

Universiteit van Pretoria  
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GORDON INSTITUTE  
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## **To be or not to be – Factors that influence entrepreneurial intention**

### **A Botswana study**

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration

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**Abstract**

*This study explores whether final year university students possess entrepreneurial intention and which factors determine such a career choice. A quantitative study of 228 fourth year undergraduate students from the University of Botswana was undertaken to investigate the relationship between entrepreneurship and entrepreneurial self-efficacy and whether this is influenced by internal and environmental factors. This study offers empirical proof that entrepreneurial interests lead to entrepreneurial intent when students possess entrepreneurial self-efficacy. Students with a creative cognitive style show strong entrepreneurial intent irrespective of the level of self-concept. It is suggested that environmental factors do not have a significant influence on the decision to pursue self-employment.*

*Key words: Entrepreneurial intent, entrepreneurial self-efficacy, role models, entrepreneurial interest, subjective norms, cognitive style.*

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“If the only prayer you ever say in your entire life is ‘thank you’, it will be enough.”

*Meister Eckhart*

## DECLARATION

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

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10 November 2010



## Table of Contents

1	Chapter One: Introduction	1
1.1	Entrepreneurship	1
1.2	Background	2
1.3	Research objectives	3
1.4	Research scope	4
1.5	Research aim	5
2	Chapter Two: Literature review	7
2.1	Introduction	7
2.2	Entrepreneurial intent	7
2.3	Entrepreneurial self-efficacy	8
2.4	Independent variables	11
2.4.1	The influence of a role model	11
2.4.2	Cognitive style	13
2.4.3	Subjective norms	16
2.4.4	Entrepreneurial interests	17
2.5	Chapter conclusion	19
3	Chapter Three: Research hypotheses	21
3.1	Introduction	21
3.2	Control variables	21
3.3	Research hypotheses	22



3.3.1	The influence of a role model	23
3.3.2	Cognitive style	24
3.3.3	Subjective norms	25
3.3.4	Entrepreneurial interests	25
4	Chapter Four: Research methodology	27
4.1	Introduction	27
4.2	Research design	27
4.2.1	Research strategy	27
4.2.2	Unit of analysis	27
4.2.3	Survey method and size	28
4.2.4	Survey scope	29
4.2.5	Research instrument	29
4.2.6	Instrument validation	31
4.2.7	Scales	38
4.3	Method of analysis	39
4.3.1	Step 1: Internal consistency testing	41
4.3.2	Step 2: Descriptive statistical analysis of data	41
4.3.3	Step 3: Linear regression analysis	44
4.4	Research limitations	46
5	Chapter Five: Results	48
5.1	Introduction	48
5.2	Internal consistency	48



5.3	Sample description – Reponses	52
5.4	Descriptive statistics	52
5.4.1	The influence of a role model	52
5.4.2	Cognitive Style Indicator (COSI)	55
5.4.3	Subjective norms	58
5.4.4	Entrepreneurial interest	61
5.4.5	Entrepreneurial self-efficacy (ESE)	62
5.4.6	Entrepreneurial intent	64
5.5	Linear regression analysis	66
5.5.1	Result preparation	66
5.5.2	Statistical correlation	68
5.5.3	Model fit	69
5.6	Hypothesis testing	70
5.6.1	The influence of a role model	70
5.6.2	The cognitive style indicator	72
5.6.3	Subjective norms	74
5.6.4	Entrepreneurial interests	75
5.7	Analysis of results	77
6	Chapter Six: Discussion	79
6.1	Introduction	79
6.2	Dependant variable	79
6.2.1	Entrepreneurial intent	79



6.3	Moderator variable	83
6.3.1	Entrepreneurial self-efficacy	83
6.4	Independent variables	85
6.4.1	The influence of a role model	85
6.4.2	Cognitive style	89
6.4.3	Subjective norms	92
6.4.4	Entrepreneurial interests	94
7	Chapter Seven: Conclusion	98
7.1	Academic contribution	98
7.2	Recommendations	99
7.3	Further research	101
	References	103
8	Appendices	116
8.1	Appendix A	116
8.2	Appendix B	120



**List of tables**

Table 4.1: Questionnaire matrix (Independent variables)	30
Table 4.2: Questionnaire matrix (Dependent variables)	30
Table 4.3: Survey scale	39
Table 4.4 Summary of descriptive measures used	40
Table 5.1 Cronbach's alpha rule of thumb	49
Table 5.2 Cronbach's alpha and average inter item correlation	49
Table 5.3: The influence of a role model, summarized responses (n=148)	54
Table 5.4 COSI factor results (n=228)	56
Table 5.5 ESE table summarizing results from ESE constructs (n =223)	63
Table 5.6 Variable summary key	67
Table 5.7 Variable correlation summary	68
Table 5.8 Model fit	70
Table 6.1: Individual entrepreneurial intent scale descriptive (n=226)	80
Table 6.2: Descriptive statistics - influence of a role model (n =149)	86
Table 6.3: Response summary: Subjective norm (variable 1)	92
Table 6.4: Response summary: Subjective norm (variable 2)	93
Table 6.5: Eentreprenurial interest sample results (n = 226)	95

**Table of figures**

Figure 2.1: Three-dimensional cognitive style model	14
Figure 3.1: Factors influencing entrepreneurial intent	23
Figure 3.2 Research hypotheses in relation to study variables.	26
Figure 4.1: Exploratory statistics applied to data	44
Figure 5.1: Influence of a role model (n= 148)	53
Figure 5.2: 95% confidence limit comparison - Influence of role model (n = 148)	55
Figure 5.3: COSI histogram (n = 228)	56
Figure 5.4: 95% limit comparison - COSI	57
Figure 5.5: Subjective norm. Variable 1 (n= 214)	59
Figure 5.6: Subjective norm. Variable 2 (n= 214)	60
Figure 5.7: 95% confidence limit comparison - SN	60
Figure 5.8: Entrepreneurial interest. (n = 226)	61
Figure 5.9: ESE histogram (n = 223)	62
Figure 5.10: 95 % Limit comparison - ESE	64
Figure 5.11: Entrepreneurial intent substantive statements (n = 226)	65
Figure 5.12: Entrepreneurial intent distracter statements (n = 226)	66
Figure 5.13: Redefined study framework (Post results)	78

# 1 Chapter One: Introduction

## 1.1 Entrepreneurship

Economic growth across the globe is positively impacted by entrepreneurship, or the emergence of innovative new ventures. Entrepreneurship plays a significant role in job creation, establishing new markets and strengthening a country's competitive advantage due to its association with capital investment and profit orientation.

While entrepreneurship as an academic discipline is still relatively new, its origin can be traced back to the seventeenth century economist Richard Cantillon, an Irishman who borrowed the French term, *entrepreneur*, in an attempt to define the type of person who is willing to undertake a new venture (McStay, 2008).

A vast number of studies have been conducted over the years into the psychology of entrepreneurship, but research into the motivation and cognitions of entrepreneurs is an approach that attempts to understand more about the antecedents to entrepreneurial intention than the specific personality characteristics of entrepreneurs. Understanding these antecedents may assist in explaining why many young graduates decide to start a business even before they begin to search for an opportunity (Krueger, Reilly, & Carsrud, 2000).

The establishment of a new business requires individuals to make conscious choices and decisions and therefore is intentional by nature. It would seem logical that motivations behind the intentions could provide valuable insights into the type of individuals attracted to becoming entrepreneurs (McStay, 2008).

## 1.2 Background

Botswana has enjoyed one of the fastest growth rates in per capita income in the world since gaining independence in 1966, although it has slowed considerably due to the global economic recession since 2008. The economy's positive performance, however, is heavily reliant on the revenues generated from the mining sector, which accounts for over 40 per cent of the country's Gross Domestic Product (GDP) (Travel Document Systems, 2009).

Despite the country's strong economic performance, the Botswana population is approximately 1,991,000 and is growing at a rate of 1.937 per cent annually. On the downside, the government must deal with high rates of unemployment and poverty. Unemployment officially was 23.8 per cent in 2004, but unofficial estimates place it closer to 40 per cent (Central Intelligence Agency, 2009).

For an economy to combat poverty and unemployment, jobs need to be created through the expansion of existing enterprises or the start up of new ventures. Unemployment is a both a social and economic problem. It leads to reduced production, which cannot be recovered at a later stage. Socially, unemployment leads to lower living standards of those directly involved as well as the respective dependants (Botha et al., 2001).

An economy with high levels of poverty and unemployment cannot rely on revenue primarily generated by one sector and thus the importance of entrepreneurship should not be ignored.

As a result, the Botswana government and associated politicians are encouraging the Batswana (Motswana [singular] and Batswana [plural] is the terminology used when referring to citizens of Botswana) to start up new companies. The Citizen Entrepreneurial Development Agency (CEDA) has been established by the government to provide support in the form of financial funding based on the approval of a business plan (CEDA, 2009).

While knowledge about entrepreneurship can be taught in specifically designed programmes of study at university level, entrepreneurial success cannot be guaranteed though such knowledge alone. The courage to engage in entrepreneurship and the ability to succeed depends largely on the personal development and psychological maturity of individuals (Plattner, Lechaena, Mmolawa, & Mzingwane, 2009).

### **1.3 Research objectives**

The purpose of this research project is to understand whether final year students at the University of Botswana have the intention to pursue an entrepreneurial career. This study also aims to explore what motivates an individual to make such a decision. Entrepreneurial intention can be determined by analysing four independent variables:

- The influence of a role model
- Cognitive style
- Subjective norms
- Entrepreneurial interests

Furthermore, self-efficacy is analysed separately to establish whether the independent variables are related to self-efficacy, which in turn is associated with entrepreneurial intention.

#### **1.4 Research scope**

Shinnar, Pruett and Toney (2008) have argued that universities, and especially business schools, should prepare their students for an entrepreneurial career. In support, Volkman (2004) has suggested that although interest within this field is steadily increasing, most entrepreneurial education exists primarily within the walls of business schools.

Plattner et al. (2009) conducted a study at the University of Botswana, which was aimed at drawing attention to the need for psychological maturity before young people can begin their own business and succeed as entrepreneurs. It was concluded that all university programmes, regardless of discipline, should have an obligation and responsibility to prepare young people for professional careers so that they can find employment, or become self-employed.

As such, this research report engages fourth year business and philosophy students at the University of Botswana.

## 1.5 Research aim

The study conducted by Plattner et al. (2009) found that the majority of undergraduate students lacked a positive self-concept. The authors contended that students who lack self-efficacy cannot become successful entrepreneurs as courage to engage in such activities depends on personal development and psychological maturity. However, research has shown that entrepreneurial self-efficacy (ESE), which is an individual's belief that he or she can successfully launch an entrepreneurial venture, is a strong predictor of entrepreneurial intention, and ultimately, action (Bird, 1988; Boyd & Vozikis, 1994). ESE is a particularly important construct as it incorporates both personality and environmental factors. Therefore, it is possible to hypothesise that entrepreneurial self-efficacy is a construct that moderates such an intention. One can hypothesise that personality and environmental factors influence entrepreneurial intent. By placing focus firstly on personality factors, the literature has revealed that cognitive style and entrepreneurial interests influence self-efficacy and entrepreneurial intention (Boyd & Vozikis, 1994; Chen, Greene, & Crick, 1998; Lent, Lopez & Bieschke, 1993). Secondly, in terms of environmental or external factors, literature also supports the notion that role models and subjective norms have an influence on self-efficacy and entrepreneurial intention (Krueger, Reilly & Carsrud, 2000; Kolveried & Isaksen 2006).

More importantly, for the Botswana economy to combat unemployment and reduce its reliance on the revenues generated from diamond mining, the role of entrepreneurship within the economy cannot be underestimated. For a potential entrepreneur, especially one leaving a tertiary education institute, the role of intent is vital for the creation of an

entrepreneurial firm or entity (Krueger et al., 2000). Furthermore, theories of behaviour have alluded to the point that intention needs to be present for an individual to take up action on an opportunity or idea (Ajzen, 1991).

The current economic climate in Botswana requires the ignition of entrepreneurial ventures. The choice of an individual to embark on a start up venture requires intent. The aim of this study is to establish if and how the abovementioned internal and environmental constructs influence entrepreneurial intention of students at the University of Botswana. In addition, the study investigates self-efficacy and the moderating impact that it has on being an entrepreneur by analysing how role modelling, social persuasion and psychological states influence entrepreneurial intentions (Zhao, Seibert, & Hills, 2005).



## 2 Chapter Two: Literature review

### 2.1 Introduction

The literature discussed in this chapter defines the dependant variable, the moderator variable and independent variables that are analysed in this study. Entrepreneurial intent is the dependant variable, which may potentially be influenced by four independent variables, these being: the influence of a role model, cognitive style, subjective norms and entrepreneurial interests. It is important to note that these are not the variables that may influence entrepreneurial intention. The analysis of this study is aimed at establishing whether self-efficacy moderates the influence of the independent variables on entrepreneurial intent.

### 2.2 Entrepreneurial intent

Thompson (2009) has defined *entrepreneurial intent* as “a self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future” (p. 676). That point in the future may be sooner, later or even never. This may vary as a result of the circumstances or environmental factors to which an individual is exposed.

Krueger et al. (2000) asserted that firms or entities that are created outside the environment of formal employment begin with a process of planned behaviour in which the individual has intent to act on a specific opportunity. One may question whether intent exists if an individual encounters, and acts on, an unexpected entrepreneurial

opportunity. Tompson (2009) has contended that intent will eventually exist as motivational theories of behaviour suggest that an individual must have intention in order to take action on the opportunity (Ajzen, 1991).

Entrepreneurial intent has proven to be an important construct used in many studies that analyse entrepreneurship theory and research (Carr & Sequeira, 2007; Hmieleski & Corbett, 2006; Wilson, Kickul, & Marlino, 2007). According to Tompson (2009), entrepreneurial intent is not merely a proxy for entrepreneurship: it is a legitimate and useful construct in its own right and may be used as a dependant, independent and control variable. It is therefore with confidence that entrepreneurial intent is applied as a dependant variable in this study.

Existing work on entrepreneurship has suggested that new venture start-up is moderated and influenced by circumstances or environmental factors to which an individual is exposed. These include individual cognitions of new business opportunities (Choi & Shepherd, 2004; Mitchell, Smith, Seawright, & Morse, 2000), and broader environmental factors (Korunka, Frank, Lueger, & Mugler, 2003; Westlund & Bolton, 2003).

### **2.3 Entrepreneurial self-efficacy**

*Self-efficacy* can be defined as an individual's belief to successfully reach a goal as a result of their ability to produce designated levels of performance that exercise influence over their lives (Bandura, 2006). In addition, an individual's belief, or lack thereof, in self-efficacy can influence that individual to think in a positive or negative manner. Self-belief

also affects individual's goals and ability to manage life stressors, which ultimately affects his or her choices (Sequeira, Mueller, & McGee, 2007).

Sequeira et al. (2007) contended that individuals with high self-efficacy are more likely to express intentions and a desire to start a business. Barbosa, Gerhardt, and Kickul (2007) have found that a particularly important antecedent to new venture intention is entrepreneurial self-efficacy (ESE), which can be used to measure a person's belief in their ability to successfully launch a new venture. ESE also takes personality and environmental factors into consideration (Bird, 1988).

To link the independent variables more clearly to ESE, recent research has suggested that that an individual's ESE may be elevated through other interventions, such as training and education (Florin, Karri, & Rossiter, 2007). In terms of internal factors, McGee, Peterson, Mueller, and Sequeira (2007) asserted that different cognitive styles are associated with different types of ESE. This study does not explore the impact of role models or of subjective norms on ESE, but rather on entrepreneurial intent.

Bandura (1986) has suggested that the process of observing others (a role model) perform a specific task can engage an individual's interest and expectation and positively influence their own ESE. Sequeira et al. (2007) contended that social networks may increase the likelihood of intention and action when the desire to start up a business is regarded favourably and the individual receives 'moral' support.

Zhao et al. (2005) have found that ESE plays a mediating role among entrepreneurial intent, formal learning and entrepreneurial experience. The framework for this study was

based on this notion. One can hypothesise that ESE plays a mediating role between the independent variables and the dependant variable. Therefore, ESE has been used as the moderator of the influence of the independent variables on the dependant variable. As such, ESE has been defined as “a third variable that, when introduced into analysis alters or has a contingent effect on the relationship between an independent variable and a dependant variable” (Zikmund, 2003, p. 738). At this point, it is therefore assumed the impact of the independent variables will be moderated by ESE.

Factor analysis was applied to ESE to analyse whether a simple pattern of relationships exists among the variables. The statistical tool sought to discover whether the observed variables could be explained largely or entirely in terms of smaller variables called factors (Darlington, 2010). McGee et al. (2009) identified five entrepreneurial self-efficacy dimensions: (1) searching, (2) planning, (3) marshalling, (4) implementing people and (5) implementing financial. Five ESE constructs were found to represent 19 items. This structure is supported by Bagozzi, Yi and Phillips (1991) as the proposed items were loaded on specific constructs. In terms of dividing the 19 items into five dimensions, discriminate validity results were statistically insignificant ( $p > .05$ ), which resulted in items representing one construct and not another. As such, this study applied the same model with the five factors.

## 2.4 Independent variables

### 2.4.1 The influence of a role model

The process of observing others perform a specific task can engage an individual's interest and expectation about their own ability and capacity to complete a similar task, thereby creating an intention to do so (Bandura, 1986). It is important, however, to note that students specifically learn behaviours and attitudes from sources that they perceive as credible, and they then observe the consequences, whether positive or negative, brought about by such behaviours and attitudes (Kuehn, 2008).

The theory of reasoned action, developed by Ajzen and Fishbein (1980), holds that attitudes towards a behaviour are evaluated and the individual's perception of social pressure to engage, or not to engage, in a particular behaviour is predictive of behavioural intent.

Bygrave and Minniti, (2000) argued that it is favourable for entrepreneurial influences to come from an external environment in the form of role models or enduring community characteristics. It has been found that individuals entering an economy will create entrepreneurial ventures as opposed to other income-producing activities that are independent of preference and constraint.

The literature reviewed for this variable emphasised the importance of learning from external sources that are perceived as credible and favourable (Douglas & Shepherd, 2001; Krueger et al., 2000). An individual's interest in starting a business may be

increased as a result of interaction and discussion with an entrepreneurial role model, who can provide important insights into the nature of small firm ownership. More importantly, mentoring through employment provides further opportunity for the role model to interact with the individual and influence his or her career intentions. Van Auken, Fry, and Stephens (2006) have found that this influence is specifically strong during the early years of adulthood.

