this study was to determine the entrepreneurial orientation of Generation Y students in the Vaal Triangle area. It was noted that entrepreneurial orientation has many dimensions, but for this research study autonomy, innovation and risk taking were identified as factors that may influence entrepreneurial orientation. The reasons for investigating these factors were provided, including the importance of this research study in relation to the South African situation.

As a background for this research study, Chapter 2 reviewed the literature in support of the objectives. Section 2.2 in Chapter 2 discussed the importance of entrepreneurship among the youth. This was followed by a discussion of the characteristics of Generation Y students because the research study focused on this group. Section 2.3 presented an overview of entrepreneurship in South Africa. Findings from previous studies supported this discussion on the state of entrepreneurship in South Africa.

Given the complexity and controversy associated with the definition of entrepreneurship, an attempt was made in Section 2.4 to define the concept by presenting the views of different scholars of entrepreneurship. Furthermore, in view of the consensus that entrepreneurs possess unique characteristics that distinguish them from other individuals, these characteristics were presented. Section 2.5 presented a definition of entrepreneurial orientation according to many authors, given a lack of consensus regarding the exact meaning of the concept. The link between entrepreneurial orientation and the performance of a firm was also discussed. A detailed discussion around the three constructs that were investigated was also presented. Section 2.6 discussed the entrepreneurial culture in South Africa. Section 2.7 discussed the difference between necessity-driven entrepreneurship and opportunity-driven entrepreneurship.

Chapter 3 outlined the research methodology that was followed in this research study, and Section 3.2 and 3.3 presented the research design and research approach respectively. The sampling strategy as well as the data collection methods was discussed in Sections 3.4 and 3.5 respectively. Section 3.6 discussed the administration of the questionnaire and Section 3.7 discussed the data preparation. This was followed by a discussion on the reliability of the instrument (Section 3.8), validity (Section 3.9), statistical analysis (Section 3.10) and test of significance (Section 3.11).

Chapter 4 presented the analysis and interpretation of the research findings. The reliability of the three constructs and factor analysis were discussed in Section 4.4 and 4.5, respectively. Section 4.6 presented the demographic profile of respondents. A comparison of male and female respondents' perceptions regarding the three constructs investigated, were presented and discussed in Section 4.7. A comparison of the perceptions of the different designated groups with regard to them being autonomous, innovative and risk takers were presented in

Section 4.8. The respondents' family members' history in business was discussed in Section 4.9. Section 4.10 presented a summary of the important findings of this study.

### **5.3 CONTRIBUTIONS OF THE STUDY**

The aim of this research study was to determine the entrepreneurial orientation of Generation Y students in the Vaal Triangle area. There is enough evidence to suggest that there is a link between prospects of starting a business and entrepreneurial orientation. It is, therefore, necessary to identify the factors associated with entrepreneurial behaviour of individuals. Mitchell (2004:167) notes that in order to stimulate entrepreneurship, it is necessary to identify factors that encourage young people to embark on entrepreneurial activities.

In this research study, it was evident that the majority of students are of the view that being autonomous, innovative and risk takers are some of the characteristics that they possess. It therefore stands to reason that this cohort of Generation Y students represent a pool of prospective entrepreneurs. However, proper guidance is needed to steer them in the right direction. Furthermore, the study also revealed that females, similar to their male counterparts, can become successful entrepreneurs. The study also revealed that belonging to a specific designated group is not a contributing factor for an individual to become an entrepreneur. This can be viewed as suggesting that different designated groups perceive entrepreneurship as important. However, the current profile of South African entrepreneurs displays disparities among these groups in terms of their entrepreneurial participation (Herrington *et al.*, 2008:4) – refer to Section 2.6. These findings highlight the need to motivate and assist the less entrepreneurial inclined groups to participate in entrepreneurial activities.

Frank *et al.* (2005:269), in a study among Austrian secondary schools, found that school education can influence entrepreneurial orientation. In light of this, it can therefore be contended, that the information regarding entrepreneurial orientation of Generation Y students in this study can be used to enhance or assist with regard to their entrepreneurial aspirations. This can be done by introducing entrepreneurship programmes, training and mentoring of individual students and the youth in general in our communities. Higher education institutions can design their programmes in such a way that entrepreneurship forms part of the different courses. This will enhance the likelihood of students to become future entrepreneurs, instead of looking for jobs as soon as they have completed their studies.

