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The role of entrepreneurial self-efficacy in fostering adaptive cognitions among entrepreneurs in Gauteng, South Africa

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in Entrepreneurship and New Venture Creation

ABSTRACT

South Africa is one of the countries with high levels of unemployment, inequality and poverty. The government of the Republic of South Africa has introduced initiatives that target addressing and alleviating such problems. Equally, the government has introduced agencies that will assist entrepreneurs with resources for them to thrive[CITATION Man12 \l 7177]. The National Development Plan 2030 has a mission of alleviating the triple challenges (poverty, unemployment and inequality) through SMEs that will lead to job creation and inclusive growth.

The purpose of this study was to examine the relationships between the entrepreneurial self-efficacy dimension (developing new product and market opportunities), metacognitive knowledge and the goal orientation dimensions of adaptive cognitions. This study makes a contribution to the fields of cognitive psychology and entrepreneurship, mainly by identifying, defining and determining the importance and meaning of entrepreneurial self-efficacy and adaptable cognitions' dimensions while making a distinction between entrepreneurial self-efficacy, metacognitive knowledge and goal orientation.

The research paradigm in this report on entrepreneurial self-efficacy and adaptive cognition followed a Modernism approach which is a positivism perspective. This study was a cross-sectional study and data was collected over a period of three months. A targeted sample of 155 SMEs in all sectors included both genders (male and female) in Gauteng, South Africa.

The findings of the study showed that entrepreneurial self-efficacy (developing new products and market opportunities) has a positive relationship with adaptive cognitions (goal orientation). Developing new products and market opportunities have emerged as having a significant influence on goal orientation**.**

Key words: Metacognitive knowledge; Goal orientation; Entrepreneurial self-efficacy

DECLARATION

I, _____, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the Field of Entrepreneurship at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Anele Slater

Signed at ……

On the ……. Day of ……..…… 2018.

DEDICATION

This research report is dedicated to my late brother;

Thanduxolo Given Slater

1983 – 2016

“ “There is no passion to be found playing small - in settling for a life that is less than the one you are capable of living.”

~ Nelson Rolihlahla Mandela

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ABBREVIATIONS

ESE	Entrepreneurial self-efficacy
GO	Goal orientation
MK	Metacognitive knowledge
CBD	Central business district
SMEs	Small and medium-sized enterprises

CHAPTER 1: INTRODUCTION

1.1 Purpose of the study

The purpose of the study was to investigate the influence of entrepreneurial self-efficacy (developing new products and market opportunities) on adaptive cognitions dimensions, which are metacognitive knowledge and goal orientation, on Gauteng entrepreneurs.

1.2 Theoretical background to the study

Entrepreneurial mind-set is believed to act as a basis for opportunity recognition, which plays an important part during entrepreneurs' decision-making (Venter & Urban, 2015). The individual cognitive mind-set is interrelated to the underpinnings of entrepreneurship. Thus, it gives profound insights into the complex process whereby individuals convert their ideas, dreams, and visions, into the reality of viable ventures, (Shane & Venkataraman, 2000) which depends on an entrepreneurial mind-set and entrepreneurial self-efficacy which results in new ventures (Venter & Urban, 2015).

This research study is rooted in key theoretical backgrounds, such as Bandura's triadic reciprocal determinism that acts as the major building blocks of understanding the deep underpinning impetus that drives an individual entrepreneurial self-efficacy and adaptive cognition (Bandura, 1978; Haynie, Shepherd, Mosakowski, & Early, 2010). The role of an individual in entrepreneurship acts as a fundamental basis towards entrepreneurial theory (Shane & Venkataraman, 2000), which is logically cited as a way of relating entrepreneurship and cognitive theory (Baron, 2004; Krueger, 2007).