Studies have shown that between 35 and 70 per cent of entrepreneurs had role models (Scherer, Adams, Carley, & Wiebe, 1989). In this research study, the influence of a role model is an independent variable that is analysed to establish whether it influences entrepreneurial intent, and whether such an influence is moderated by ESE. Bandura (1986) has asserted that self-efficacy involves the conviction that one can successfully execute a desired behaviour. He also contended that an individual's interest, expectation, ability and capacity to perform a specific task is triggered by a process of observing others. In the case of entrepreneurial intent, Krueger et al. (2000) argued that intention is a better predictor of entrepreneurship than personality traits and external situations. Role models also affect entrepreneurial intent if they successfully influence an individual's attitude and belief about his or her perceived ability to successfully initiate a new venture.

Van Auken et al. (2006) conducted factor analysis on the 20 items included within the influence of a role model variable using factor loadings of .500. The result was the creation of six factors: (1) Personal involvement, (2) professional involvement, (3) mentoring, (4) employment, (5) observation and (6) discussions.

In conclusion, the research literature discussed has revealed that the influence of a role model construct is an independent variable that has historically proven to influence entrepreneurial intention. ESE encourages an individual to complete a specific task. Therefore, it is expected that the research findings of this study should support the literature that has been reviewed. The construct hypotheses are discussed in more detail in the Chapter Three.

### 2.4.2 Cognitive style

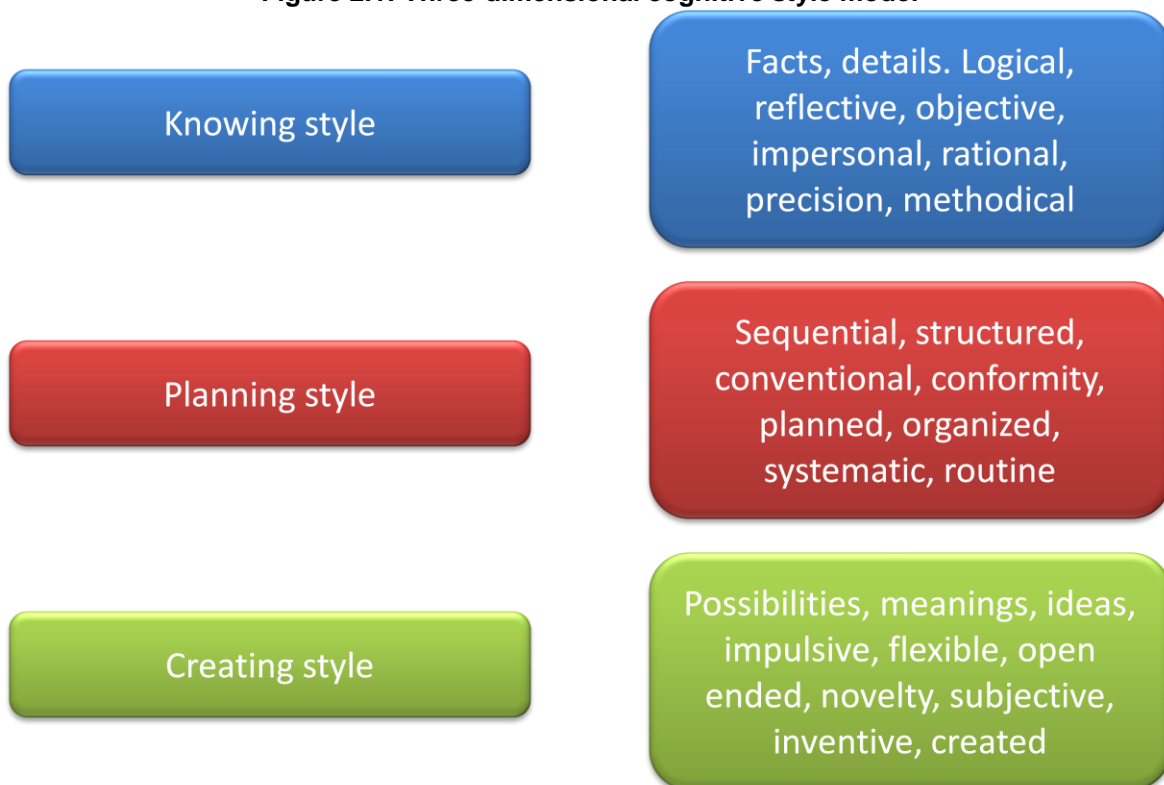
Mitchell et al. (2002) have defined *entrepreneurial cognition* as “the knowledge structures that people use to make assessments, judgements or decisions involving opportunity evaluation, venture creation and growth” (p. 981), which are essentially the same decisions that an entrepreneur would need to make on a daily basis.

Nickerson, Perkins, and Smith (1985) contend that two qualitatively different cognitive styles exist. The first cognitive style is commonly described by the terms: “analytical, deductive, rigorous, constrained, convergent, formal, and critical”. The second is described by the terms: “synthetic, inductive, expansive, unconstrained, divergent, informal, diffuse, and creative” (Cools & Van den Broeck, 2007: p. 362). Allison and Hayes (1996) referred to the second cognitive style as the analysis/intuition dimension. This came about because Allison and Hayes (1996) developed and validated the cognitive style index (CSI) as result of a number of theorists arguing that the dimensions of cognitive style can be organised within a unitary framework.

Using the CSI, Allison, Chell and Hayes, (2000) then found that individuals who exhibit entrepreneurial behaviour tend to score higher in the intuition pole of the intuition analysis dimension.

Cools and Van Den Broeck (2007) developed and validated the cognitive style indicator as a result of “extensive literature review and experience as organisational behaviour scholars working with people with different cognitive styles” (p. 363). Their model is multidimensional with three identified cognitive styles: (1) knowing, (2) planning and (3) creating as depicted in Figure 2.1.

**Figure 2.1: Three-dimensional cognitive style model**



Source: Cools & Van den Broeck, 2007



For the purpose of this study, individuals who express entrepreneurial intention would be expected to exhibit characteristics that would align to the creating style cognition. Cools and Van Den Broeck (2007) classified people with the creating style “...to be creative and like experimentation. They see problems as opportunities and challenges, they like uncertainty and freedom” (p. 364).

Heuristics (experience-based techniques for problem solving, learning and discovery) and biases are the result of intuitive systems and can be described as cognitive tools of human behaviour (Kahneman, 2003). Entrepreneurial cognition makes use of cognitive experience-based techniques that help in problem solving, learning and discovery, which enables fast decision making as well a reduction in the perception of risk (Simon, Houghton, & Aquino, 2000).

Supporters of the social cognitive theory have argued that an individual is able to exercise control over their own thoughts. This control is heavily influenced by how they view themselves. Self-efficacy has been found to be positively related to performance across a variety of work-related contexts (Stajkovic & Luthans, 1998). Specifically in the field of entrepreneurship, self-efficacy has been theoretically proposed to lead to entrepreneurial intentions and behaviour (Boyd & Vozikis, 1994), and has been empirically found to relate positively to entrepreneurial intention (Chen, Greene, & Crick, 1998).

An individual’s cognitive style therefore may have the potential to influence different preferences for different types of learning, knowledge gathering, information processing

and decision making. As information is processed, a sense of confidence is developed (self-efficacy) and it becomes more likely that the individual will partake in the activity (intention) (Barbosa, Gerhardt, & Kickul, 2007).

### **2.4.3 Subjective norms**

Subjective norms are a function of normative beliefs about the social expectations of significant others (e.g. spouses, parents, close friends, etc.) and an individual's motivation to comply with those significant others (Park, 2009). Applied to this study, subjective norms are the social pressures and influences that a student is faced with when deciding to embark on an entrepreneurial venture.

Subjective norms stem from the theory of reasoned action (Ajzen & Fishbein, 1980), which explains that behaviour is determined by intention, which in turn is determined by attitudes (toward performing the behaviour). Trafimow and Fishbein (1994) conducted a study whereby they tested whether the intention to exhibit certain behaviour would be influenced by subjective norms. Their findings revealed that participants had stronger intentions to perform the behaviour when significant others supported, rather than opposed, their decision.

Trafimow and Fishbein (1994) debated whether the participants would have focussed more on the opinions of those close to them as opposed to the referents who would otherwise be salient in the context of the specific behaviour under consideration. Chung (1985) pointed out that some referents (e.g. mother, father, spouse, boyfriend, girlfriend, etc.) are important irrespective of the behaviour under consideration, whereas other

referents become salient only with respect to specific behaviours and behavioural domains.

Kolveried and Isaksen (2006), provided supporting findings that subjective norms are significantly associated with intention, and specifically with self-employment intentions. Moreover, Ajzen's (2002) revised approach suggested that individuals are likely to have higher levels of entrepreneurial intent if they perceive that their family supports those actions. Morrison (2002) asserted that entrepreneurial behaviour that is positively and immediately supported is an important and necessary requirement for a new venture.

In terms of self-efficacy, Sequeira et al. (2007) suggested that social networks may increase the likelihood of intentions and behaviour. It is important to note, however, that when strong ties in the network are equipped to provide 'practical' support in the form of relevant business knowledge, skill or experience, the likelihood of entrepreneurial intentions and behaviour is diminished.

#### **2.4.4 Entrepreneurial interests**

Research conducted by Marlino and Wilson (2003) revealed that an important factor in terms of career choice of young individuals is job interest. Increased knowledge results in an increased interest and improved overall preparedness of an individual (Kourilsky, 1995; Dyer, 1994). Ultimately, interest in a specific sphere is dependent on the knowledge that the individual making the assessment has at their disposal.

In the context of this study, it is important to differentiate between career interest and entrepreneurial interest. Wilson, Marlino and Kickul (2004) concluded that the 'knowledge' needed by a future entrepreneur may be defined across three primary dimensions:

1. The presence of role models who impart their knowledge and prior career experience, illustrating that such a career is achievable and desirable, is required (Green & Pryde, 1990).
2. Knowledge of the basic 'facts' about starting or owning a business is important. Research has convincingly demonstrated that students in general demonstrate low levels of relevant business knowledge (Walstad & Kourilsky, 2004).
3. A third type of knowledge is closely related to the issue of raising perceptions of entrepreneurship as a career option. Specifically, this is the type of knowledge that allows young adults to decide whether having a potential career in the future is consistent with their values and goals.

The literature alluded to the point that entrepreneurial interest does not exist in isolation. Entrepreneurial interest may be influenced by the other independent variables (i.e. the influence of a role model, cognitive style and subjective norms) and as a result it is important to understand how entrepreneurial interest influences intent, and possibly more importantly in this context, if that same influence is moderated by ESE in students at the University of Botswana. Research conducted by Lent et al. (2003) and Bandura et al. (2001) closes this gap as their findings revealed that a strong relationship exists between self-efficacy and entrepreneurial interest.

Lent et al. (1994) however hypothesised that self-efficacy may not translate into interests unless individuals possess intention. An individual with a high perceived self-efficacy but low intent relative to a given activity may be less likely to develop an enduring interest in an activity, since the latter is seen as offering limited potential for reinforcement. The data relevant to the hypothesis of this study was too limited to analyse meta-analytically. However, Lent et al. (1993) concluded that intention explains a significant variance in academic course interest after the influence of self-efficacy was controlled. This suggests that a student at the university will gain confidence (self-efficacy) through the acquisition of knowledge via multiple channels; interest however requires a combination of self-efficacy and intent.

## 2.5 Chapter conclusion

It is necessary to be aware of the importance of the interplay between the independent variables and the resultant influence on entrepreneurial intent. The research literature explored for the purpose of this study, however, alluded to the importance of the role of ESE as a moderator.

In an effort to understand what influences the dependant variables, four independent variables were selected and can be summarised as: (1) the influence of a role model, which Bandura (1986) asserts may engage and influence an individual's interest and expectation about their own ability and capacity to complete a similar task; (2) entrepreneurial cognition, which is used to make assessments and decisions based on the evaluation of opportunity (Mitchell et al., 2002); (3) subjective norms, which are a

function of normative beliefs about the social expectations of significant others and (4) entrepreneurial interests, which have been found to be dependent on both ESE and intent (Lent et al., 1993).

ESE is a construct that is expected to moderate the influence of the independent variables on the dependant variable. The level of ESE of an individual determines how much confidence they have in themselves and to what extent their internal and environmental factors will influence their entrepreneurial intention.

In Chapter Three, the objective is to explore the hypothesis of entrepreneurial intention and impact that the independent variables are expected to have on the dependant variable, and how ESE moderates that influence.

### **3 Chapter Three: Research hypotheses**

#### **3.1 Introduction**

Plattner et al. (2009) found that 78.3 per cent of the final year students surveyed at the University of Botswana blamed the government and others if they were unable to find work. Lack of self-efficacy and external casual attribution are not suitable pre-conditions for entrepreneurship. As a result, the objective of this study is aimed at understanding whether students have entrepreneurial intention, how the four independent variables influence that intention and whether ESE moderates the influence that the independent variables exert on the dependant variable.

Research has revealed that the four selected independent variables have been found to influence entrepreneurial intent. The literature reviewed also disclosed that the strength of that relationship is moderated by ESE. In this chapter, the study's control variables and hypotheses are disclosed.

#### **3.2 Control variables**

The following have been included as control variables:

- Duration of study:

Shinnar et al. (2008) found students' learning duration had no significant impact on entrepreneurial behaviour intention or aspiration.

- Gender:

Zhao et al. (2005) contends that self-efficacy is not influenced by gender and therefore does not influence an individual's objective of becoming an entrepreneur. This is supported by Fischer, Reuber and Dyke (1993), who acknowledged that woman and men follow different thinking processes but that "[n]either the male nor the female mode of knowing is regarded as innately superior" (p. 154).

- Race:

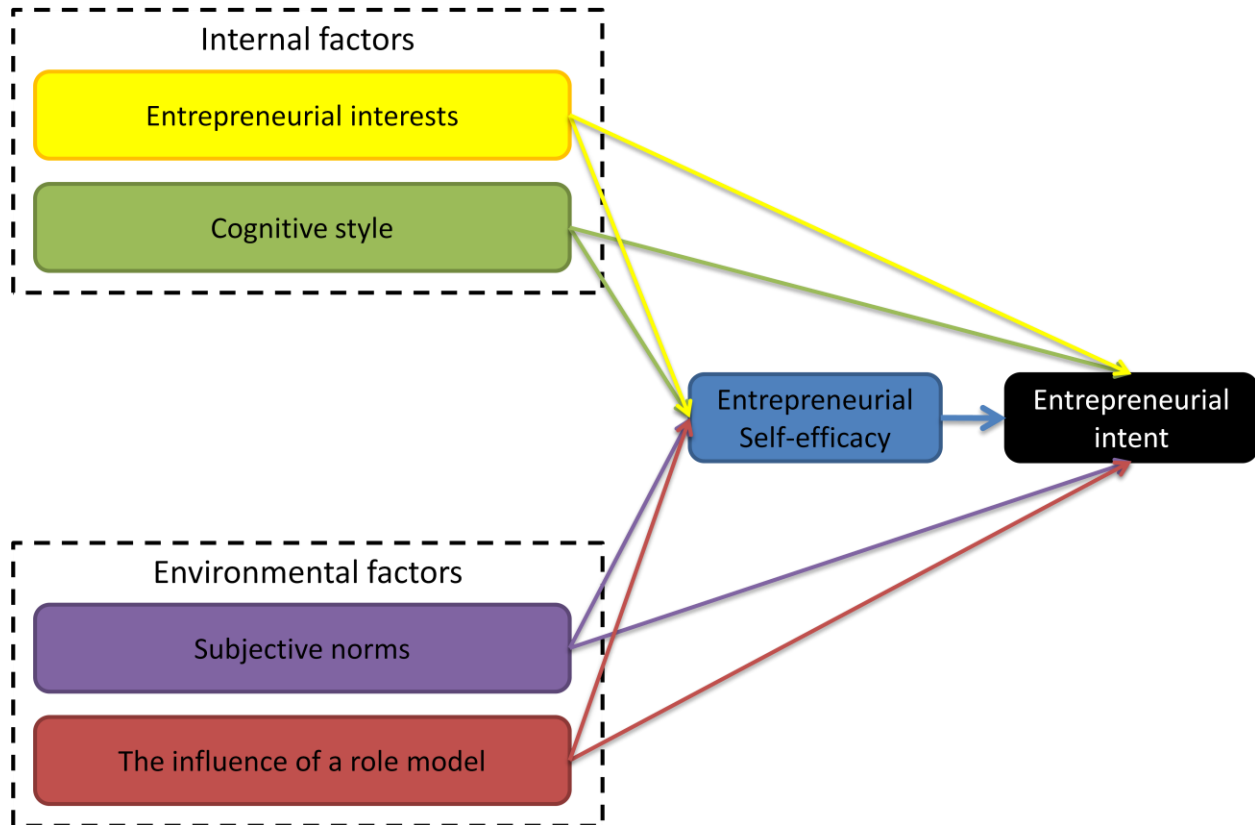
Köllinger and Minniti (2006) suggest that the difference between blacks and whites in attempting to embark on a business is due to the result of uncontrollable external constraints (e.g. the availability of financing, the lack of customer support). This paper analyses independent variables and the associated impact on students' entrepreneurial intention and therefore race has been included as a control variable.

### 3.3 Research hypotheses

Saunders, Lewis and Thornhill (2009) have defined *hypothesis* as "[a] testable proposition stating that there is a significant difference or relationship between two or more variables" and a "[t]estable proposition about the relationship between two or more events or concepts." (p. 593).

In this section, the objective is to hypothesise the possible influence that the independent variables exert on the dependant variable (see Figure 3.1) and whether that same influence is moderated by ESE.



**Figure 3.1: Factors influencing entrepreneurial intent**

### 3.3.1 The influence of a role model

Bandura (1986) emphasised that the influence of a role model is important in creating intent.

- Hypothesis 1a: The influence of a role model is positively related to entrepreneurial intent.

Krueger et al. (2000) argued that role models affect entrepreneurial intentions if they change attitudes and beliefs about a person's perceived ability to successfully initiate a new venture.

- Hypothesis 1b: Entrepreneurial self-efficacy significantly moderates the influence that a role model exerts on entrepreneurial intention.