Furthermore, these institutions can change the way they offer these courses because it is evident that students are interested in becoming entrepreneurs. Mentoer and Friedrich (2007:231), in a study among first-year university students at the University of the Western Cape, note that when courses were offered in the traditional way they appeared not to be contributing towards entrepreneurial orientation of students. It will therefore be prudent for these institutions to embrace what Dhliwayo (2008:330) recommends, namely a teaching style that supports empirical learning, problem solving and creativity – see Section 2.3.

Creating job opportunities cannot be overemphasised, especially in a country such as South Africa where unemployment is a huge problem. It is encouraging to note that in this study, the majority of respondents' family members owned businesses (57.3 percent). This finding is significant, because previous research studies have revealed that students, whose family members are entrepreneurs, tend to behave entrepreneurially (Pruett *et al.*, 2009:590) (Section 1.3). In the same way, the fact that 68 percent of respondents' family members businesses came into being because of business opportunities is encouraging. This effect is significant because opportunity-driven entrepreneurs are known to own sustainable businesses as opposed to necessity-driven entrepreneurs.

#### **5.4 RECOMMENDATIONS**

The results of this study indicate that Generation Y students tend to be autonomous, innovative, and prefer to take risk. This suggests that students are likely to engage in entrepreneurial activities when presented with opportunities. It is, therefore, necessary to guide these students to realise their aspirations of becoming future entrepreneurs one day.

Regarding differences between male and female students' perceptions, the findings show that in terms of autonomy and risk taking, males tend to be more entrepreneurial than females. However, on a positive note the study indicates that females see themselves as being more innovative than males. Based on the results of this study it is encouraging to see that females' entrepreneurial interests do not differ significantly from that of males. The recommendation, therefore, is that females should be assisted to become entrepreneurs. This can be realised by putting women in the forefront when designing policies and programmes regarding entrepreneurship. Insufficient business experience, little support from families and male prejudice are cited as some of the inhibiting factors for women to engage in entrepreneurial activities (O'Neill & Viljoen, 2001:42) – see Section 2.6. Therefore, it is necessary to remove these inhibiting factors.

Regarding differences among designated groups in terms of the three constructs, the results show mixed perceptions. However, based on the results of this study all different groups' entrepreneurial orientation can be viewed as suggesting that in South Africa, culture is not a contributing factor for one to be an entrepreneur. The recommendation is, therefore, to direct more resources such as funding, training and mentoring towards those areas where entrepreneurial activities lack.

Timmons and Spinelli (2004:249) hold a view that entrepreneurial education is important to enhance students' entrepreneurial skills – see Section 1.7. Therefore, it is recommended that higher education institutions should introduce programmes that will enable students to follow an entrepreneurial career. In situations where the courses are offered, the delivery of these courses should be in such a way that students are empowered with skills that will enable them to behave in an entrepreneurial way.

## **5.5 FUTURE RESEARCH OPPORTUNITIES**

It is evident that many factors influence entrepreneurial orientation, and not only those investigated in this research study. Therefore, the influence of other factors on the entrepreneurial orientation of individuals can further be investigated. Given the fact that respondents in this study view themselves as being autonomous, innovative and risk takers, it will be interesting to find out why so many young people do not start businesses. Future research is needed to explore the inhibiting factors for starting a business, and providing workable solutions. The lack of female entrepreneurs in South Africa is well documented and it will be interesting to know the reasons behind this state of affairs, given the results of this study that indicate females tend to consider themselves as being entrepreneurial equal to their male counterparts.

Many previous studies have shown that in South Africa entrepreneurship development differs in terms of the different designated groups. The findings of the 2010 Global Entrepreneurship Report on South Africa revealed that businesses started by Black Africans were less likely to mature into new established businesses, compared to those started by Whites and Indians (Herrington *et al.* 2010:25). However, the results of this study indicate that there are no significant differences among these groups in terms of their entrepreneurial thinking.

Therefore, further research is needed to establish the reasons for the disparities among these groups in terms of their entrepreneurial participation.

One interesting finding in this study is that the majority of respondents indicated that the reason their family members started businesses is because these members identified business opportunities. It is a well-known fact that opportunity-driven entrepreneurship contributes towards economic development and job creation, as compared to necessity-driven entrepreneurship (Herrington *et al.*, 2010:26) – see Section 2.7. Therefore, there is a need to investigate the extent to which these opportunity-driven businesses contributed towards economic development and job creation in South Africa.