### 3.3.2 Cognitive style

Three primary cognitive styles exist: (1) knowing style, (2) planning style and (3) creating style. Although an individual is expected to exhibit varying degrees of each style, this study hypothesises that individual who express entrepreneurial intention exhibit mostly characteristics that would align to the creating style cognition.

- Hypothesis 2a: The creating cognitive style is positively related to entrepreneurial intent.

As individuals process information, they develop a sense of how capable they are to engage in a course of action and how likely it is that they will engage in the action (Barbosa et al., 2007).

- Hypothesis 2b: Entrepreneurial self-efficacy significantly moderates the influence that the creating cognitive style exerts on entrepreneurial intention.

### 3.3.3 Subjective norms

Research conducted by Trafimow and Fishbein (1994) found that an individual's intention to conduct a certain behaviour would be influenced by subjective norms. Findings revealed that participants had stronger intentions to perform the behaviour when important others supported rather than opposed their decision.

- Hypothesis 3a: Positive subjective norms are positively related to entrepreneurial intent.

Sequeira et al. (2007) emphasised that social networks may increase the likelihood of intentions and behaviour when the intention of starting up a business is favourably looked upon and whereby 'moral' support to such a decision is given.

- Hypothesis 3b: Entrepreneurial self-efficacy significantly moderates the influence that subjective norms exert on entrepreneurial intention.

### 3.3.4 Entrepreneurial interests

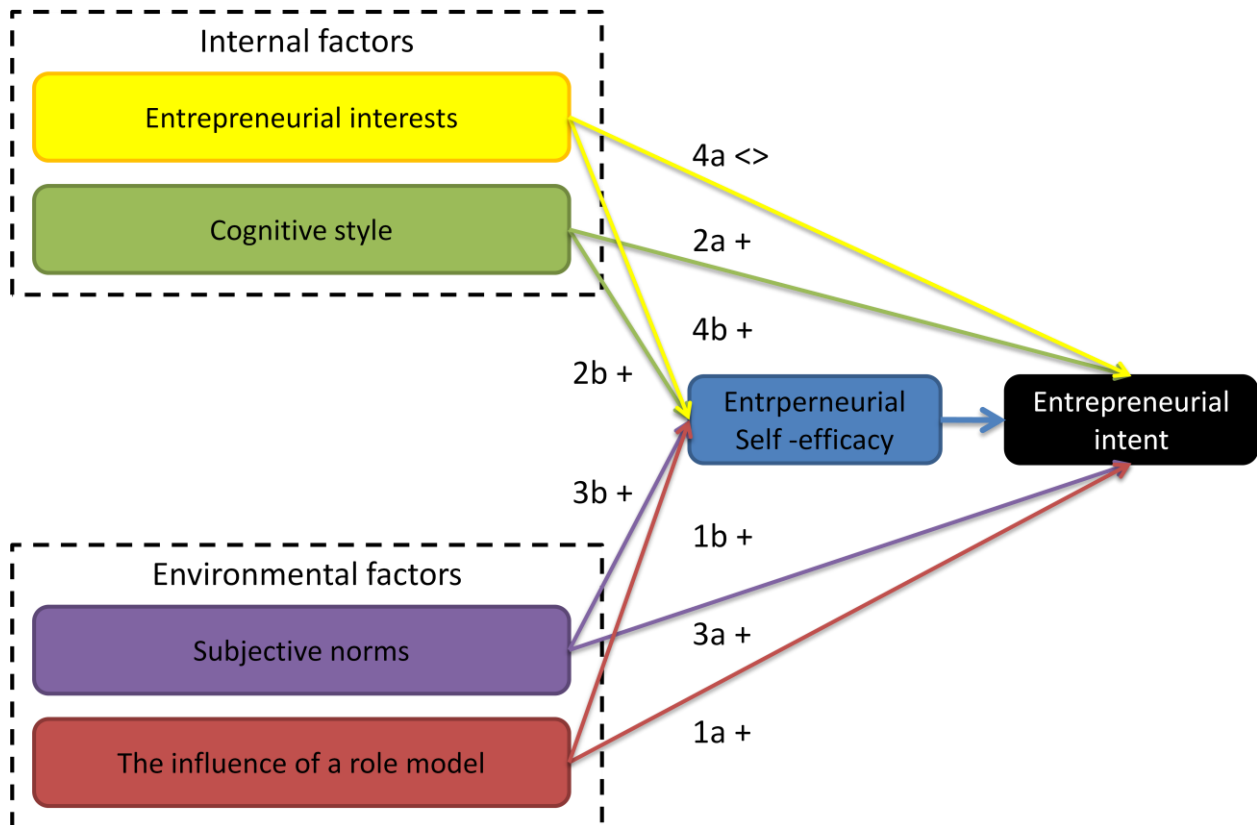
Lent et al. (1993) found that the results of their study indicated that intention explains a significant variance in academic course interest after the influence of self-efficacy was controlled. Assuming that the above theory is applicable within the current study, the hypotheses are:

- Hypothesis 4a: Entrepreneurial interests are not related to entrepreneurial intent.

- Hypothesis 4b: Entrepreneurial self-efficacy significantly moderates the influence that entrepreneurial interest exerts on entrepreneurial intention.

Figure 3.2 provides a summarised depiction of the study framework including the hypotheses.

**Figure 3.2 Research hypotheses in relation to study variables.**



## 4 Chapter Four: Research methodology

### 4.1 Introduction

The objective of Chapter Four is to disclose the research design, the method of analysis and the limitations of study. The outcome of such a study requires a carefully planned framework that explores and tests the eight stated hypotheses.

### 4.2 Research design

#### 4.2.1 Research strategy

The University of South Florida (University of South Florida, 2009) defined *explanatory research* as: “A style of research in which the primary goal is to understand the nature or mechanisms of the relationship between the independent and dependent variable” (para. 1). Explanatory research subjects the data to statistical tests, such as correlation, in order gain a clear view of the potential relationships that may exist. This study has been classified as explanatory research as the stated hypotheses attempt to understand how four independent variables influence self-efficacy and entrepreneurial intention.

#### 4.2.2 Unit of analysis

The unit of analysis is the responses obtained from the each student who participated in the survey. Individual student responses are considered as the appropriate unit of analysis as this study objectively explores the influence that (1) a role model, (2) a student’s cognitive style, (3) subjective norms and (4) entrepreneurial interests exert on

entrepreneurial intent. The unit of analysis enables the moderating effect of ESE to be measured.

### 4.2.3 Survey method and size

A *survey* is defined as a research technique in which information is gathered from a sample of people by use of a questionnaire or interview (Zikmund, 2003). In addition, Lewis et al. (2009) defined a survey as a research strategy that involves the structured collection of data from a sizable population. Although the term is often used to describe the collection of data using questionnaires, it can include other techniques, such as structured observation and structured interviews (Saunders et al., 2009). Due to the nature of the study, wherein fourth year students' entrepreneurial intent and self-efficacy has been analysed, a questionnaire proved to be the most effective tool.

Due to the movement of students attending different classes throughout the campus at different times, the cluster sampling method was utilised, whereby two strategically selected classes were requested to partake in the study. Zikmund (2003) referred to *cluster sampling* as “an economically efficient sampling technique in which primary sampling unit is not the individual element in the population, but a large cluster of elements” (p. 735).

The two classes that were included in the study were (1) Business Management (MGT 400) and (2) Sociology (SOC 424). The two classes were strategically selected because class attendance was in excess of 100 students and formed part of the syllabus for other

disciplines. For example, the MGT 400 was attended by students studying Business, Finance, Educational Management and Accounting.

The surveys were distributed on the 8<sup>th</sup> and 9<sup>th</sup> of August 2010. Three hundred surveys were printed, 268 surveys were distributed, 253 responses were received and 15 surveys were missing. Of the 253 surveys that were collected, 25 surveys were removed due to missing data and incorrect completion, which resulted in a final sample size of 228 responses. The recording of the data as well as the cleaning of the data took approximately 30 hours.

#### **4.2.4 Survey scope**

The survey scope included students who met the following criteria:

- They were in the fourth year of their undergraduate degree.
- They were enrolled in the MGT 400 or SOC 424 classes.

The survey scope excludes:

- Fourth year students attending other courses.

#### **4.2.5 Research instrument**

The survey consisted of seven sections; each variable consisted of several statements (items). The research instrument has been carefully considered and was aligned to the objectives of this study. Existing constructs have been used and modified to reduce the respondent bias. The constructs of the study are listed below:

The **independent variables** have been proposed and used by various sources as indicated in Table 4.1.

**Table 4.1: Questionnaire matrix (Independent variables)**

Independent variable	Research	Census section
<b>Influence of a role model</b>	(Van Auken, Fry, & Stephens, 2006)	7
<b>Cognitive style indicator</b>	(Cools & Van den Broeck, 2007)	3.1
<b>Subjective norms</b>	(Kolvereid & Isaksen, 2006)	4.1 & 5.1
<b>Entrepreneurial interests</b>	(Lent, Brown, Schmidt, Brenner, Lyons, & Treistman, 2003)	1

The **dependent variables** have been proposed and used by various sources as indicated in Table 4.2.

**Table 4.2: Questionnaire matrix (Dependent variables)**

Dependent variable	Research	Census section
<b>Entrepreneurial intent</b>	(Thompson, 2009)	3.2
<b>Entrepreneurial self-efficacy</b>	(McGee, Peterson, Mueller, & Sequeira, 2007)	2



#### 4.2.6 Instrument validation

##### *Entrepreneurial intent*

Thompson (2009) argued that whether or not an individual has entrepreneurial intent is not simply a “yes” or “no” question. Entrepreneurial intent is a matter of degree that ranges from a very low (effectively zero), to a very high, degree of personal, conscious conviction and planning. The measurement of entrepreneurial intent lends itself to effective assessment using multiple reflective item scales (Boyd & Vozikis, 1994; Krueger et al., 2000; Schriesheim et al., 1993; Davidsson & Klofsten, 2003).

The entrepreneurial intent measure created by Thompson (2009) followed the guidelines for scale construction and validation commonly used in management research to develop the content-valid, internally reliable, one-dimensional, criterion-valid and cross-culturally invariant metric of individual entrepreneurial intent (DeVellis, 2003; Hinkin, 1995; Spector 1992).

The original questionnaire contained a scale of six substantive items and four distracter items. The Cronbach's alpha coefficient of internal reliability was measured to be .89; hence the scale seems to have acceptable internal reliability. Furthermore, the scale produced a single component that explained 63.9% of the variance, thus strongly supporting the scales single dimensionality.

As a result of supporting literature and proven success, Thompson's (2009) entrepreneurial intent scale was included in the questionnaire. However, three

substantive (“saving money to start a new venture”, “learning about starting a new venture” and “intending to start up a new venture”) and three distracter items (“not searching for business start up opportunities”, “not reading books on how to start up a venture” and “not having plans to set up own venture”) were used that referred directly to the action of starting a business.

### ***Entrepreneurial self-efficacy***

ESE is viewed as a key antecedent to new venture intentions (Boyd & Vozikis, 1994; Kreuger & Brazeal, 1994). Many theorists have argued that ESE is best conceptualised as a multidimensional construct. However, the challenge is that the research has relied on limited dimensional or one-dimensional measures (Arenius & Minniti, 2005; Baum & Locke, 2004; Kristiansen & Indarti, 2004).

The individuals who completed the questionnaire have been classified as *nascent entrepreneurs*: individuals who have yet to start a business. Nascent entrepreneurs have been the subject of a number of empirical studies (Arenius & Minniti, 2005; Carter, Gartner, Shaver & Gatewood, 2003; Davidsson & Hinig 2003). Mcgee et al. (2007) has also asserted that previous attempts at measuring ESE suffer from three types of limitations: (1) failure to make a clear distinction between general self-efficacy (GSE) and ESE related tasks in venture creation, (2) failure to account for the multidimensionality of ESE and (3) failure to include nascent entrepreneurs in the sample.

To avoid the above mentioned challenges, the self-efficacy measure was created by defining tasks within a venture creation ‘process model’ recommended by Mueller and Goic (2003). The model divides entrepreneurial activities into four factors: (1) searching, (2) planning, (3) marshalling and (4) implementing.

A previous study that used this construct sampled 303 individuals, and analysis of the responses resulted in Cronbach’s alpha coefficient of internal reliability was measured to be above .80, which indicated a healthy level of reliability of each construct (McGee et al., 2007).

As a result, the ESE measure proposed by McGee et al. (2007) was included in the questionnaire. The scale, however, was changed from a scale of one (no confidence) through to five (complete confidence) to a scale of zero (no confidence) to 100 (complete confidence), as per Bandura’s recommendation for using scales to measure ESE (Bandura, 2006).

### ***Subjective norms***

The research measure of subjective norms was that used by Kolvereid and Isaksen (2006). To test “support”, the original measure asked individuals along a seven point scale if: (a) “my closest family”, (b) “my closest friends” and (c) “people closest to me” think that the respondent should not (=1) or should (=7) pursue a career of self-employment. To assess the construct of motivation, respondents were asked along a seven point scale (1 = Not at all to 7 = very much) about the extent to which they cared

about the opinion of (a) “my closest family”, (b) “my closest friends” and (c) “people closest to me” in their choice if employment status.

The analysis showed an averaged Cronbach’s alpha of .77, indicating a healthy level of reliability of each construct. Similar measures of subjective norms have been used in other studies (Ajzen & Fishbein, 1980; Ajzen & Driver, 1992), and the use of multi-item measures to assess subjective norm has been strongly recommended over less reliable single item measures (Armitage & Conner, 2001).

The subjective norm measure used by Kolvereid and Isaksen (2006) was used for the questionnaire of this study; however the scale was changed from one to seven to one (not at all) through to five (very much) so that the rating scales of the questionnaire remained consistent. In addition, for the motivation construct, instead of (a) “my closest family”, (b) “my closest friends” and (c) “people closest to me”, the questionnaire referred to (a) “your parents”, (b) “your sibling”, (c) “your close friend”, (d) “other relative” and (e) “your spouse”. The same was done in the case of “support”, but the option “your parents” was excluded as the influence from an external source was tested using the variable “the influence of a role model”.

### ***Influence of a role model***

The purpose of the “influence of a role model” construct was to collect information that could be used to make a significant contribution to the understanding of role-model/student interaction and entrepreneurial intention. Van Auken et al. (2006) developed a good measure based on the work of Krueger et al. (2000), Kuratko,

Hornsby and Naffziger (1997), Scherer et al. (1989), Carroll and Mosakowski (1987), Scott and Twomey (1988) and Bandura (1982).

The rating scale that the study used was one (strong negative influence) through to five (strong positive influence). Factor analysis was used to identify six independent factors: (1) personal involvement, (2) professional involvement, (3) mentoring, (4) employment, (5) observation and (6) discussions.

*Regression analysis* can be defined as “fitting an equation to a set of data in order to describe the relationship between variables” (Weiers, 2008, p. 849). This was used to examine the relationship between a respondent’s desire to own a business and the four independent factors. The results revealed that the greater the role-model/student interaction with regard to employment and discussion, the greater the interest in starting a business within the next 10 years, which evidently was the study’s independent variable. The remaining variables proved to be statistically insignificant (Van Auken et al., 2006).

The findings of Van Auken et al. (2006) provided insight into the impact of role models on the career thinking of students and so the construct has been included within the current study.

## **Cognitive style**

According to Allinson et al. (2002) and Bouckennooghe et al. (2005), cognitive styles are an excellent indicator of entrepreneurial attitudes. Cools and Van Den Broeck (2007) presented:

*Cognitive style researchers have traditionally focused on the distinction between analytic and intuitive thinking. However, results of empirical research on the relation between different cognitive style measures suggest that cognitive style is a complex variable with multiple dimensions (Beyler & Schmeck, 1992; Bokoros, Goldstein, & Sweeney, 1992). Riding (2000) suggested that cognitive style researchers should recognise and confirm the fundamental cognitive style dimensions within the extensive body of style labels” (p. 380).*

To effectively measure cognitive styles, Cools and Van Den Broeck (2007) identified a three-dimensional model that classified and grouped 13 individual characteristics into (1) a knowing style, (2) a planning style and (3) a creating style. For a test to be valid it must be related to conceptually similar measures (convergent validity) and unrelated to conceptually dissimilar constructs (discriminate validity) (Campbell & Fiske, 1959).

The cognitive style construct was developed as a psychometrically sound and convenient instrument with Cronbach’s alphas ranging from .73 to .85, proving the model has internal consistency. As a result, this study selected the cognitive style construct developed by Cools and Van Den Broeck (2007) and included it in the questionnaire.

### ***Entrepreneurial interest***

Interests promote cognised career choice goals (i.e. intentions, plan or aspirations to engage in a specific career direction), which ultimately increase the likelihood of choice actions (i.e. starting a business or a new venture) (Lent et al., 1994).

In 2003, Lent et al. (2003) researched the relation of contextual supports and barriers to choice behaviour in engineering majors by analysing a sample of 328 respondents. To test the construct of technical interest, an instrument was developed that asked participants to rate their interest in doing seven activities that related to science, technology, engineering and mathematics (STEM). Responses were obtained on a five point scale ranging from one (very low interest) to five (very high interest). The higher the average scores, the higher the interest in activities relating to STEM. The analysis of the results revealed that the construct had a Cronbach's alpha of .83, which indicated a healthy level of reliability. The measurement strategy was aligned to that used in prior social cognitive measures of math and science related interests, which have produced adequate reliability and supportive validity findings (Lent et al., 2001).

To measure entrepreneurial interest in the current study, the construct developed by Lent et al. (2003) has been modified by changing the questions of science STEM activities to those that related directly to entrepreneurship (i.e. "reading articles or books about engineering issues" was changed to "reading articles or books about entrepreneurship issues"). The construct contains nine statements that ask the

individual to rate their interest in each item on a scale of one (very low interest) through to five (very high interest).

#### **4.2.7 Scales**

The survey tool made use of the Likert scale, which has four specific characteristics. Firstly, any scale must contain multiple items that can be summated or combined. Secondly, each item must measure something that has an underlying, quantitative measurement continuum. For example, an attitude can vary from being very positive to very negative. Thirdly, each item has no 'right' answer, which makes the summated rating scale different from a multiple choice test. Lastly, each item in the scale is a statement and requires a response from the student, which best reflects their opinion or characteristic about the statement (Spector, 1992).

Subjective norms had an initial Likert scale that ranged from one to seven; however it has been modified to a Likert scale of one to five to ensure that there is consistency throughout the questionnaire. Students therefore would not become confused or despondent when completing the questionnaire. However, the scale for section two remained at a Likert scale of one to 100 as per Bandura's recommendation (Bandura, 2006).



The scales are depicted in Table 4.3:

**Table 4.3: Survey scale**

Section	Method	Rating scale
Section 1	Likert scale	1: Not at all – 4: Very much, 0: Not applicable
Section 2	Likert scale	1: No confidence – 100: Complete confidence
Section 3a	Likert scale	1: Strongly disagree – 5: Strongly agree, 0: Not applicable
Section 3b	Removed from the study as a result of poor response and confusion	
Section 4	Likert scale	1: Not at all – 5: Very much, 0: Not applicable
Section 5	Likert scale	1: Strongly disagree – 5: Strongly agree, 0: Not applicable
Section 6	Removed from the study as a result of poor response and confusion	
Section 7a	Choice	Yes/ No
Section 7b	Likert scale	1: Strongly disagree – 5: Strongly agree, 0: Not applicable

### 4.3 Method of analysis

The method of analysis was broken up into two steps: (1) the data underwent internal consistency testing, (2) the data underwent descriptive statistical analysis and (3) the data was then applied to exploratory statistics where regression analysis was conducted.

The method of analysis for the internal consistency was a calculation of the Cronbach's alpha and inter-item correlations. The *Cronbach's alpha* can be explained as the "average value of the reliability coefficients of all possible combinations of items if the

responses had been split into two half-tests” (Gliem & Gliem, 2003). However, for the circumstances of the current study, inter-item correlations needed to be calculated as Cronbach’s alpha increased with longer scales, while inter-item scales did not (Gliem & Gliem, 2003). This study used eight different measures when analysing the descriptive statistics of the data collected. The measures are summarised in Table 4.4:

**Table 4.4 Summary of descriptive measures used**

<b>Measure</b>	<b>Measure description</b>
Mean	The measure of central tendency, the arithmetic average
Standard deviation	A quantitative index of a distribution’s spread or variability.
Variance	A measure of variability or dispersion.
Mode	A measure of central tendency; the value that occurs most often
Median	A measure of central tendency that is the midpoint
n	The sample size; a count of the number of responses
95% Confidence Limit	The limit wherein 95% of the responses will lie from the median
Cooper Z test	Test statistic that provides a measure of the amount of agreement, or disagreement, in the sample

Source: Zikmund, 2003

Step three used regression analysis, which measured the relationship between the independent variables and the dependant variable as well as the moderation effect of ESE, if any. *Regression analysis* is “a technique that attempts to predict the values of a continuous, interval-scaled or ratio-scaled dependant variable from the specific values of the independent variable” (Zikmund, 2003, p. 740).

#### **4.3.1 Step 1: Internal consistency testing**

The Cronbach's alpha's and inter-item correlation averages were calculated and tabulated for each variable to measure the internal consistency.

#### **4.3.2 Step 2: Descriptive statistical analysis of data**

The data attained for each of the six variables underwent the following initial manipulation and analysis:

##### ***Entrepreneurial intent***

The substantive items were measured from one (strongly disagree) through to five (strongly agree). The three distracter items have been recoded and measured accordingly.

The sample responses were subjected to analysis whereby the scale mean standard deviation, mode, variance, the Cooper Z statistic and the upper and lower 95% confidence limits were calculated to attain the fit of the results.

### ***Entrepreneurial self-efficacy***

The efficacy items were measured from zero (no confidence) through to 100 (complete confidence).

The sample responses were divided into four factors and then subjected to analysis whereby the scale mean, standard deviation, mode, variance, the Cooper Z statistic and the upper and lower 95% confidence limits were computed.

### ***Subjective norms***

The subjective norms construct used a rating scale of one (not at all) through to five (very much).

The sample responses were subjected to analysis whereby the scale mean, standard deviation, mode, variance, the Cooper Z statistic and the upper and lower 95% confidence limits were calculated.

### ***Influence of a role model***

The construct had a qualifying question, "Do you have a role model?" If the participant did not have a role model, they were not being required to complete the question. However if they had, the construct had been designed using a rating scale of one (extremely negative) through to five (extremely positive). The sample responses were subjected to analysis whereby the eight descriptive statistics tools were applied.

### ***Cognitive style***

The cognitive style construct used a rating scale of one (strongly disagree) through to five (strongly agree).

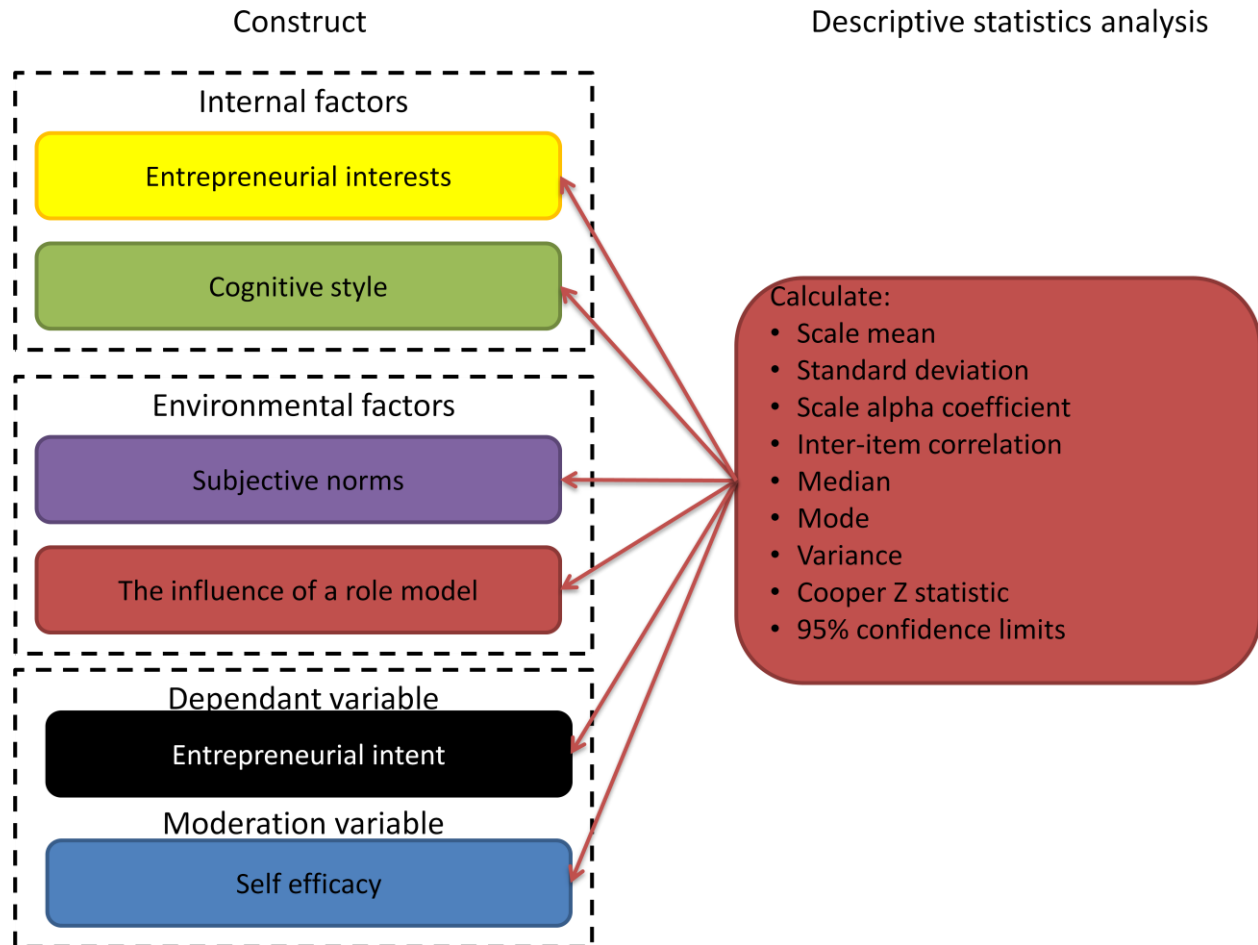
Again, the sample responses were subjected to analysis whereby the eight descriptive statistics tools were applied.

### ***Entrepreneurial interest***

The entrepreneurial interest construct used a rating scale of one (not at all) through to five (very much).

The sample responses were subjected to the same descriptive statistics as the previous variables.

Figure 4.1: Exploratory statistics applied to data



### 4.3.3 Step 3: Linear regression analysis

Step three had two stages, firstly to establish whether a correlation exists between the independent variables, dependant variable and the moderator variable. The second stage calculated the correlation between the variables using linear regression analysis.

*Correlation* is defined as “the extent to which two variables are related to each other” (Saunders et al., 2009, p. 589). The purpose for the applying correlation analysis is to provide an alternative test to the sample to offer insight into whether a common trend

exists between the dependant variable, independent variables and the moderator variable. Analysis and recommendations, however, have been based on the linear regression results.

Regression analysis was been selected as the regression coefficient enables an assessment of the strength of the relationship between a numerical dependant variable and one or more numerical independent variables (Saunders et al., 2009). Linear regression has been used in this study as the statistical measure with three key outputs. Firstly, R Squared and ANOVA significance, which measures whether the model fits the data and the likelihood of any results occurring by chance. *R Squared* can be defined as “a statistical measure of how well a regression line approximates real data points”. *ANOVA* can be defined as “a statistical test to determine the probability that the values of numerical data for three or more independent samples or groups are different” (Saunders et al., 2009, p. 587)

Secondly, the statistical significance ( $p$ ) was calculated to measure the significance of the correlation between the independent variables and the dependant variable. Lastly, the unstandardised coefficient beta ( $B$ ) measures the correlation of the relationship of the independent variables on the dependant variable as well as the moderation correlation of ESE. Correlation is analysed only when the relationship is statistically significant.

The null hypothesis ( $H_0$ ) has been either rejected or failed to have been rejected based on whether the relationship between the variables being analysed is statistically significant ( $p < .05$ ). Tabulated results have been included in the Appendix B.

#### 4.4 Research limitations

Limitations based on the intended scope and design of the research inquiry must be acknowledged:

- The survey was conducted in the last 20 minutes of the SOC 424 and MGT 400 courses and as a result a number of the students could have been rushed to complete the questionnaire and therefore may not have paid sufficient attention or may have answered incorrectly.
- The limitations of a questionnaire apply namely to the response and non-response bias. The main challenge was to avoid an extremity bias, whereby responses were either strongly related or strongly non-related, and no neutral responses were attained. The result was a data bias.
- There was potential for deliberate falsification. A student could potentially provide misrepresentative answers in order to appear entrepreneurial and to conceal accurate information.
- Social desirability bias could have occurred in which an individual makes either a conscious or subconscious decision to answer the questionnaire in a specific manner as a result of wanting to create a favourable impression or to 'save face'.





- To gain a deeper understanding of the entrepreneurial intention of students in Botswana, it would have been beneficial to distribute the questionnaire to graduating students at the other universities in Botswana. However, time and manpower constraints did not allow for this.

## 5 Chapter Five: Results

### 5.1 Introduction

The objective of Chapter Five is to disclose the findings of the study around the hypotheses that were stated in Chapter Three. As disclosed in Section 4.3, the results have been classified into three steps. Firstly, the Cronbach's alpha question was explored to establish the internal consistency of each of the research questions. Secondly, the responses were descriptively analysed, which can be defined as a "generic term for statistics that are used to describe variables" (Saunders et al., 2009, p. 591). The last step placed the data under ordinal regression analysis, which aimed to establish whether ESE moderates the effect of the independent variables on entrepreneurial intention.

### 5.2 Internal consistency

As discussed in Chapter Four, the questionnaire used for this study measured seven variables by asking students to rate sub-statements. Questions one, three, four, five and seven used a scale from one through to five. Question two, however, used a scale from zero (no confidence) through to 100 (complete confidence) as recommended by Bandura. As a result of the size of the Cronbach's alpha being influenced by the number of items in the scale and the mean inter-item correlation, George and Mallery (in Gliem and Gliem, 2003) provided the following rule of thumb regarding Cronbach's alpha depicted in Table 5.1:

**Table 5.1 Cronbach's alpha rule of thumb**

<b>Cronbach's alpha rule of thumb</b>	
X > .9 : Excellent	X > .6 : Questionable
X > .8 : Good	X > .5 : Poor
X > .7 : Acceptable	X > .4 : Unacceptable

Source: George and Mallery, 2003

In this study, the Cronbach's alpha and inter-item scales are depicted below in Table 5.2:

**Table 5.2 Cronbach's alpha and average inter item correlation**

<b>Measure</b>	<b>Cronbach's alpha</b>	<b>Average Inter-item correlation</b>
Entrepreneurial interest	.871	.428
Entrepreneurial self-efficacy	.907	.477
— Searching	.913	.729
— Planning	.486	.303
— Marshalling	.893	.737
— Implement people	.948	.753
— Implement financial	.934	.829
Cognitive style indicator	.914	.376
— Knowing style	.805	.507
— Planning style	.839	.430
— Creating style	.821	.402
Entrepreneurial intent	.635	.235
— Reverse statements	.647	.379
— Pro statements	.652	.387



Subjective norm (Employment)	.837	.502
Subjective norm (New venture)	.737	.416
Role model	.941	.437
— Personal involvement	.742	.489
— Professional involvement	.772	.457
— Mentoring	.781	.543
— Employment	.757	.503
— Observation	.737	.391
— Discussion	.642	.397

Gliem and Gliem (2003) have suggested that the Likert scale proves to be the most effective and most used measure when gathering information in the social sciences and business sectors. The reason is that the information collected pertains to attitudes, emotions, opinions, personalities and the description of an environment.

Question 3.2 (“Intend to start up a new venture in the future”) posed a challenge as it included a conditional statement that if rated four or above, the respondent was required to complete the subsequent four questions that required either a “yes” or “no” answer. However, if the respondents rated the question with a score of three or below, they were required to go directly to the next section of the questionnaire. As a result, it was not possible to calculate a Cronbach’s alpha.

Analysis of the results shows that the four conditional questions were poorly answered with many respondents being confused both on the conditions to complete the answer

as well as the scale; as a result the conditional statements have been removed from the study.

Question 7.2 was also based on a conditional response that required respondents to rate the influence of a role model on a Likert scale of one (extremely negative) through to five (extremely positive) if students had answered “yes” to question 7.1 (“Do you have a role model?”). As a result, the Cronbach's alpha and average inter-item correlation was calculated on the “yes” responses only.

Despite the two conditional questions, and according to the George and Mallery's (2003), rule of thumb of a Cronbach's alpha of .8 indicating a good internal consistency, two constructs were found to have “excellent” internal consistency, two constructs were found to have “good” internal consistency and one construct was found to have an “acceptable” internal consistency.

The statistical analysis of the raw data was performed using the Statistical Package for the Social Sciences (SPSS) 17.0. Once collected, the data was cleaned to remove any respondents that did not meet the qualifying criteria. In addition, respondents who did not correctly answer the survey or failed to complete a minimum of four of the six questions were removed from the sample as per the recommendation of Hair et al. (1998)

### 5.3 Sample description – Responses

The distribution of surveys in class resulted in a response rate of 94%, the usable response rate however was 85%. Of this total, 59% of the responses received were from the MGT 400 class, the remaining 41% were received from the SOC 424 class. The sample consisted primarily of black students with the remaining being Caucasian (2%), Indian (1%) and Coloured (1%). Interestingly, only 37% of the candidates' surveyed were male.

### 5.4 Descriptive statistics

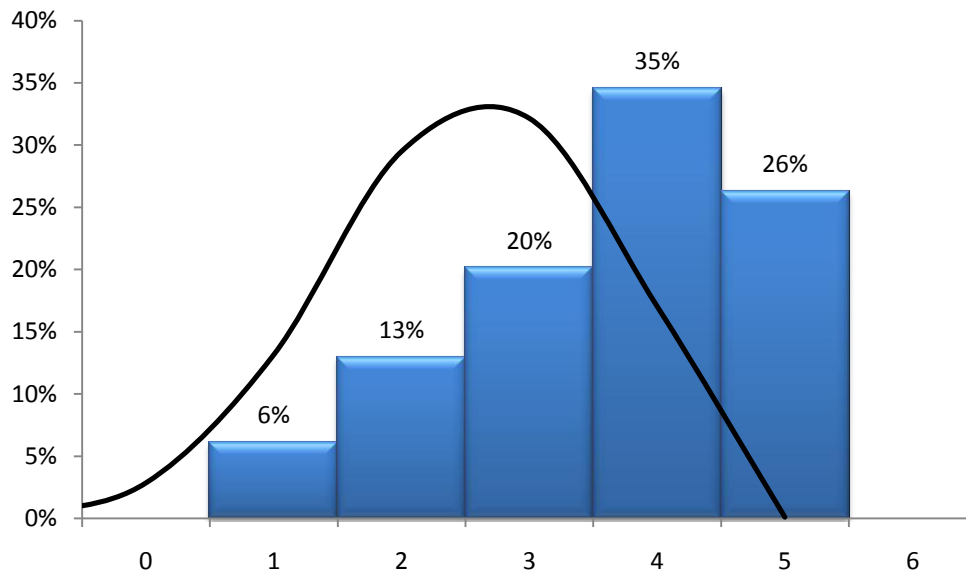
#### 5.4.1 The influence of a role model

Question 7.1 asked respondents if they have a role model, if answered “yes” then they would complete question 7.2. If they answered “no”, respondents were required not to complete any more questions and were excluded from the analysis of the influence of a role model variable. One hundred and forty eight respondents answered “yes” to the question indicating that 65% of the sample had role models.

Statistical analysis calculated a mean of 3.661 resulting in many of the respondents perceiving their role models as having a neutral influence on them. The 95% confidence limit lies within 3.286 and 4.037, which indicates that many respondents felt that their role models exerted a positive influence. The Cooper Z test result is 4.889, which shows the respondents were in agreement in their responses. Interestingly, there was disagreement about two specific statements: (1) “paid you to do minor tasks for them at

work when you were 10-15 years old” and (2) “hired you in their organisation or company when you were in high school or college” (see Figure 5.1).