## **5.6 CONCLUSION**

There is adequate evidence to support the view that entrepreneurship is important for the economy of a country, irrespective of the level of development. However, for an individual to become an entrepreneur he/she has to possess unique characteristics. Furthermore, there is also sufficient evidence to support the view that entrepreneurs are not only born, but they can be made through education and training (Timmons & Spinelli, 2004:249) – see Section 1.7. In the same way, there is enough evidence to state that entrepreneurial orientation has a positive influence towards the performance of a firm – see Section 2.5.2. Therefore, knowledge of the entrepreneurial orientation of the youth is significant because prospective entrepreneurs will be from this group of individuals.

The findings from this research study have revealed that the youth consider themselves entrepreneurs, and therefore, they need to assistance in engaging in entrepreneurial activities. This calls for more action and less talk if the country wants to lessen the unemployment among the youth. All the stakeholders, including government, need to take cognisance of the fact that urgent steps are needed to create a favourable environment for entrepreneurial activities to take place.

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# **APPENDIX A**

## **QUESTIONNAIRE**



NORTH-WEST UNIVERSITY  
YUNIBESITHI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT  
VAAL TRIANGLE CAMPUS

## ENTREPRENEURIAL ORIENTATION OF GENERATION Y STUDENTS IN THE VAAL TRIANGLE AREA

Dear student

Kindly complete this questionnaire as honestly and accurately as possible.

Please answer all the questions.

This questionnaire is strictly for academic research purposes, as a result, your anonymity is guaranteed as you do not have to provide your name.

All information provided will be treated in strict confidence.

It should take you 20 minutes to complete this questionnaire.

Please read the instructions to each section carefully and respond appropriately.

Kindly use either a BLACK OR BLUE coloured pen when you complete.

Thank you.

Habofanwe Andreas Koloba

Email: [habofanwe.koloba@nwu.ac.za](mailto:habofanwe.koloba@nwu.ac.za)

Tel: 016 910 3349

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### SECTION A: DEMOGRAPHICAL DATA

Please answer the following questions by marking the appropriate option:

|    |                  |                 |    |            |    |              |    |        |     |
|----|------------------|-----------------|----|------------|----|--------------|----|--------|-----|
| 1. | Gender           | Male            |    | Female     |    |              |    |        |     |
| 2. | Age              | ≤18             | 19 | 20         | 21 | 22           | 23 | 24     | >25 |
| 3. | Designated group | Black/African   |    | White      |    | Coloured     |    | Indian |     |
|    |                  | Other (Specify) |    |            |    |              |    |        |     |
| 4. | Year of study    | Second Year     |    | Third Year |    | Postgraduate |    |        |     |

## SECTION B: THE DIMENSIONS OF ENTREPRENEURIAL ORIENTATION

Please indicate the degree to which you agree or disagree with the following statements by circling the appropriate number:

|     |                                                                         | strongly<br>agree | Agree | Uncertain | Disagree | strongly<br>disagree |
|-----|-------------------------------------------------------------------------|-------------------|-------|-----------|----------|----------------------|
| 5.  | I consider myself to be entrepreneurial.                                | 1                 | 2     | 3         | 4        | 5                    |
| 6.  | I desire to be self-employed.                                           | 1                 | 2     | 3         | 4        | 5                    |
| 7.  | I own (or plan to own) my own business.                                 | 1                 | 2     | 3         | 4        | 5                    |
| 8.  | I plan on opening my own business at some point in the future.          | 1                 | 2     | 3         | 4        | 5                    |
| 9.  | I have a strong desire to own my own business.                          | 1                 | 2     | 3         | 4        | 5                    |
| 10. | I aspire to be my own boss.                                             | 1                 | 2     | 3         | 4        | 5                    |
| 11. | I want to be known as an innovator among my colleagues.                 | 1                 | 2     | 3         | 4        | 5                    |
| 12. | I can imagine myself doing something innovative as a business person.   | 1                 | 2     | 3         | 4        | 5                    |
| 13. | I believe I will one day have skills needed to develop a new business.  | 1                 | 2     | 3         | 4        | 5                    |
| 14. | I can see myself starting something innovative in the work-place.       | 1                 | 2     | 3         | 4        | 5                    |
| 15. | I like to experiment with various ways of doing the same thing.         | 1                 | 2     | 3         | 4        | 5                    |
| 16. | I prefer work that requires original thinking.                          | 1                 | 2     | 3         | 4        | 5                    |
| 17. | I want to launch a new business of my own before graduation.            | 1                 | 2     | 3         | 4        | 5                    |
| 18. | I am confident that I can successfully launch a new business on my own. | 1                 | 2     | 3         | 4        | 5                    |

|     |                                                                                                              | Strongly agree | Agree | Uncertain | Disagree | Strongly disagree |
|-----|--------------------------------------------------------------------------------------------------------------|----------------|-------|-----------|----------|-------------------|
| 19. | If I launch a new business, I will like to expand it to all over the world.                                  | 1              | 2     | 3         | 4        | 5                 |
| 20. | I am more interested in establishing my own business than getting a job.                                     | 1              | 2     | 3         | 4        | 5                 |
| 21. | I would like to dedicate my life to establishing a new business even if my parents were strongly against it. | 1              | 2     | 3         | 4        | 5                 |
| 22. | Even if I launch a new business and fail many times, I will keep on trying until I succeed.                  | 1              | 2     | 3         | 4        | 5                 |

### SECTION C: FAMILY HISTORY IN BUSINESS

|     |                                                                                      |     |    |
|-----|--------------------------------------------------------------------------------------|-----|----|
| 23. | Do any of your family members own a business? (If yes proceed to question 24 to 28). | Yes | No |
|-----|--------------------------------------------------------------------------------------|-----|----|

|     |                                                       |                 |        |         |        |
|-----|-------------------------------------------------------|-----------------|--------|---------|--------|
| 24. | Who is the member of the family that owns a business? | Father          | Mother | Brother | Sister |
|     |                                                       | Other (Specify) |        |         |        |

|     |                                                  |           |             |              |           |
|-----|--------------------------------------------------|-----------|-------------|--------------|-----------|
| 25. | How many years is the family member in business? | ≤ 1 years | 2 – 5 years | 6 – 10 years | >10 years |
|-----|--------------------------------------------------|-----------|-------------|--------------|-----------|

|     |                                                                       |                 |             |          |
|-----|-----------------------------------------------------------------------|-----------------|-------------|----------|
| 26. | What was the main reason for the family member to start the business? | Unemployed      | Opportunity | Not sure |
|     |                                                                       | Other (Specify) |             |          |

|     |                                                                         |        |       |           |       |
|-----|-------------------------------------------------------------------------|--------|-------|-----------|-------|
| 27. | When you have time, do you take part in the operations of the business? | Always | Often | Sometimes | Never |
|-----|-------------------------------------------------------------------------|--------|-------|-----------|-------|

|     |                                                          |     |    |
|-----|----------------------------------------------------------|-----|----|
| 28. | Is the family member who owns a business your role model | Yes | No |
|-----|----------------------------------------------------------|-----|----|

**THANK YOU FOR COMPLETING THIS QUESTIONNAIRE**

**APPENDIX B**

**QUESTIONNAIRES (SCALE ITEMS) USED IN PREVIOUS STUDIES**

### Factor Loadings of scales utilized in the study of Parnell *et al.* (2003:128)

| Item                                                                                                      | Loading |
|-----------------------------------------------------------------------------------------------------------|---------|
| <u>PPDM- Organisational Effectiveness (Alpha=.509)</u>                                                    |         |
| ORG1. Many organisational problems disappear when everyone has a chance to participate in decision making | .597    |
| ORG2. Participative decision making usually results in effective decisions                                | .742    |
| ORG3. Group decisions are worth any extra time required                                                   | .778    |
| <u>PPDM-Power (Alpha=.501)</u>                                                                            |         |
| PWR1. Participative decision making requires divulging too much confidential Information                  | .736    |
| PWR2. Participative decision making gives too much power to subordinates                                  | .756    |
| PWR3. Subordinates often cannot be trusted                                                                | .636    |
| <u>Entrepreneurial Orientation 9 (Alpha=.725)</u>                                                         |         |
| ENT1. I consider myself to be entrepreneurial                                                             | .302    |
| ENT2. I have desire to be self-employed                                                                   | .465    |
| ENT3. I own (or plan to own) my own business                                                              | .771    |
| ENT4. I plan on opening my own business at some point in the future                                       | .818    |
| ENT5. I have a strong desire to own my own business                                                       | .669    |
| ENT6. I aspire to be my own boss                                                                          | .771    |
| <u>Managerial Motivation (Alpha=.536)</u>                                                                 |         |
| MM1. I have a desire to build positive relationships with my superiors                                    | .358    |
| MM2. I have a desire to compete with peers in games and sports                                            | .283    |
| MM3. I have a desire to compete with peers in work-related activities                                     | .570    |
| MM4. I have a desire to behave in an active and assertive manner                                          | .778    |

|                                                                                                 |      |
|-------------------------------------------------------------------------------------------------|------|
| MM5. I have a desire to tell others what to do and to impose sanctions in<br>influencing others | .412 |
| MM6. I have a desire to stand out from the group in a unique & highly visible<br>fashion        | .567 |
| MM7. I have a desire to carry out the routine duties often associated with<br>managerial work   | .243 |
| Self-Management (Alpha=.535)                                                                    |      |
| SELF1. I consider myself to be well-organized                                                   | .753 |
| SELF2. I am more self-disciplined than most of my colleagues                                    | .622 |
| SELF3. I tend to manage my time well                                                            | .669 |