**Figure 5.1: Influence of a role model (n= 148)**



The construct has been designed to test six specific categories of influence that a role model may exert upon the respondent: (1) influence through personal involvement, (2) influence through professional involvement, (3) mentor influence, (4) influence through employment, (5) observational influence and (6) influence through discussion. The results have been tabulated in Table 5.3

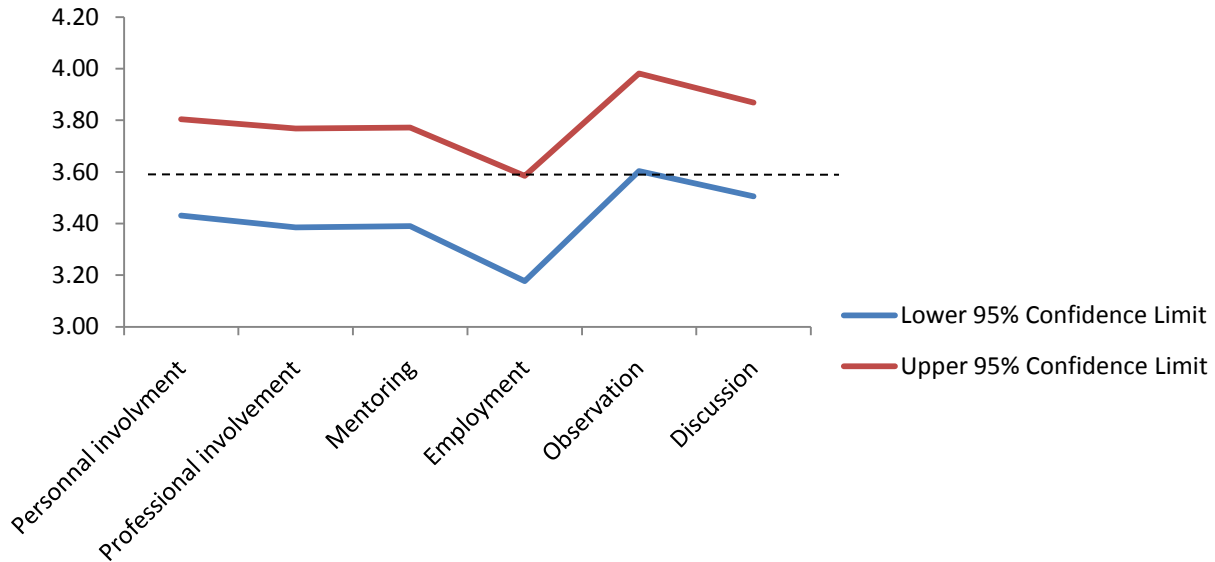
Table 5.3: The influence of a role model, summarized responses (n=148)

	Mean	Mode	Standard deviation	Median	Cooper Z	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Personal involvement	3.618	4	1.147	4	4.526	3.431	3.804
Professional involvement	3.576	4	1.179	4	4.350	3.385	3.768
Mentoring	3.581	4	1.177	4	4.341	3.389	3.772
Employment	3.381	4	1.253	4	2.682	3.177	3.584
Observation	3.792	4	1.165	4	6.022	3.603	3.981
Discussion	3.687	4	1.119	4	5.145	3.505	3.869

Figure 5.2 illustrates that the influence of a role model through employment is different to the influence through observation. The remaining categories have similar responses, which is supported by the Cooper Z test scores and the standard deviations.



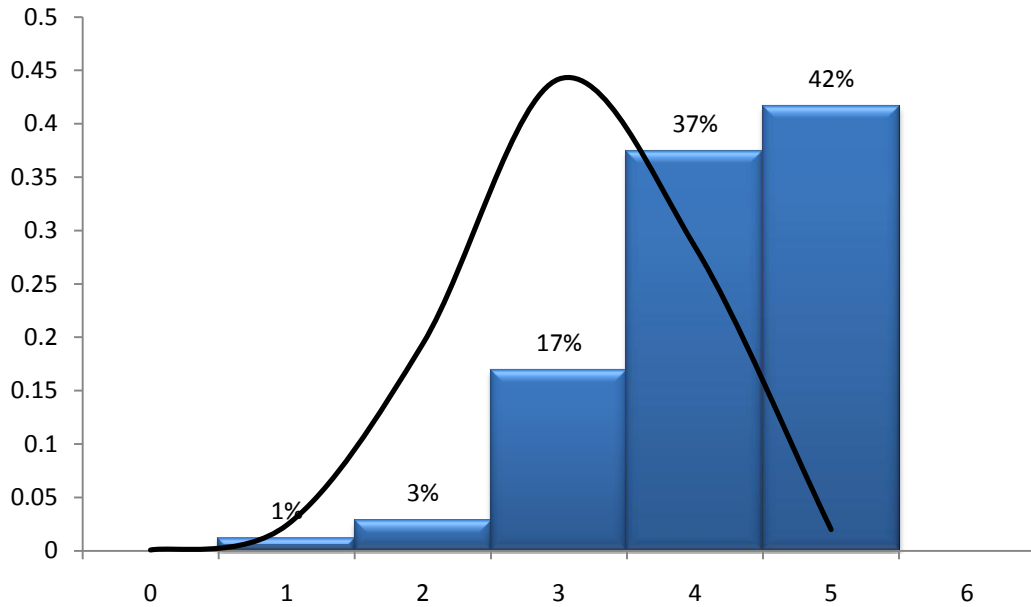
**Figure 5.2: 95% confidence limit comparison - Influence of role model (n = 148)**



### 5.4.2 Cognitive Style Indicator (COSI)

The COSI construct was measured on a Likert scale of one (strongly disagree) through to five (strongly agree). As shown in Figure 5.3, analysis of the responses reveals a mean of 4.152 with a standard deviation of .890, which indicates that many of the responses are located near the median of 4. At a 95% confidence level, responses range between 4.036 and 4.268. The Cooper Z test result is 12.240, indicating that the responses of the sample are homogenous.

**Figure 5.3: COSI histogram (n = 228)**



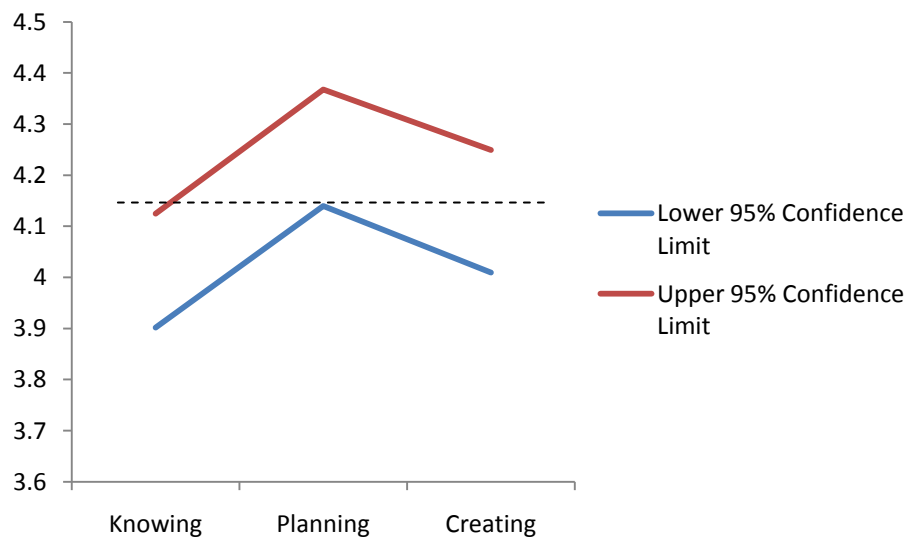
The COSI construct aims to establish which cognitive style was more predominant in the responses. The COSI measures three specific styles: (1) the knowing style, (2) the planning style and (3) the creating style. Analysis of the three styles is tabulated below in Table 5.4.:

**Table 5.4 COSI factor results (n=228)**

	<b>Mean</b>	<b>Mode</b>	<b>Standard deviation</b>	<b>Median</b>	<b>Cooper Z</b>	<b>Lower 95% Confidence Limit</b>	<b>Upper 95% Confidence Limit</b>
Knowing	4.013	4	0.853	4	10.748	3.902	4.125
Planning	4.254	5	0.873	4	13.352	4.14	4.368
Creating	4.129	5	0.916	4	11.981	4.01	4.249

Although the Cooper Z test results show that the responses of all three cognitive styles are homogenous, the responses of the planning cognitive style are more in agreement than the other two styles. Figure 5.4 illustrates the difference in 95% confidence limits of the three cognitive styles; the dotted line shows that the knowing style and the planning style responses differ and their respective normal distribution curves do not overlap. However, no overlap exists between the creating style and both the knowing style and planning style.

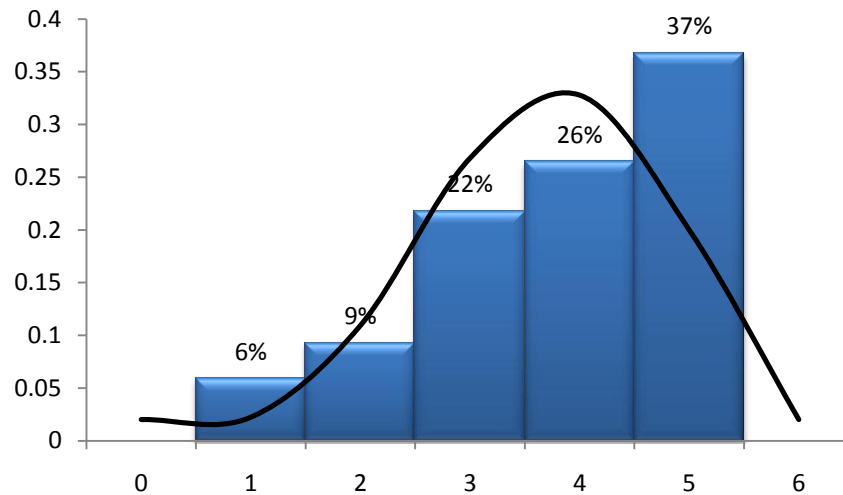
**Figure 5.4: 95% limit comparison - COSI**



### 5.4.3 Subjective norms

The subjective norms variable consists of two parts as per the study completed by Kolvereid and Isaksen (2006). Firstly, the participants were asked to what extent they care about the opinion of those close to them about their choice of employment using a rating a scale of one (not at all) through to five (very much). The second part of the construct asked the participants to indicate the opinion of those close to them regarding the choice to pursue a new venture by using a rating scale one (extremely negative) through to five (extremely positive). The two questions have been analysed individually.

The first section has a mean of 3.790, which indicates that the respondents believe that the individuals that are close to them (parents, siblings, close friends, relative and spouse's) exhibit average care for their choice of employment. The results have a standard deviation of 1.199 and a Cooper Z test score of 7.925, indicating that there is strong agreement among the participants of this study. The 95% confidence limit is 3.628 and 3.951, which further supports the findings and indicates that support from those close to the participants borders marginal care. Interestingly, the Cooper Z score for support from other relatives is 1.54, which is below 1.96, and indicates that respondents are undecided about the statement (see Figure 5.5).

**Figure 5.5: Subjective norm. Variable 1 (n= 214)**

The data for the second section resulted in a mean of 3.695 with a standard deviation of 1.010, indicating that the people close to the respondents (siblings, close friends, other relatives and spouses) have a neutral opinion regarding the choice of the participant to start a new venture. The 95% confidence limit is between 3.546 and 3.843, which indicates that the opinions are bordering positive. The Cooper Z test score of 6.652 indicates that the responses are homogenous (see Figure 5.6).

**Figure 5.6: Subjective norm. Variable 2 (n= 214)**

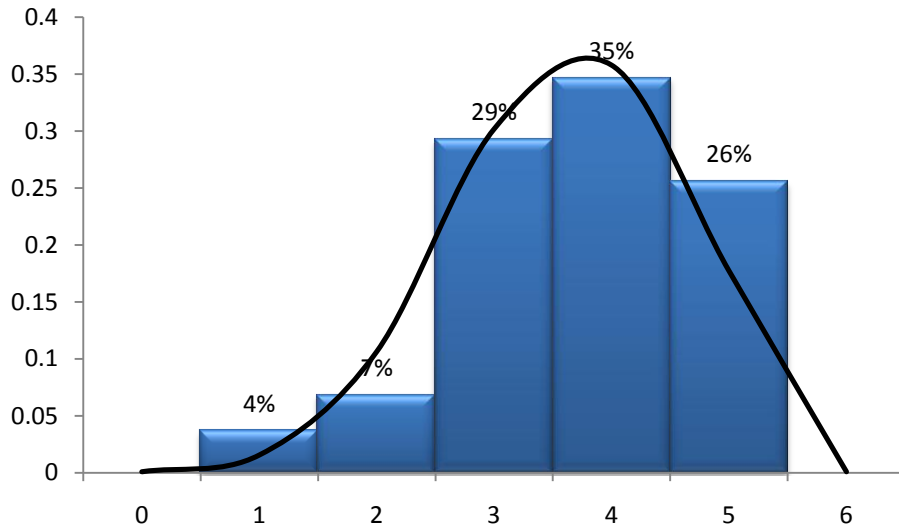
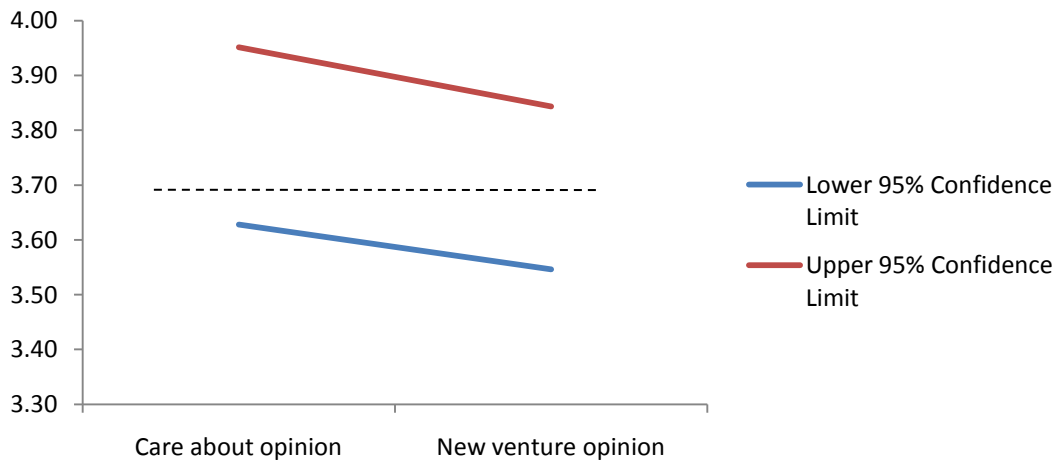


Figure 5.7 shows that, at a 95% confidence limit, the two sections do not overlap indicating that the responses of the two sections are similar.

**Figure 5.7: 95% confidence limit comparison - SN**

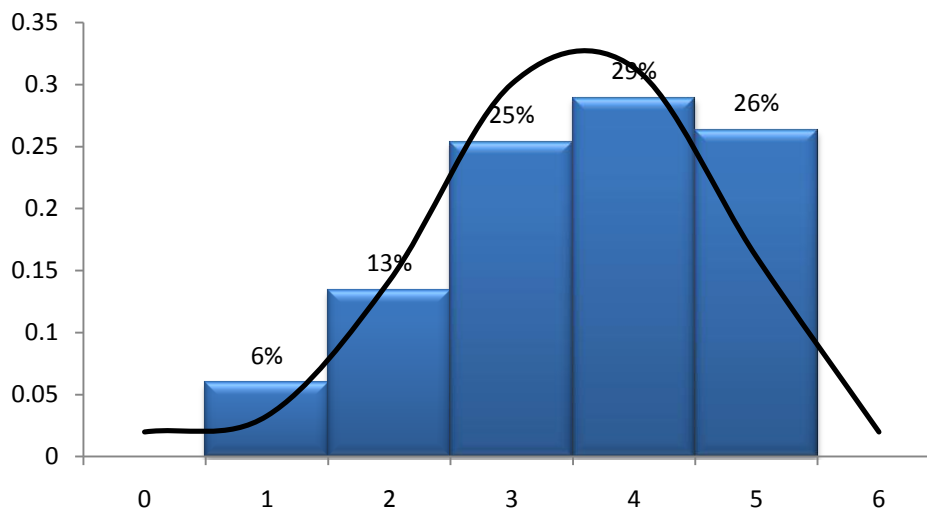


#### 5.4.4 Entrepreneurial interest

Looking at Figure 5.8, results illustrate that the majority of the sample has marginal entrepreneurial interest with most of the respondents selecting “four” (marginal) as their response. The mean, however, is 3.560, which favours the sample as a whole showing some form of entrepreneurial interest.

The standard deviation for the variable is 1.188, which indicates that the majority of the responses fall within 4.747 and 2.372. At a 95% confidence level, the responses lie within 3.404 and 3.715.

Figure 5.8: Entrepreneurial interest. (n = 226)

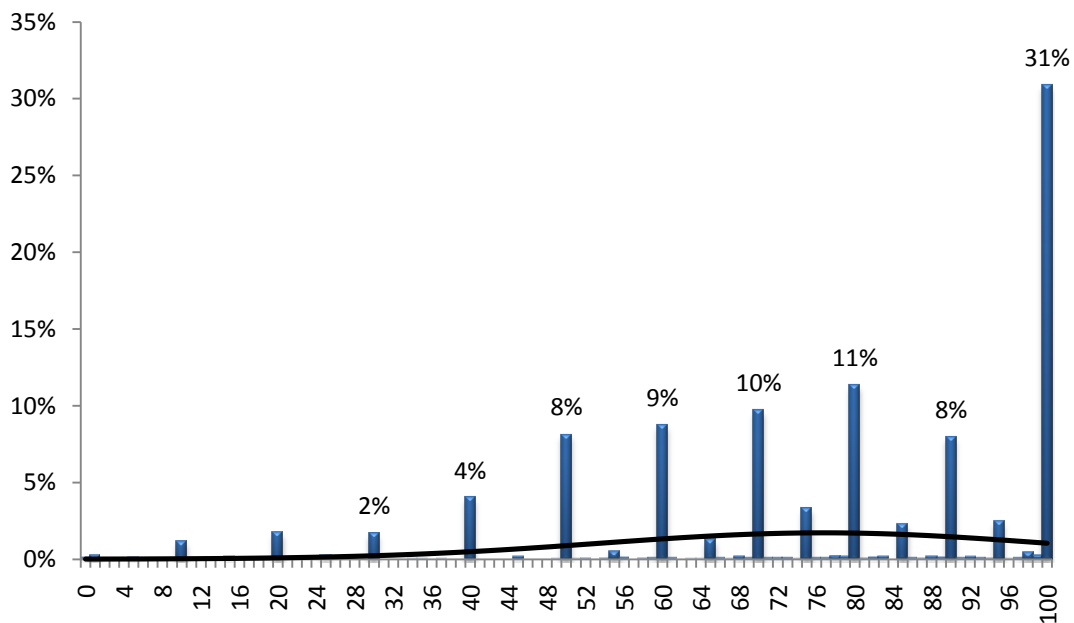


The Cooper Z test result is 5.190, which is more than 1.96, indicating strong agreement among the sample.

### 5.4.5 Entrepreneurial self-efficacy (ESE)

As shown in Figure 5.9, the ESE measure has been graded on a Likert scale from zero (no confidence) through to 100 (complete confidence), which has resulted in a higher standard deviation of 23.197. As a result, the distribution curve is wide. The mean for the ESE construct as a whole is 76.767, which is indicative of the participants having a favourable ESE. The most common response for the measure is 100, which is complete confidence in a specific activity. At a 95% confidence level, the average response lies within 73.706 and 79.828. The Cooper Z test result is 13.073, which indicates that the responses within the sample are homogenous.

Figure 5.9: ESE histogram (n = 223)





As discussed in the literature review of Chapter Two, the ESE construct has been designed to measure ESE in five specific factors, (1) searching, (2) planning, (3) marshalling, (4) implement people and (5) implement financial.

**Table 5.5 ESE table summarizing results from ESE constructs (n =223)**

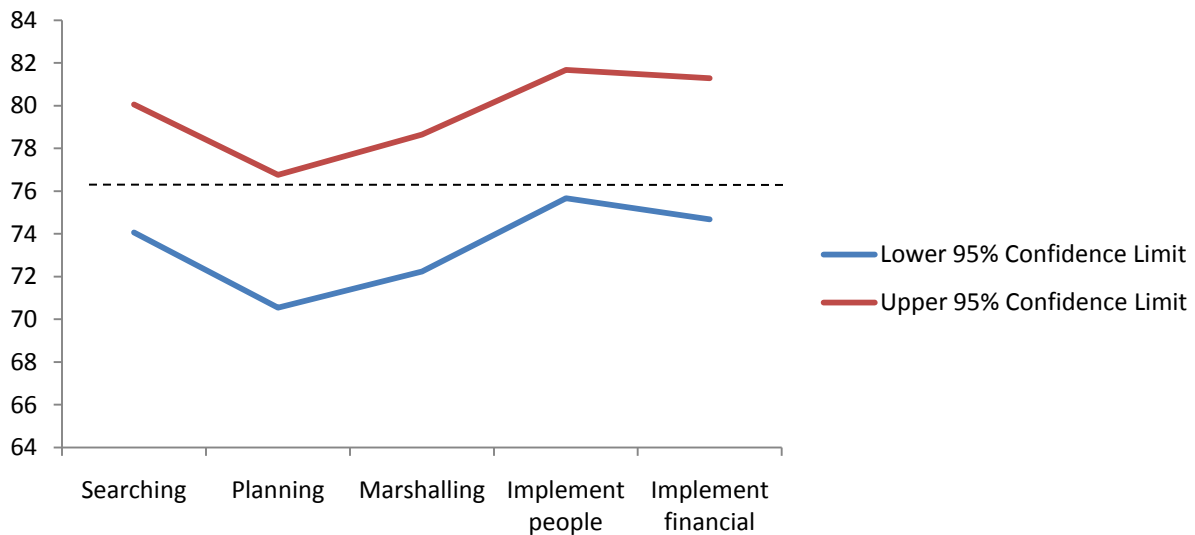
	<b>Mean</b>	<b>Mode</b>	<b>Standard deviation</b>	<b>Median</b>	<b>Cooper Z</b>	<b>Lower 95% Confidence Limit</b>	<b>Upper 95% Confidence Limit</b>
Searching	77.057	100	22.692	80	13.451	74.063	80.052
Planning	73.645	100	23.126	75	11.414	70.536	76.754
Marshalling	75.436	100	23.772	80	12.362	72.233	78.640
Implement people	78.672	100	22.440	80	13.993	75.669	81.674
Implement financial	77.982	100	24.431	89	13.651	74.682	81.282

Table 5.5 illustrates the results of the analysis of the ESE of the students in the sample. Analysis of the results reveals that, on average, the respondents favour ESE more so with activities that involve (1) implementation with regard to people requirements (mean = 78.672), (2) implementation with regard to financial management activities (mean =

77.982) and (3) searching for or brainstorming new ideas (mean = 77.057) over marshalling (mean = 75.437) and planning (mean = 73.645)

Figure 5.10 illustrates the difference between the 95% confidence limits of the five constructs of ESE. The observation is that, because the two lines do not overlap at any point, the responses of the five variables do not differ to a large extent as all the normal distribution curves do overlap

**Figure 5.10: 95 % Limit comparison - ESE**



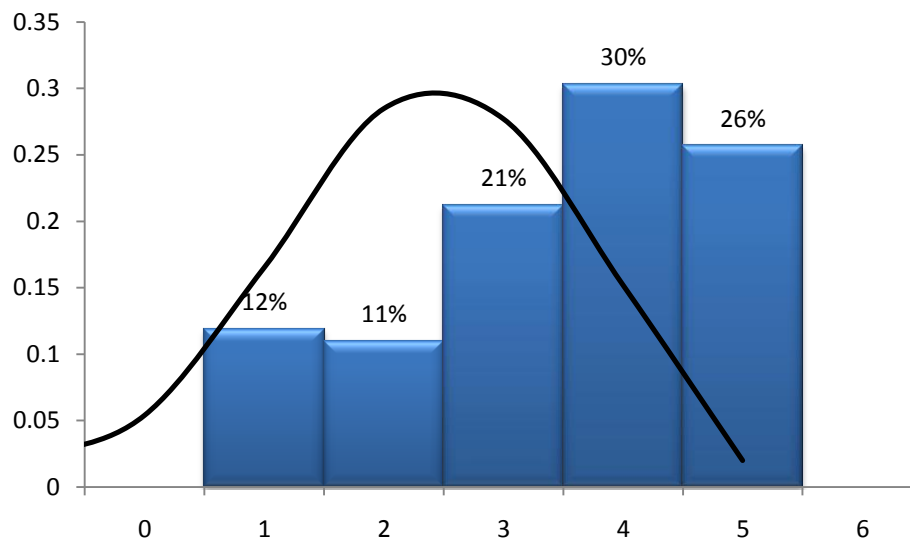
### 5.4.6 Entrepreneurial intent

For the purpose of descriptive statistics, the entrepreneurial intent construct has been separated into two categories: (1) substantive items and (2) distracter items.

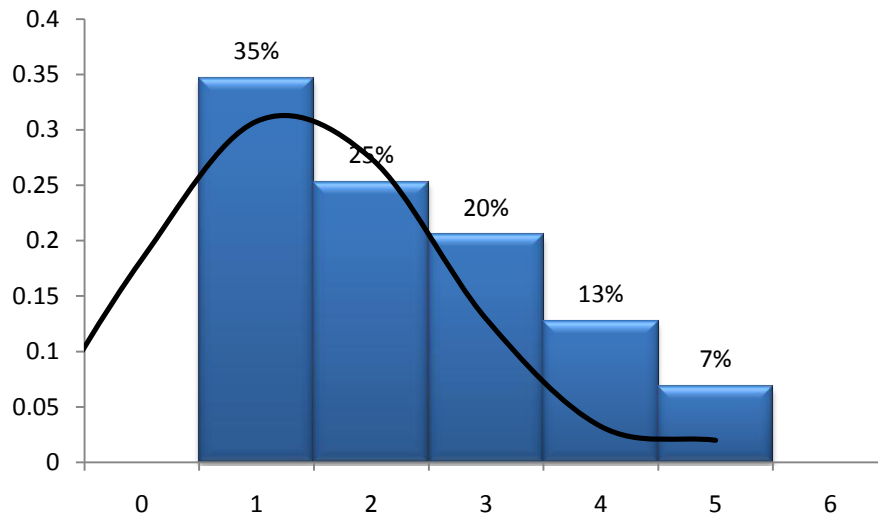
Figure 5.11 shows that the data retrieved from the statements that were pro-entrepreneurial intention had a mean of 3.452, which indicates that the participants tend

to have marginal entrepreneurial intention. The Cooper Z result is more than 1.96 at 2.605, which shows that the responses of the sample are homogenous. At a 95% confidence level, the responses range between 3.279 and 3.626.

**Figure 5.11: Entrepreneurial intent substantive statements (n = 226)**



In terms of the reversal questions of the entrepreneurial intent variable, the data provides a 95% confidence limit of 2.154 and 2.483, which favours the respondents having entrepreneurial intention. The sample mean is 2.318, the standard deviation 1.256 and the Cooper Z score of -7.057 indicates sample disagreement for the distracter statements (see figure 5.12).

**Figure 5.12: Entrepreneurial intent distracter statements (n = 226)**

## 5.5 Linear regression analysis

Regression is a statistical tool that predicts the behaviour of a dependant variable based on the independent variable. Linear regression analyses and adjusts the values of slope and intercept to find the line that best predicts one variable from another (Weiers, 2008).

Linear regression analysis has been applied to measure the relationship between the independent variables and the dependant variable (entrepreneurial intent) and whether that same relationship is moderated by ESE.

### 5.5.1 Result preparation

Prior to linear regression analysis, the data was subjected to further manipulation. To ensure the tables did not become cluttered, the variables have been abbreviated.

### ***Data manipulation***

After internal consistency testing, the data was further filtered and the sample mean for each of the six variables was calculated. In addition, the sample means were calculated for the factors in the “ESE”, “cognitive style indicator” and “the influence of a role model” variables.

In addition, the distracter items of the “entrepreneurial intent” variable were recoded as per the process followed by Thompson (2009). The distracter items were recalibrated from one (strongly disagree) through to five (strongly agree) to five (strongly disagree) through to one (strongly agree)

The linear regression was conducted on the sample once the above data manipulation had taken place.

### ***Variable summary key***

For purposes of graphic simplicity, the variables have been abbreviated as follows in Table 5.6:

**Table 5.6 Variable summary key**

<b>Variable</b>	<b>Abbreviation</b>
Entrepreneurial intent	Ent Inte.
Entrepreneurial interest	Ent intr.
Entrepreneurial self-efficacy	ESE

Cognitive style indicator	COSI
Subjective norms (Measure 1)	SN1
Subjective norms (Measure 2)	SN2
The influence of a role model	RM

### 5.5.2 Statistical correlation

The variable correlation results show that the dependant variable (entrepreneurship intent) and the moderator (entrepreneurial self-efficacy) have statistically significant positive correlation to the “entrepreneurial interest”, “entrepreneurial self-efficacy” and “cognitive style indicator” variables. Interestingly, the “influence of a role model” variable has a statistically significant correlation to entrepreneurial interest only (see Table 5.7)

Table 5.7 Variable correlation summary

		Correlations						
		Ent intr.	ESE	COSI	Ent inte.	SN1	SN1	RM
Ent intr.	Pearson Correlation	1	.435**	.543**	.360**	.118	.229**	.204*
	Sig. (2-tailed)		.000	.000	.000	.081	.001	.021
	N	226	221	226	225	218	212	129
ESE	Pearson Correlation	.435**	1	.356**	.299**	.104	.046	.143
	Sig. (2-tailed)	.000		.000	.000	.131	.508	.105
	N	221	223	223	222	214	209	129
COSI	Pearson Correlation	.543**	.356**	1	.251**	.145*	.274**	.157
	Sig. (2-tailed)	.000	.000		.000	.032	.000	.074
	N	226	223	228	227	219	213	130



Ent inte.	Pearson Correlation	.360**	.299**	.251**	1	.047	.117	.088
	Sig. (2-tailed)	.000	.000	.000		.489	.088	.320
	N	225	222	227	227	218	212	130
SN1	Pearson Correlation	.118	.104	.145*	.047	1	.550**	.044
	Sig. (2-tailed)	.081	.131	.032	.489		.000	.621
	N	218	214	219	218	219	209	127
SN1	Pearson Correlation	.229**	.046	.274**	.117	.550*	1	.063
	Sig. (2-tailed)	.001	.508	.000	.088	.000		.486
	N	212	209	213	212	209	213	123
RM	Pearson Correlation	.204*	.143	.157	.088	.044	.063	1
	Sig. (2-tailed)	.021	.105	.074	.320	.621	.486	
	N	129	129	130	130	127	123	130

### 5.5.3 Model fit

Four linear regression models were applied, firstly to measure the influence of the independent variables on the dependant variable ( $p = .002$ ), then to measure the moderation effect of ESE with regard to the influence of the independent variables on the dependant variable ( $p = .000$ ), thirdly to measure the influence of the COSI factor “creative style” and its influence on the dependant variable ( $p = .000$ ) and lastly to measure the moderation effect of ESE on the “creative style” factor and the entrepreneurial intent ( $p = .000$ ).

Although each of the regression models is statistically significant, on average each model explains 17.1% of the variance of the responses, which may potentially be

attributed to the noise of external influences not measured within this study (see Table 5. 8).

**Table 5.8 Model fit**

Regression test	R	R square	Sig.
1	0.463	0.214	.002
2	0.47	0.221	.000
3	0.349	0.122	.000
4	0.358	0.128	.000

## 5.6 Hypothesis testing

The hypotheses have been rejected or have failed to be rejected based on the results of the four regression models that were run. The results have been included in the appendix B in Table 5.6.1, Table 5.6.2, Table 5.6.3 and Table 5.6.4.

### 5.6.1 The influence of a role model

- Hypothesis 1a: The influence of a role model is positively related to entrepreneurial intent.
- Hypothesis 1b: ESE moderates the influence that a role model exerts on entrepreneurial intention.



### ***Hypothesis 1a***

#### **Statistical result**

**H<sub>0</sub>:** The influence of a role model has no statistically significant influence on entrepreneurial intent.

**H<sub>1</sub>:** The influence of a role model is positively related to entrepreneurial intent.

The first linear regression model was applied to test hypothesis 1a whereby the age and race variables were controlled. Results show that no statistically significant influence exists between the “influence of a role model” and the dependant variable “entrepreneurial intent ( $p = .702$ ). Therefore, the result fails to reject the null hypothesis ( $H_0$ ) as no statistically significant ( $p < .05$ ) correlation exists (see Table 5.6.1).

### ***Hypothesis 1b***

#### **Statistical result**

**H<sub>0</sub>:** ESE does not have a statistically significant moderation effect on the influence of “the influence of a role model” on “entrepreneurial intent”.

**H<sub>1</sub>:** The influence of a role model is positively related to entrepreneurial intent.

The second linear regression model was applied to test hypothesis 1b whereby the ESE variable was controlled. Results show that ESE has no statistically significant influence on the influence between the “influence of a role model” and the dependant variable

“entrepreneurial intent” ( $p = .649$ ). Therefore, the result fails to reject the null hypothesis ( $H_0$ ) as no statistically significant ( $p < .05$ ) moderation effect exists (see Table 5.6.2).

### 5.6.2 The cognitive style indicator

- Hypothesis 2a: The creating cognitive style is positively related to entrepreneurial intent.
- Hypothesis 2b: The ESE moderates the influence that the creating cognitive style exerts on entrepreneurial intention.

#### *Hypothesis 2a*

#### **Statistical result**

**H<sub>0</sub>:** The creating cognitive style has no statistically significant influence on entrepreneurial intent.

**H<sub>1</sub>:** The creating cognitive style is positively related to entrepreneurial intent.

The third linear regression model was applied to test hypothesis 2a whereby the age and race variables were controlled. Results show that a statistically significant influence exists between the “creating cognitive style” and the dependant variable “entrepreneurial intent” ( $p = .000$ ). Therefore, the result rejects the null hypothesis ( $H_0$ ) in favour of  $H_1$  that the creative cognitive style has a statistically significant influence on entrepreneurial intent (see Table 5.6.3).

The creative cognitive style has a unstandardised Beta (B) of .318, which indicates magnitude of influence for each unit of change within the dependant variable.

### ***Hypothesis 2b***

#### **Statistical result**

**H<sub>0</sub>:** ESE has no statistically significant moderation effect on the influence that the creating cognitive style exerts on entrepreneurial intention.

**H<sub>1</sub>:** ESE partially moderates the influence that the creating cognitive style exerts on entrepreneurial intention.

The fourth linear regression model was applied to test hypothesis 2b whereby the ESE variable was controlled. Results illustrate that ESE exerts a statistically significant influence over the relationship between the “creating cognitive style” and the dependant variable, “entrepreneurial intent”, ( $p = .005$ ). Therefore, the result rejects the null hypothesis ( $H_0$ ) in favour of  $H_1$  that ESE moderates the influence that the “creative cognitive style” has on “entrepreneurial intent” (see Table 5.6.4).

The model has an unstandardised Beta (B) of .267, which indicates that ESE is influences 26.7% of the relationship between the independent and dependent variables.

### 5.6.3 Subjective norms

- Hypothesis 3a: Positive subjective norms are positively related to entrepreneurial intent.
- Hypothesis 3b: The ESE moderates the influence that subjective norms exert on entrepreneurial intention.

Subjective norms was tested using two variables; the results of both cadres have been included in the following analysis.

#### *Hypothesis 3a*

#### **Statistical result**

**H<sub>0</sub>:** Positive subjective norms have no statistically significant influence on entrepreneurial intent.

**H<sub>1</sub>:** Positive subjective norms are positively related to entrepreneurial intent.

The first linear regression model was applied to test hypothesis 3a whereby the age and race variables were controlled. Results show that no statistically significant influence exists between the two “subjective norms” variables and the dependant variable “entrepreneurial intent” (variable 1  $p = .385$ ; variable 2  $p = .886$ ). Therefore, the result fails to reject the null hypothesis ( $H_0$ ) as no statistically significant ( $p < .05$ ) correlation exists. See Table 5.6.1.

### ***Hypothesis 3b***

#### **Statistical result**

**H<sub>0</sub>**: ESE has no statistically significant moderation effect on the influence that subjective norms exert on entrepreneurial intention.