**10 Questions used to extract three factors in a study of Lee *et al.* (2000:364)**

- 1) I want to launch a new venture company of my own before graduation.
- 2) I am confident that I can successfully launch a new venture company on my own.
- 3) I am confident that I can select a business with good potential if I launch a new venture company of my own.
- 4) If I launch a new venture company, I can provide my own funds and human resources.
- 5) I am more interested in establishing my own venture company than getting a job.
- 6) Even if I launch new ventures and fail many times, I will keep on trying until I succeed.
- 7) I think that founding a new venture company is the only way to succeed in life.
- 8) I would dedicate my life to establishing a new venture company even if my parents were strongly against it.
- 9) If I launch a new venture company, I will limit its area of operation to my own country.
- 10) If I launch a new venture company, I will expand its business to all over the world.

### **Survey items related to locus of control and innovativeness in a study of Mueller and Thomas (2000:75)**

Respondents were to indicate the extent to which they agree or disagree with the following statements. Five structured choices were offered: Strongly Agree, Agree, Neither Agree or Disagree, Disagree, Strongly Disagree.

Ten items comprise the locus of control scale (adapted from Rotter 1966):

1. My success depends on whether I am lucky enough to be in the right place at the right time.
2. To a great extent my life is controlled by accidental happenings.
3. When I get what I want, it is usually because I am lucky.
4. My life is determined by my own actions.
5. When I get what I want, it is usually because I worked hard for it.
6. It is not wise for me to plan too far ahead, because things turn out to be a matter of bad fortune.
7. Whether or not I am successful in life depends mostly on my ability.
8. I feel that what happens in my life is mostly determined by people in powerful positions.
9. I feel in control of my life.
10. Success in business is mostly a matter of luck.

Eight items comprise the innovativeness scale (adapted from Jackson Personality inventory 1994):

1. I often surprise people with my novel ideas.
2. People often ask me for help in creative activities.
3. I obtain more satisfaction from mastering a skill than coming up with a new idea.
4. I prefer work that requires original thinking.
5. I usually continue doing a new job exactly the way it was taught to me.
6. I like a job which demands skill and practice rather than inventiveness.
7. I am not a very creative person.
8. I like to experiment with various ways of doing the same thing.

## **Item wording for the pharmacy student entrepreneurial orientation scale in a study of Hermansen-Kobulnicky and Moss (2004:10)**

**Factor 1** (11items, Cronbach alpha = .9291)

### Proactiveness

- Planning for future opportunities upon graduation has been, is, or will be an important part of my college career.
- Knowing conditions are changing in pharmacy, I intend to actively seek out new opportunities for myself.
- I want to have what it takes to advance patient care as a pharmacist.

### Work ethic

- I am a hard working individual.
- I imagine I'll be very ambitious about my work as a pharmacist.
- I like the idea of having challenges in my practice as a pharmacist
- I consider myself as having high motivation toward work.

### Empathic Super salesperson

- Developing strong personal relationships will be critical to my pharmacy practice.
- I have a very strong desire to help others.
- I believe that making a contribution to society is important.
- I will be good at empathizing with my patients by being responsive to their problems.

**Factor 2** (9 items, Cronbach alpha = .9163)

### Innovativeness

- I want to be known as an innovator among my colleagues.
- I can imagine myself doing something innovative as a pharmacist.
- I believe I will one day have the skills needed to develop a new pharmacist service.
- I believe I will one day be capable of designing a new patient care service.
- I can see myself starting something innovative in the work-place.

### Autonomy

- As a pharmacist, I want to be encouraged to develop new ideas in the work place.
- I want to work where new opportunities are the concern of all employees.
- I want to work where new ideas that I suggest will be acted upon by decision makers.
- As a pharmacist, I want to work for someone who lets me explore and try new ideas.

**Factor 3** (3 items, Cronbach alpha = .7090)

### Risk taking

- Successful pharmacists are likely to have taken some chances along the way.
- I think I am a risk-taker compared to others I know.
- I believe that to be a successful pharmacist, I will have to take some chances with my career.