**H<sub>1</sub>**: ESE moderates the influence that subjective norms exert on entrepreneurial intention.

The second linear regression model was applied to test hypothesis 3b whereby the ESE variable was controlled. Results show that ESE has no statistically significant influence on the relationship between either of the “subjective norm” variables and the dependant variable “entrepreneurial intent” (variable 1  $p = .586$ ; variable 2  $p = .888$ ). Therefore, the result fails to reject the null hypothesis ( $H_0$ ) as no statistically significant ( $p < .05$ ) moderation effect exists (see Table 5.6.2).

#### **5.6.4 Entrepreneurial interests**

- Hypothesis 4a: Entrepreneurial interests are not related to entrepreneurial intent.
- Hypothesis 4b: ESE moderates the influence that entrepreneurial interest exerts on entrepreneurial intention.

### ***Hypothesis 4a***

#### **Statistical result**

**H<sub>0</sub>:** Entrepreneurial interests have a statistically significant influence on entrepreneurial intent.

**H<sub>1</sub>:** Entrepreneurial interests are not directly related to entrepreneurial intent.

The first linear regression model was applied to test hypothesis 4a whereby the age and race variables were controlled. Results show that no statistically significant influence exists between the “entrepreneurial interest” and the dependant variable “entrepreneurial intent” ( $p = .508$ ). The current hypothesis is inversely stated; therefore the result rejects the null hypothesis ( $H_0$ ) as no statistically significant ( $p < .05$ ) correlation exists (see Table 5.6.1).

### ***Hypothesis 4b***

#### **Statistical result**

**H<sub>0</sub>:** ESE has no statistically significant moderation effect on the influence that “entrepreneurial interest” exerts on “entrepreneurial intention”.

**H<sub>1</sub>:** ESE moderates the influence that entrepreneurial interest exerts on entrepreneurial intention.

The second linear regression model was applied to test hypothesis 4b whereby the ESE variable was controlled. Results illustrate that ESE exerts a statistically significant influence over the relationship between “entrepreneurial interest” and the dependant variable “entrepreneurial intent” ( $p = .009$ ). Therefore, the result rejects the null hypothesis ( $H_0$ ) in favour of  $H_1$  that ESE moderates the influence that “entrepreneurial interest” has on “entrepreneurial intent” (see Table 5.4.4.2).

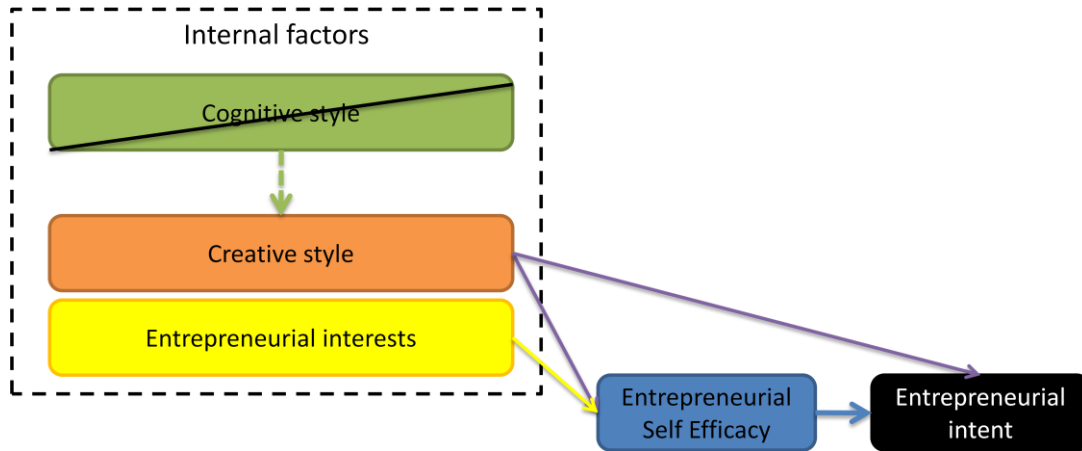
The model has an unstandardised Beta (B) of .234, which indicates that ESE moderates 23.4% of the relationship between the independent and dependent variables.

## 5.7 Analysis of results

The four linear regression models have supported three of the eight hypotheses. The model therefore can be re-defined after attaining the results whereby environmental variables (“the influence of a role model and “subjective norms”) may be removed from the research framework as shown in Figure 5.13

Table 5.6.2 indicates that ESE has no statistically significant influence on the impact of COSI on entrepreneurial intent ( $p = .061$ ). However, Table 5.6.3 indicates that the COSI factor “creative style” has a statistically significant influence on entrepreneurial intent ( $p = .000$ ), ESE has also been found to have a statistically significant moderation effect on that same influence ( $p = .005$ ) (see Table 5.6.4). As such the research framework has been modified to cater for the above findings which have been depicted in Figure 5.13.

Figure 5.13: Redefined study framework (Post results)





## 6 Chapter Six: Discussion

### 6.1 Introduction

The objective of Chapter Six is to discuss the results in terms of hypothesis and literature. The chapter framework has been structured using the same framework as for Chapter Two in which each variable is discussed independently.

### 6.2 Dependant variable

#### 6.2.1 Entrepreneurial intent

The biggest challenge of this study was that the variable that was used to measure entrepreneurial intent was found to have a questionable level of internal consistency (Cronbach's alpha of .635) as per the rule of thumb of George and Mallery (2003). Although the measure is questionable, it is not unreliable as Thompson (2009) concludes:

*...has been developed to incorporate high content validity and broad applicability across populations by nationality, age and occupation... The scale has also been designed to help reduce measurement error and bias by including properties that reduce method variance and attenuate response set (p. 687).*

### ***Descriptive statistics***

The descriptive statistics illustrated in Table 6. 1 indicates a marginal entrepreneurial intent, specifically with the factors “spend time learning about starting a new venture” and “intend to set up a new venture in the future”, which is indicative of the majority of the responses being a four (agree) and five (strongly agree) respectively. The standard deviation of 1.22 and 1.30, however, shows that were still a number of respondents that scored factor five and six lower than the majority of the sample. This is further indicated by the means of 3.38 and 3.92.

**Table 6.1: Individual entrepreneurial intent scale descriptive (n=226)**

	Cooper Z test	Mean	Standard deviation	Mode
*Never search for business start-up opportunities	- 6.24	2.40	1.21	1
Are saving money to start a new venture	0.15	3.01	1.28	3
*Do not read books on how to set up a venture	- 5.96	2.42	1.29	1
*Have no plans to launch your own venture	- 8.98	2.14	1.25	1
Spend time learning about starting a new venture	3.93	3.38	1.22	4

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Intend to set up a new venture in the future	3.74	3.92	1.30	5
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Note: factor items marked with a \* are the distracter statements.

In addition, although the standard deviation and the mean show that there is a spread of responses around the median of factor one, three and four (distracter items), the mode indicates that the most common answer was one (strongly disagree).

The Cooper Z test results indicate that students had more agreement within the sample for the distracter items than the substantive items. The highest ranked substantive item was “intend to set up a new venture in the future” (mean = 3.92) and interestingly, the highest ranked distracter item was the reversal statement “have no plans to launch your own venture” (mean = 2.14). This is a positive result that directly indicates that the majority of students within the sample do have the intention to start up a new venture.

The results as a whole indicate that the majority of students at the University of Botswana do have entrepreneurial intent, which is interesting as the study conducted by Plattner et al. (2009) found just eight of the 349 respondents had indicated that they wanted to become entrepreneurs. The possible difference in findings is that this study used direct statements to measure entrepreneurial intent, whereas findings from the 2009 study was an open-ended questionnaire with 66 different career responses.

The challenge then is, if students possess entrepreneurial intent, do they have increased intentions to pursue an alternative career? Each individual is endowed with an initial set of characteristics that determine their relative position in either becoming an

entrepreneur or partaking in other income generating activities. Social circumstances, such as prospects of employment, education and wealth, all influence a person's propensity toward entrepreneurship. Since these variables differ across individuals, the population is heterogeneous, different individuals face different opportunity costs when acting to exploit the opportunity they recognise (Bygrave & Minniti, 2000).

The majority of the students at the University of Botswana are sponsored by the government to study and are not in a situation where they have an abundance of wealth. Interest in entrepreneurship is not specific to students who study specific courses (Shinnar et al., 2008) and, as a result, the choice to become an entrepreneur (intent) in this situation should depend on prospects of employment. Looking at final year students, Plattner et al. (2009) found 33.6% of the students included in their research sample stated they would settle for any job regardless of pay, 51.3% stated that they would complete an additional post graduate degree if they could not find a job, 11.6% felt that they would not find a job when they finished university and 54.7% were not sure if they would find a job.

The importance of increasing awareness of a career in entrepreneurship cannot be underestimated. If the students possess entrepreneurial intent and they are uncertain of job opportunities, potential exists for students to pursue a career of self-employment.

## 6.3 Moderator variable

### 6.3.1 Entrepreneurial self-efficacy

Literature emphasises the importance of ESE being an antecedent to the intention to create a new venture. Previous measures relied on “total ESE” scales, which unsatisfactorily understood how the underlying dimensions of ESE influence entrepreneurial intention, let alone which dimensions are most responsible for strengthening ESE. McGee et al. (2009) advanced the research of ESE and its relation to entrepreneurial intentions by “developing a more robust measure of ESE that can be used by researchers in a variety of contexts” (p. 982). The same measure was used in this study and was found to be internally consistent (Cronbach's alpha .907).

#### *Descriptive statistics*

For the purpose of this study, the scale was changed to 0 through to 100 as per Bandura's recommendation for using scales to study self-efficacy that provides room for variance. The ESE construct mean was calculated to be 76.767, which indicates that the respondents as a whole have high self-efficacy. The standard deviation is 23.497, which shows that there is a spread in answers, but at a 95% confidence limit, the responses lie between 73.706 and 79.828 (see Figure 5.9).

As disclosed in Chapter Two, the ESE measure has five dimensions, which have been analysed independently. As per Table 5.5, the five different dimensions all have a mean

in excess of 73, which further indicates that the students at the University of Botswana do have a positive ESE. The responses for the dimensions were found to be similar.

The “implement people dimension” had the highest mean (78.672) with a low standard deviation (22.440). The factor included six activities: (1) “supervise employees”, (2) “recruit and hire employees”, (3) “delegate tasks and responsibilities to employees”, (4) “deal effectively with day to day problems and crises”, (5) “inspire, encourage and motivate employees” and (6) “train employees”.

Such activities make up one factor of ESE, but such activities form a major part of the duties required by a manager. The results then pose the question, why did only a total of eight students (seven of which were fourth year students) want to become entrepreneurs and 33 want to become managers out of a sample of 349? (Plattner et al., 2009). The findings of the study suggested “a decline in student’s self-concept and job expectations throughout the course of their studies” (p. 305). The results of this study however may argue that students’ self-concept increases throughout the course of the study. A possible cause for the change in mindset could be as a result of the recent financial crisis (2008 – 2009) where students have decreased confidence in the longevity of the job market.

ESE is a construct that measures a person’s belief in their ability to successfully launch an entrepreneurial venture. High levels of ESE combined with the decreased confidence in the job market create the motive for students at the university to compete in the field of entrepreneurship.

## 6.4 Independent variables

### 6.4.1 The influence of a role model

Active interaction between an individual and a role model can provide positive experiences that may influence career intentions (Van Auken et al., 2006).

#### *Descriptive statistics*

The results show that 148 of 228 students indicated that they had a role model. Descriptive statistics calculated a sample mean of 3.661, which indicates that the average influence that a respondent received from their role model was marginally positive. At a 95% confidence limit, the responses fall between 3.286 and 4.037, which further supports the favourable influence.

Table 6.4.1.1 shows the respondents' mean ranking of each role model influence as well as three additional descriptive statistics (Cooper Z test, standard deviation and mode). The mean frequencies reveal a number of patterns. The majority of the influences range between 3.0 and 4.0, one influence factor is over 4.0. The influence "had a comfortable lifestyle as a result of their career or business" was ranked as having the greatest influence on the individuals (mean = 4.318; cooper Z test = 11.334). The second biggest influence was "had significant discussions with you about their job or business" (mean = 3.971; cooper Z test = 8.097). Students seem to have valued observation and discussion as important influences from their role models.

Of the 12 factors that had sample means in excess of 3.50, 10 have a common theme whereby the respondent interacts with the role model. The influences that had the least influence however were, “took you to work with them when you were 10 years old or younger (mean = 3.286)”, “paid you to do minor tasks for them at work when you were 10-15 years old” (mean = 3.189) and “hired you in their organisation or company when you were in high school or college” (mean =3.204). The common theme in the bottom two factors is that the role model involved the respondent in the business. The abovementioned influences, however, had Cooper Z test results less than 1.96, which indicates that there is no agreement in the sample.

**Table 6.2: Descriptive statistics - influence of a role model (n =149)**

	<b>Cooper Z test</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Mode</b>
Had a comfortable lifestyle as a result of their career or business	11.334	4.318	0.833	5.000
Had significant discussions with you about their job or business	8.097	3.971	0.908	4.000
Taught you significant details about managing a business or organization	6.275	3.787	1.059	4.000
Discussed work at home	5.793	3.754	1.109	4.000
Encouraged you to read about their job or business	5.945	3.752	1.097	4.000
worked long hours in a business they	5.698	3.730	1.106	4.000





owned				
Encouraged you to join their organization	5.278	3.705	1.079	4.000
Encouraged you to know their colleagues	5.378	3.689	1.172	4.000
Discussed the advantages/disadvantages of joining the organization in which they work	5.101	3.650	1.131	4.000
Encouraged you to take a career other than their organization where they work	4.712	3.608	1.162	4.000
Were away from home a lot on business	4.076	3.545	1.237	5.000
Included you in business discussions	4.106	3.544	1.153	4.000
Took you to professional meetings	3.571	3.491	1.205	4.000
Assumed that you would follow their career path	3.506	3.473	1.224	4.000
Brought work home	2.980	3.404	1.292	4.000
Worked long hours in an organization they did not own	2.790	3.380	1.280	4.000
encouraged you to join another organization for a few years and then	2.237	3.323	1.269	3.000

join the organization where they work				
Took you to work with them when you were 10 years old or younger	1.927	3.286	1.176	3.000
Hired you in their organization or company when you were in high school or college	1.463	3.204	1.331	4.000
Paid you to do minor tasks for them at work when you were 10-15 years old	1.306	3.189	1.291	4.000

The results of the variable “influence of a role model” are summarised into the six factors, as discussed in Chapter Two, and the findings illustrate that the two factors with the highest scoring are (1) “observation” (mean = 3.792) and (2) “discussion” (mean = 3.687). The lowest is “employment” (mean = 3.381). It is apparent that the respondents included in this study prefer to observe their mentors and discuss business with them as opposed to being employed by them (see Table 6.2).

### ***Regression analysis***

The linear regression analysis indicates that the influence of a role model has no statistically significant influence on entrepreneurial intent, which is interesting as Van Auken et al. (2006) have suggested that an “active interaction between the role model and respondent can provide positive experiences and significantly influence career intention. This influence can be especially strong during early adulthood” (p.

159). Furthermore, when ESE was tested to establish whether it moderated “the influence of a role model” on “entrepreneurial intent”, the result was statistically insignificant ( $p > .05$ ).

These findings are interesting, as 65% of the sample respondents indicate that they have role models. The statistically insignificant correlation “of the influence of a role model” and “entrepreneurial intent” can possibly be explained through two circumstances. The first is that role models negatively receive novel entrepreneurial ideas of students because they perceive them to be unfeasible or lacking in demand. The second being the situation in which the ideas are possibly stolen by the role models or potential investors and any profits generated by the idea go to the role models or investors as opposed to that individual who initiated the idea (Ramadubu, 2010).

#### **6.4.2 Cognitive style**

Results of empirical research on the different cognitive style measured suggest that cognitive style is a complex variable with multiple dimensions (Beyler & Schmeck, 1992; Bokoros, Goldstein, & Sweeney, 1992). Cools and Van Den Broeck (2007) identified a model with three cognitive styles based on extensive research and experience. The three styles are (1) knowing, (2) planning and (3) creative, which were identified through a two stage factor analytic procedure. The variable has been used in this study and results indicate that it is internally consistent (Cronbach's alpha = .914).

### ***Descriptive statistics***

The findings illustrate that the sample mean is 4.152 with a standard deviation of .890, which indicates that the respondents are strong in all three dimensions of the COSI. However, it was important to measure the dimensions independently and, as a result, the findings show that the planning style had the highest mean (mean = 4.252). The planning style comprises of characteristics such as “sequential, structured, conventional, conformity, planned, organised, systematic and routine orientated” (see Figure 5.3).

Respondents who would be expected to show entrepreneurial intent would score higher on the creative style as it comprises of characteristics such as “possibilities, meanings, ideas, impulsive, flexible, open ended, novelty, subjective, inventive and creative”. With that in mind, analysis of the 95% upper and lower confidence limits shows that there is no major difference between the strength of the “planning” and “creating” styles. There however is a difference between the “knowing” and “planning” COSI styles (see figure 5.4).

The results indicate that students in the sample exhibit high “planning” and “creating” COSI styles, which is a positive result in terms of entrepreneurial intention. It can be argued that an entrepreneur needs to possess the creative characteristics to identify an innovative idea. The planning characteristics enable the entrepreneur to get the idea off the ground and into implementation. It has been said that, “The hardest thing about getting started is getting started” (Kawasaki 2004, p. 10).

### ***Regression analysis***

No statistically significant influence was exerted by COSI on entrepreneurial intent and interestingly, the moderation effect of ESE was also found to be statistically insignificant (see Table 5.6.1 and 5.6.2).

Further analysis has found that a statistically significant influence exists between the “creative” COSI and the dependant variable ( $p = .000$ ). ESE has been found to also have a statistically significant moderation effect on that influence ( $p = .005$ ). Both relationships have been found to be positively correlated (see Table 5.6.3 and 5.6.4).

If any of the independent variables could be weighed in order of importance, COSI would potentially be the most important as found by a study done at a university level. In this study, findings show that the creative cognitive style has an influence on entrepreneurial intent and that same influence is also moderated by ESE. The descriptive results indicate that the majority of students have a strong level of the creative COSI. The ESE results show that they also have a high internalised self-concept as well as intent to start up new ventures.

Zhao, Siebert and Hills (2005) found that students who attend entrepreneurship-related courses tend to have higher ESE. Individuals who report more learning about entrepreneurship in their academic programmes and those who report more entrepreneurial work experience higher levels of entrepreneurial self-efficacy. It is highly probable that if the University of Botswana offered an entrepreneurship course, it would result in increased confidence and intention for students to engage in self-employment.

### 6.4.3 Subjective norms

Subjective norms refer to social pressure to perform. Kolvereid and Isaksen (2006) have found that attitude and subjective norms were significant predictors of self-employment intentions.

#### *Descriptive statistics*

The sample mean for the variables that tested the extent to which the opinions of people close to the respondent mattered regarding choice of employment status was 3.790. Respondents care more for the opinion of direct family members, such as “spouse” (mean = 4.220), “parents” (mean = 4.093) and “sibling” (mean = 3.860), as opposed to other relatives and friends close to the respondent, that being (“close friend” (mean = 3.686) and “other relative” (mean 3.153) (see Table 6.3).

**Table 6.3: Response summary: Subjective norm (variable 1)**

	<b>Cooper Z test</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Mode</b>
Your parents	11.311	4.093	1.122	5.000
Your sibling	8.748	3.860	1.164	5.000
Your close friend	6.979	3.686	1.155	4.000
Other relative	1.542	3.153	1.185	4.000
Your spouse	11.043	4.220	1.074	5.000

In terms of the second variable in which respondents were asked to what extent they care for the opinion of those close to them regarding their choice to start a new venture, the sample mean was 3.695. Again, the opinion of direct family members (“spouse” (mean = 4.048) and “sibling” (mean = 3.782)) was more important than that of other family members and friends (“close friend” (mean = 3.703) and “other relative” (mean = 3.376) (see Table 6.4).

**Table 6.4: Response summary: Subjective norm (variable 2)**

	<b>Cooper Z test</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Mode</b>
Your sibling	7.581	3.782	1.085	4.000
Your close friend	7.065	3.703	0.998	4.000
Other relative	3.706	3.376	0.991	3.000
Your spouse	8.255	4.048	1.154	5.000

### ***Regression analysis***

Based on Trafimow and Fishbein (1994) findings that individuals care more for the opinions of people close to them as opposed to those that would be otherwise salient in the context of specific behaviours, this study used two variables to test subjective norms that measured the opinions of people close to the respondent. The opinions of individuals close to the respondent had no significant influence on entrepreneurial intent ( $p > .05$ ) in either of the two variables. When ESE was tested as to whether there was a

significant moderation effect, again the results were statistically insignificant for both variables.

The majority of the students enrolled at the University of Botswana are sponsored by the Botswana government and, as a result, do not rely the financial support of their parents (Fako, 2010). Plattner et al. (2009) found 29.3% of the fourth year students believed “that the government had to provide them with a job when they complete university” (p. 307). Such findings possibly indicate that although the opinions of people close to the respondents matter, it has no influence on entrepreneurial intention as they have never had to rely on those people for hands-on support or finance.

#### **6.4.4 Entrepreneurial interests**

Increased knowledge results in an increased interest and improved overall preparedness of an individual (Kourilsky, 1995; Dyer 1994). For a student to possess entrepreneurial interest, they also need to have a positive ESE and entrepreneurial intent (Lent et al., 2009).

##### ***Descriptive statistics***

The responses from the entrepreneurial interest variable indicate a sample mean of 3.560. The mean frequency rank of the items in the entrepreneurial intent can be placed into three themes. The first theme, which has the strongest frequency, involves interest in activities that require creative thinking: “using your imagination to solve problems” (mean = 3.84), “working on an academic project” (i.e. a class project) “involving creative



concepts” (mean = 3.78) and “working on a non-academic project” (i.e. outside of class) involving creative concepts (mean = 3.76). The second theme is practical: “learning about business start-up requirements” (i.e. legal and tax issues) (mean = 3.61), “solving practical financial problems” (mean = 3.46) and “solving practical economic problems” (mean = 3.45). Lastly and most interestingly, activities that are directly related to existing entrepreneurial theory and experience, which are “working on a project involving entrepreneurship principles” (mean = 3.43), “reading popular articles or books about entrepreneurship issues” (mean = 3.41) and “reading academic articles or books about entrepreneurship issues” (mean = 3.31) (see Table 6.5).

**Table 6.5: Entrepreneurial interest sample results (n = 226)**

	Cooper test	Z	Mean	Standard deviation	Mode
Solving practical economic problems	4.77		3.45	1.19	3.00
Reading popular articles or books about entrepreneurship issues	4.33		3.41	1.16	3.00
Reading academic articles or books about entrepreneurship issues	3.31		3.31	1.13	3.00
Solving practical financial problems	4.83		3.46	1.21	4.00
Working on a project involving entrepreneurship principles	4.47		3.43	1.24	4.00
Using your imagination to solve problems	8.86		3.84	1.13	5.00
Learning about business start-up	6.39		3.61	1.25	5.00



requirements (i.e. legal and tax issues)				
Working on an academic project (i.e. a class project) involving creative concepts	8.26	3.78	1.05	4.00
Working on a non-academic project (i.e. outside of class) involving creative concepts	7.97	3.76	1.21	5.00

### Regression analysis

The linear regression results show that entrepreneurial interest does not have a statistically significant influence on entrepreneurial interest ( $p = .058$ ). However, when ESE moderates the relationship, the influence is statistically significant ( $p = .009$ ) (see Table 5.6.1 and Table 5.6.2).

The descriptive statistics indicate that respondents prefer creative and practical activities over reading and learning. The regression analysis reveals that entrepreneurial interest influences entrepreneurial intent when ESE is present. The results indicate that the respondents like to be creative. However, for creativity to become intent, confidence needs to be present. This supports the argument that if the University of Botswana were to provide a course that focuses on entrepreneurial activities, self-efficacy could be further developed. However, findings suggest that the course design needs to favour creative-type subjects over theory-based subjects. University course quality and specifically the usefulness of the information communicated have a strong impact on



student perceptions and their ability to take on the role of an entrepreneur (Zhao et al., 2005).

## 7 Chapter Seven: Conclusion

### 7.1 Academic contribution

The Botswana economy is primarily supported by diamond mining. The challenge with any natural resource, however, is that one day it will eventually run out. The need to diversify the economic portfolio is becoming more immanent as time goes by. To address the challenge, the Botswana government is providing Botswana with financial support through tools such as study loans and business loans.

The current environment favours the entrepreneur, and yet Plattner et al. (2009) found that only eight of a possible 349 respondents had the intention of becoming entrepreneurs as a result of a “lack of self-efficacy” (p. 310).

The findings of this paper show that fourth year students at the University of Botswana do possess the intent to become entrepreneurs. They have high ESE, they prefer to engage with role models through channels of discussion as opposed to employment, their cognition favours planning and creative thinking based techniques, they favour the opinion of those within their direct family and they have an interest in entrepreneurship.

The difference between the two results raise the question, although students at the University of Botswana have entrepreneurial interest, would they chose a career of self-employment over that of a career working for someone else?

The university course quality, and specifically the usefulness of the information communicated, has a strong impact on student perceptions and their ability to take on the role of an entrepreneur. Course content is especially important at the pre-launch stage of an entrepreneurial venture as it gives the nascent entrepreneur the confidence to undertake the new venture (Zhao et al., 2005)

The regression results of the study show that the choice to be self-employed is influenced by entrepreneurial interest as long as the student has a positive ESE. Students who were found to have a creative cognition showed stronger intentions to compete in the field of entrepreneurship regardless of entrepreneurial confidence. Environmental factors had no significant influence on entrepreneurial intent.

## 7.2 Recommendations

To drive entrepreneurship at university level, it becomes imperative to increase ESE and entrepreneurial interest, and to stimulate students' creative cognition. Plattner et al. (2009) concluded that: "University programmes should seek to strengthen students self concept and produce confident, determined and assertive graduates that can compete successfully in the world of work" (p. 310). University programmes should be designed to equip students with the tools and skills to compete successfully in the world of work and entrepreneurship.

The over-arching question remains whether the students at the University of Botswana would have a higher entrepreneurial interest if a course was specifically designed and implemented. Plattner et al. (2009) concluded that:

*Universities have an obligation and a responsibility to prepare young people for professional careers but the university programs also contribute to young people's personal development ... university programmes, no matter the discipline should infuse people with a positive self concept so that they can find employment, become entrepreneurs and be self employed (p. 310).*

Wilson et al. (2007) noted that a well-designed entrepreneurship programme should give students a realistic sense of what it takes to start a business as well as raising students' self-confidence levels.

An entrepreneurship programme at the university would instil confidence in students as well as prepare them with the theoretical knowledge to manage the new venture. The perceived confidence or self-confidence in different skills related to entrepreneurship can be influential in determining the outcome, both in terms of fulfilling the desire to start a business and in terms of the ultimate success of the venture (Wilson et al., 2004).

The ultimate goal, however, is for a skilled and knowledgeable individual to take the next step and act on the entrepreneurial opportunity. Each individual is endowed with an initial set of characteristics that determine their relative position in either becoming an entrepreneur, or partaking in other income-generating activities (Bygrave & Minniti, 2000). Yet, even if it is the role of university is to equip the individuals with the skills and the knowledge, the decision to act will always rest on the individual.

### 7.3 Further research

Future studies of entrepreneurial intent could test alternative samples both at the University of Botswana and other tertiary educational institutions in Botswana.

Future research could sample final year students in the Faculty of Science and the Faculty of Engineering and Technology. Such a sample would be expected to exhibit greater characteristics of entrepreneurial intent due to the nature of skills and expertise acquired.

Another recommendation for further research could be to survey the same sample on an annual basis to establish whether the relationship between the dependant variable, the independent variables and moderator variables change as the economic landscape changes.

The methodology and survey tool used in this study could be applied to established entrepreneurs operating in the Botswana economy to ascertain whether the current findings apply once individuals undertake their own business ventures.

This study tested whether ESE moderates entrepreneurial intent and the influence of two internal variables as well as two environmental variables. As such, another recommendation for further research could be to test whether alternative variables influence moderate and influence entrepreneurial intent.

Further research in the field of entrepreneurship at university level in Botswana could be qualitative and explorative by nature whereby students who have the intention of



pursuing a career of self-employment could interviewed so that the drivers of such a career decision can be documented and analysed.



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## 8 Appendices

### 8.1 Appendix A





0	1	2	3	4	5
Not applicable	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

### 3.1 How much do you agree or disagree with each statement?

I want to have a full understanding of all problems.

1	-	5
---	---	---

I like to analyze problems.

1	-	5
---	---	---

I make detailed analyses.

1	-	5
---	---	---

I study each problem until I understand the underlying logic.

1	-	5
---	---	---

Developing a clear plan is very important to me.

1	-	5
---	---	---

I always want to know what should be done when.

1	-	5
---	---	---

I like detailed action plans.

1	-	5
---	---	---

I prefer clear structures to do my job.

1	-	5
---	---	---

I prefer well-prepared meetings with a clear agenda and strict time management.

1	-	5
---	---	---

I make definite engagements, and I follow up meticulously.

1	-	5
---	---	---

A good task is a well-prepared task.

1	-	5
---	---	---

I like to contribute to innovative solutions.

1	-	5
---	---	---

I prefer to look for creative solutions.

1	-	5
---	---	---

I am motivated by ongoing innovation.

1	-	5
---	---	---

I like much variety in my life.

1	-	5
---	---	---

New ideas attract me more than existing solutions.

1	-	5
---	---	---

I like to extend boundaries.

1	-	5
---	---	---

I try to avoid routine.

1	-	5
---	---	---

### 3.2 Thinking of yourself, how true is it that you:

Never search for business start-up opportunities

1	-	5
---	---	---

Are saving money to start a new venture

1	-	5
---	---	---

Do not read books on how to set up a venture

1	-	5
---	---	---

Have no plans to launch your own venture

1	-	5
---	---	---

Spend time learning about starting a new venture

1	-	5
---	---	---

Intend to set up a new venture in the future

1	-	5
---	---	---

If you answered **4 or above** for the **last question in 3.2**, please answer the **next four**. If you do not, then please go straight to question 3.3

Please answer Yes or No to the following questions

#### 3.2.1. Are you considering starting a venture:

a. In your home town

Yes (Y) / No (N)
------------------

b. In your university town

Yes (Y) / No (N)
------------------

c. Elsewhere

Yes (Y) / No (N)
------------------

#### 3.2.2. Are you considering starting a venture:

a. On your own

Yes (Y) / No (N)
------------------

b. With partners

Yes (Y) / No (N)
------------------

#### 3.2.3. If with partners, are these partners:

a. Family members

Yes (Y) / No (N)
------------------

b. Friends from home

Yes (Y) / No (N)
------------------

c. Friends from school

Yes (Y) / No (N)
------------------

#### 3.2.4. Are you considering:

a. Starting a full-time venture (i.e., you intend to have a job in addition to working for your new venture)

Yes (Y) / No (N)
------------------

b. Starting a part-time venture (i.e., you intend to **not** have a job in addition to working for your new venture)

Yes (Y) / No (N)
------------------

### Section 4, please use the following rating scale

Rating scale					
0	1	2	3	4	5
Not applicable	Not at all	Little	Average	Marginal	Very much

### 4.1 Indicate the extent to which you care about the opinion of the following in your choice of employment status:

Your parents

1	-	5
---	---	---

Your sibling

1	-	5
---	---	---

Your close friend

1	-	5
---	---	---

Other relative

1	-	5
---	---	---

Your spouse

1	-	5
---	---	---





0	1	2	3	4	5
Not applicable	Extremely negative	Negative	Neutral	Positive	Extremely positive

### 5.1 Indicate the opinions of the following people regarding your choice to pursue start a new venture.

(Please indicate "Not Applicable" if you do not have a particular relationship (i.e. Spouse, partner))

Your sibling	1	-	5
Your close friend	1	-	5
Other relative	1	-	5
Your spouse	1	-	5

### Section 6, there are two steps:

6.1. Please answer the question by writing either **Yes (Y)** or **No (N)** in the box

6.2. Please rate whether the experience was a **positive (+)** one or a **negative (-)** by placing the required symbol in the applicable boxes

	Yes/ No	Impact + / -
Did your parents/guardians ever start a new venture?	Yes (Y) /No (N)	+/-
Did any of your siblings ever start a new venture?	Yes (Y) /No (N)	+/-
Did any of your grandparents ever start a new venture?	Yes (Y) /No (N)	+/-
Have you ever held a paying position in a new company / entrepreneurial venture?	Yes (Y) /No (N)	+/-
Have you ever held a non-paying position at a new company / entrepreneurial venture?	Yes (Y) /No (N)	+/-

### Section 7, there are two steps:

7.1. Please answer the question by writing either **Yes (Y)** or **No (N)** in the box

#### Do you have a role model?

Yes/ No

Yes (Y) /No (N)

If you answered **yes (Y)** to the question please complete the following statements

Rating scale					
0	1	2	3	4	5
Not applicable	Extremely negative	Negative	Neutral	Positive	Extremely positive

### 7.2 Indicate the influence that your role model has on you regarding:

Had a Comfortable Lifestyle as a Result of Their Career or Business	1	-	5
Had Significant Discussions with You About Their Job or Business	1	-	5
Took You to Work with Them when you were 10 Years Old or Younger	1	-	5
Paid You to do Minor Tasks for Them at Work When You Were 10–15 Years Old	1	-	5
Hired You in Their Organization or Company When You Were in High School or College	1	-	5
Discussed Work at Home	1	-	5
Taught You Significant Details About Managing a Business or Organization	1	-	5
Discussed the Advantages/Disadvantages of Joining the Organization in Which They Work	1	-	5
Included you in Business Discussions	1	-	5
Encouraged You to Take a Career Other Than Their Organization Where They Work	1	-	5
Worked Long Hours in a Business They Owned	1	-	5
Encouraged You to Know Their Colleagues	1	-	5
Encouraged You to Read About Their Job or Business	1	-	5
Encouraged You to Join Their Organization	1	-	5
Assumed that You Would Follow Their Career Path	1	-	5
Took You to Professional Meetings	1	-	5
Were Away from Home a lot on Business	1	-	5
Brought Work Home	1	-	5
Worked Long Hours in an Organization They Did Not Own	1	-	5
Encouraged You to Join Another Organization for a Few years and Then Join the Organization where they work	1	-	5

# Thank you for your participation

## 8.2 Appendix B

**Table 5.6.1: Linear regression results – Model 1**

	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	3.585	0.189		18.959	0.000
Age	0.007	0.006	0.108	1.103	0.273
Gender (male/female)	0.09	0.142	0.062	0.636	0.526
2 (Constant)	1.29	0.635		2.033	0.045
Age	0.004	0.006	0.065	0.687	0.494
Gender (male/female)	-0.027	0.133	-0.019	- 0.204	0.839
Ent. Intr.	0.189	0.099	0.201	1.916	0.058
ESE	0.01	0.004	0.226	2.242	<b>0.027</b>
COSI	0.262	0.157	0.174	1.662	0.100
SN1	-0.093	0.107	-0.12	- 0.873	0.385
SN2	0.017	0.117	0.02	0.144	0.886
RM	0.034	0.088	0.038	0.384	0.702

Table 5.6.2: Linear regression results – Model 2

	Unstandardized Coefficients		Standardized		
	B	Std. Error	Beta	t	Sig.
<b>1</b> (Constant)	2.580	.301		8.581	.000
ESE	.015	.004	.347	4.036	.000
<b>2</b> (Constant)	1.178	.572		2.061	.042
ESE	.010	.004	.228	2.517	.013
Ent. Intr.	.234	.089	.244	2.643	<b>.009</b>
COSI	.270	.143	.177	1.890	<b>.061</b>
SN1	-.049	.090	-.064	-.547	.586
SN2	.015	.105	.017	.141	.888
RM	-.018	.040	-.039	-.457	.649

Table 5.6.3: Linear regression results – Model 3

	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	4.107	.271		15.146	.000
Age	.005	.006	.055	.723	.471
Gender (male/female)	-.076	.121	-.048	-.628	.531
2 (Constant)	2.848	.438		6.507	.000
Age	.002	.006	.028	.381	.704
Gender (male/female)	-.137	.118	-.086	-1.158	.249
Creating	.318	.089	.267	3.590	<b>.000</b>

Table 5.6.4: Linear regression results – Model 4

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
<b>1</b> (Constant)	2.519	.212		11.904	.000
ESE	.013	.003	.310	4.827	.000
<b>2</b> (Constant)	1.579	.393		4.013	.000
ESE	.011	.003	.257	3.890	.000
Creating	.267	.095	.186	2.818	<b>.005</b>



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