\*Fully labelled Likert-type agreement scale with 1 = Strongly Disagree, 7 = Strongly Agree

## **APPENDIX C**

### **FACTOR ANALYSIS**

**Table 1: factor analysis for autonomy items**

| Correlation Matrix |                                                               |                                         |                              |                                        |                                                               |                                               |                            |
|--------------------|---------------------------------------------------------------|-----------------------------------------|------------------------------|----------------------------------------|---------------------------------------------------------------|-----------------------------------------------|----------------------------|
|                    |                                                               | I consider myself to be entrepreneurial | I desire to be self-employed | I own (or plan to own) my own business | I plan on opening my own business at some point in the future | I have a strong desire to own my own business | I aspire to be my own boss |
| Correlation        | I consider myself to be entrepreneurial                       | 1.000                                   | .526                         | .378                                   | .449                                                          | .478                                          | .370                       |
|                    | I desire to be self-employed                                  | .526                                    | 1.000                        | .405                                   | .473                                                          | .566                                          | .541                       |
|                    | I own (or plan to own) my own business                        | .378                                    | .405                         | 1.000                                  | .527                                                          | .497                                          | .399                       |
|                    | I plan on opening my own business at some point in the future | .449                                    | .473                         | .527                                   | 1.000                                                         | .807                                          | .645                       |
|                    | I have a strong desire to own my own business                 | .478                                    | .566                         | .497                                   | .807                                                          | 1.000                                         | .704                       |
|                    | I aspire to be my own boss                                    | .370                                    | .541                         | .399                                   | .645                                                          | .704                                          | 1.000                      |

**Table 2: Factor analysis: KMO and Bartlett's test for autonomy**

| KMO and Bartlett's Test                          |                    |          |
|--------------------------------------------------|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .842     |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 1022.599 |
|                                                  | df                 | 15       |
|                                                  | Sig.               | .000     |

**Table 1: factor analysis for innovation**

|             |                                                                       | Correlation Matrix                                     |                                                                      |                                                                       |                                                                  |                                                                |                                               |
|-------------|-----------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------|
|             |                                                                       | I want to be known as an innovator among my colleagues | I can imagine myself doing something innovative as a business person | I believe I will one day have skills needed to develop a new business | I can see myself starting something innovative in the work-place | I like to experiment with various ways of doing the same thing | I prefer work that requires original thinking |
| Correlation | I want to be known as an innovator among my colleagues                | 1.000                                                  | .593                                                                 | .447                                                                  | .412                                                             | .387                                                           | .421                                          |
|             | I can imagine myself doing something innovative as a business person  | .593                                                   | 1.000                                                                | .540                                                                  | .439                                                             | .303                                                           | .269                                          |
|             | I believe I will one day have skills needed to develop a new business | .447                                                   | .540                                                                 | 1.000                                                                 | .493                                                             | .205                                                           | .338                                          |
|             | I can see myself starting something innovative in the work-place      | .412                                                   | .439                                                                 | .493                                                                  | 1.000                                                            | .354                                                           | .309                                          |
|             | I like to experiment with various ways of doing the same thing        | .387                                                   | .303                                                                 | .205                                                                  | .354                                                             | 1.000                                                          | .354                                          |
|             | I prefer work that requires original thinking                         | .421                                                   | .269                                                                 | .338                                                                  | .309                                                             | .354                                                           | 1.000                                         |

**Table 2: Factor analysis: KMO and Bartlett's test for innovation**

| KMO and Bartlett's Test                          |                    |         |
|--------------------------------------------------|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .795    |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 576.370 |
|                                                  | df                 | 15      |
|                                                  | Sig.               | .000    |

**Table 1: factor analysis for risk taking**

|             |                                                                                                             | Correlation Matrix                                          |                                                                        |                                                                            |                                                                         |                                                                                                             |                                                                                            |
|-------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
|             |                                                                                                             | I want to launch a new business of my own before graduation | I am confident that I can successfully launch a new business on my own | If I launch a new business, I will like to expand it to all over the world | I am more interested in establishing my own business then getting a job | I would like to dedicate my life to establishing a new business even if my parents were strongly against it | Even if I launch a new business and fail many times, I will keep on trying until I succeed |
| Correlation | I want to launch a new business of my own before graduation                                                 | 1.000                                                       | .389                                                                   | .260                                                                       | .402                                                                    | .449                                                                                                        | .365                                                                                       |
|             | I am confident that I can successfully launch a new business on my own                                      | .389                                                        | 1.000                                                                  | .327                                                                       | .327                                                                    | .363                                                                                                        | .324                                                                                       |
|             | If I launch a new business, I will like to expand it to all over the world                                  | .260                                                        | .327                                                                   | 1.000                                                                      | .345                                                                    | .279                                                                                                        | .347                                                                                       |
|             | I am more interested in establishing my own business then getting a job                                     | .402                                                        | .327                                                                   | .345                                                                       | 1.000                                                                   | .575                                                                                                        | .485                                                                                       |
|             | I would like to dedicate my life to establishing a new business even if my parents were strongly against it | .449                                                        | .363                                                                   | .279                                                                       | .575                                                                    | 1.000                                                                                                       | .537                                                                                       |
|             | Even if I launch a new business and fail many times, I will keep on trying until I succeed                  | .365                                                        | .324                                                                   | .347                                                                       | .485                                                                    | .537                                                                                                        | 1.000                                                                                      |

**Table 2: Factor analysis: KMO and Bartlett's test for risk taking**

| KMO and Bartlett's Test                          |                    |         |
|--------------------------------------------------|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .830    |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 529.213 |
|                                                  | df                 | 15      |
|                                                  | Sig.               | .000    |

**APPENDIX D**

**RELIABILITY SCORES: PILOT STUDY**

| Case Processing Summary |                       |    |       |
|-------------------------|-----------------------|----|-------|
|                         |                       | N  | %     |
| Cases                   | Valid                 | 61 | 100.0 |
|                         | Excluded <sup>a</sup> | 0  | .0    |
|                         | Total                 | 61 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

| Reliability Statistics |                                                       |            |
|------------------------|-------------------------------------------------------|------------|
| Cronbach's Alpha       | Cronbach's Alpha<br>Based on<br>Standardized<br>Items | N of Items |
| .838                   | .841                                                  | 6          |

| Inter-Item Correlation Matrix                                 |                                         |                              |                                        |                                                               |                                               |                            |
|---------------------------------------------------------------|-----------------------------------------|------------------------------|----------------------------------------|---------------------------------------------------------------|-----------------------------------------------|----------------------------|
|                                                               | I consider myself to be entrepreneurial | I desire to be self-employed | I own (or plan to own) my own business | I plan on opening my own business at some point in the future | I have a strong desire to own my own business | I aspire to be my own boss |
| I consider myself to be entrepreneurial                       | 1.000                                   | .185                         | .366                                   | .415                                                          | .423                                          | .324                       |
| I desire to be self-employed                                  | .185                                    | 1.000                        | .496                                   | .409                                                          | .407                                          | .629                       |
| I own (or plan to own) my own business                        | .366                                    | .496                         | 1.000                                  | .467                                                          | .402                                          | .524                       |
| I plan on opening my own business at some point in the future | .415                                    | .409                         | .467                                   | 1.000                                                         | .736                                          | .592                       |
| I have a strong desire to own my own business                 | .423                                    | .407                         | .402                                   | .736                                                          | 1.000                                         | .644                       |
| I aspire to be my own boss                                    | .324                                    | .629                         | .524                                   | .592                                                          | .644                                          | 1.000                      |

#### Item-Total Statistics

|                                                               | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---------------------------------------------------------------|----------------------------|--------------------------------|----------------------------------|------------------------------|----------------------------------|
| I consider myself to be entrepreneurial                       | 9.3607                     | 17.568                         | .432                             | .242                         | .844                             |
| I desire to be self-employed                                  | 9.8033                     | 15.727                         | .562                             | .440                         | .823                             |
| O own (or plan to own) my own business                        | 9.3770                     | 14.739                         | .594                             | .384                         | .819                             |
| I plan on opening my own business at some point in the future | 9.8361                     | 15.473                         | .698                             | .590                         | .796                             |
| I have a strong desire to own my own business                 | 9.9672                     | 15.499                         | .691                             | .621                         | .797                             |
| I aspire to be my own boss                                    | 10.0164                    | 15.016                         | .739                             | .602                         | .787                             |

#### Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|----------------------------------------------|------------|
| .800             | .815                                         | 6          |

**Inter-Item Correlation Matrix**

|                                                                       | I want to be known as an innovator among my colleagues | I can imagine myself doing something innovative as a business person | I believe I will one day have skills needed to develop a new business | I can see myself starting something innovative in the work-place | I like to experiment with various ways of doing the same thing | I prefer work that requires original thinking |
|-----------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------|
| I want to be known as an innovator among my colleagues                | 1.000                                                  | .705                                                                 | .399                                                                  | .492                                                             | .231                                                           | .209                                          |
| I can imagine myself doing something innovative as a business person  | .705                                                   | 1.000                                                                | .593                                                                  | .612                                                             | .420                                                           | .381                                          |
| I believe I will one day have skills needed to develop a new business | .399                                                   | .593                                                                 | 1.000                                                                 | .537                                                             | .337                                                           | .362                                          |
| I can see myself starting something innovative in the work-place      | .492                                                   | .612                                                                 | .537                                                                  | 1.000                                                            | .295                                                           | .330                                          |
| I like to experiment with various ways of doing the same thing        | .231                                                   | .420                                                                 | .337                                                                  | .295                                                             | 1.000                                                          | .442                                          |
| I prefer work that requires original thinking                         | .209                                                   | .381                                                                 | .362                                                                  | .330                                                             | .442                                                           | 1.000                                         |

**Item-Total Statistics**

|                                                                       | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|-----------------------------------------------------------------------|----------------------------|--------------------------------|----------------------------------|------------------------------|----------------------------------|
| I want to be known as an innovator among my colleagues                | 9.1311                     | 8.816                          | .524                             | .513                         | .777                             |
| I can imagine myself doing something innovative as a business person  | 9.0820                     | 7.977                          | .751                             | .673                         | .730                             |
| I believe I will one day have skills needed to develop a new business | 9.2459                     | 8.189                          | .602                             | .418                         | .759                             |
| I can see myself starting something innovative in the work-place      | 9.0328                     | 8.432                          | .607                             | .435                         | .760                             |
| I like to experiment with various ways of doing the same thing        | 8.5574                     | 8.117                          | .472                             | .276                         | .793                             |
| I prefer work that requires original thinking                         | 8.8033                     | 7.927                          | .470                             | .268                         | .797                             |

**Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|----------------------------------------------|------------|
| .814             | .810                                         | 6          |

**Inter-Item Correlation Matrix**

|                                                                                                             | I want to launch a new business of my own before graduation | I am confident that I can successfully launch a new business on my own | If I launch a new business, I will like to expand it to all over the world | I am more interested in establishing my own business then getting a job | I would like to dedicate my life to establishing a new business even if my parents were strongly against it | Even if I launch a new business and fail many times, I will keep on trying until I succeed |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| I want to launch a new business of my own before graduation                                                 | 1.000                                                       | .386                                                                   | .260                                                                       | .402                                                                    | .449                                                                                                        | .365                                                                                       |
| I am confident that I can successfully launch a new business on my own                                      | .386                                                        | 1.000                                                                  | .327                                                                       | .327                                                                    | .363                                                                                                        | .324                                                                                       |
| If I launch a new business, I will like to expand it to all over the world                                  | .260                                                        | .327                                                                   | 1.000                                                                      | .345                                                                    | .279                                                                                                        | .347                                                                                       |
| I am more interested in establishing my own business then getting a job                                     | .402                                                        | .327                                                                   | .345                                                                       | 1.000                                                                   | .575                                                                                                        | .485                                                                                       |
| I would like to dedicate my life to establishing a new business even if my parents were strongly against it | .449                                                        | .363                                                                   | .279                                                                       | .575                                                                    | 1.000                                                                                                       | .537                                                                                       |
| Even if I launch a new business and fail many times, I will keep on trying until I succeed                  | .365                                                        | .324                                                                   | .347                                                                       | .485                                                                    | .537                                                                                                        | 1.000                                                                                      |

**Item-Total Statistics**

|                                                                                                             | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|-------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------|----------------------------------|------------------------------|----------------------------------|
| I want to launch a new business of my own before graduation                                                 | 11.1311                    | 15.183                         | .561                             | .350                         | .788                             |
| I am confident that I can successfully launch a new business on my own                                      | 11.9836                    | 13.983                         | .703                             | .504                         | .755                             |
| If I launch a new business, I will like to expand it to all over the world                                  | 12.2131                    | 17.404                         | .357                             | .209                         | .825                             |
| I am more interested in establishing my own business then getting a job                                     | 11.6066                    | 13.976                         | .642                             | .448                         | .769                             |
| I would like to dedicate my life to establishing a new business even if my parents were strongly against it | 11.7049                    | 14.845                         | .612                             | .446                         | .776                             |
| Even if I launch a new business and fail many times, I will keep on trying until I succeed                  | 11.7705                    | 14.980                         | .575                             | .365                         | .784                             |