Equally, it appears to be logical to generalise that entrepreneurship requires human agency (Urban, 2012), thus being an agent consciously means doing things by one's own actions (Bandura, 2001). Some of the key issues that are raised in this study and further contributed to the broader theoretical literature on entrepreneurship were that entrepreneurs need metacognitive thinking and goal orientation skills by employing analogies influenced by ESE to effectively respond to dynamic environments. There had previously been no study which indicated that adaptive cognitions are influenced by the

entrepreneurial self-efficacy as well as further distinguishing which of those are mostly influenced by ESE.

Welter and Smallbone (2011) concur that motives reported by entrepreneurs for starting and running businesses, which often include a reference to 'independence', 'autonomy' and self-fulfilment', must be interpreted in the context of the environment in which they are used. To understand this study's theoretical roots of entrepreneurial mind-set and cognitions, it is wise to look at the following domains around entrepreneurial self-efficacy, metacognitive knowledge and goal orientation, among others. According to Owoseni (2014), understanding the antecedents of entrepreneurial intentions increases understanding of intended behaviour. Individual intentions and attitudes are dependent upon a given situation (Welter & Smallbone, 2011). The theory on entrepreneurship should further look into adaptable cognitions influenced by ESE among different entrepreneurs in different environments.

1.3 Context of the study

South Africa is one of the countries with high levels of unemployment, inequality and poverty. The government of the Republic of South Africa has introduced initiatives that target addressing and alleviating such problems. Equally, the government has introduced agencies that will assist entrepreneurs with resources for them to thrive[CITATION Man12 \l 7177]. The National Development Plan 2030 has a mission of alleviating the triple challenges (poverty, unemployment and inequality) through SMEs development that will lead to job creation and achieve inclusive growth.

In the first quarter of 2011, the unemployment rate in South Africa was 25.7 %, one of the highest in the world (Statistics South Africa, 2011). In the first quarter of 2018, the unemployment rate in South Africa was 26.7%, again, one of the highest in the world (Statistics South Africa, 2018).

Approximately 3.3 million (32.4%) out of 10.3 million young people aged 15-24, were not in employment, education or training (Statistics South Africa, 2018). Entrepreneurship has been seen as a possible solution to bring about innovation and thus, growing the economy and creating jobs while reducing poverty (Mhlanti, 2012). The government has since launched a variety of initiatives: The Technology Innovation

Agency (TIA), SEDA Technology Programme (STP), the National Technology Transfer Centre (NTTC), the Industrial Development Corporations' (IDC) Venture Capital Fund and the Jobs Fund. These initiatives were created to foster, secure and accelerate the creation and growth of business ventures (Mhlanti, 2012).

Contrastingly in South Africa, findings (Foxcroft, Wood, Kew, Herrington, & Segal, 2002) shows that entrepreneurial participation is almost equal in number between men and women (Urban, 2008). In South Africa, Indians and whites have the highest percentage of entrepreneurs relative to the population percentage; the Black African percentage of entrepreneurs is growing rapidly (Bosma, Wennekers, & Amoros, 2011; Venter & Urban, 2015).

Self-efficacy is, therefore, considered a crucial aspect for explaining human behaviour as research shows that it plays a dominant part in determining a person's choice, level of effort and perseverance (Chen et al., 2004; McGee, Peterson, Mueller, & Sequeira, 2009). The GEM report 2016/17 indicates that entrepreneurial intentions, as well as entrepreneurial self-efficacy level, are high while commercialisation of such ideas is low (Bosma, Wennekers & Amoros, 2015). However, in order to successfully turn entrepreneurial ideas into tangible solutions requires an entrepreneurial mindset, which includes metacognitive knowledge and goal orientation.

Metacognitive knowledge examines how information is interpreted in diverse situations, or in light of differing goals (Haynie & Shepherd, 2009). Metacognition can be defined as thinking aloud, reflecting, being strategic, and planning and the ability to monitor oneself (Venter & Urban, 2015). The entrepreneurial cognition literature has developed substantially in the area of examination of cognitions relating to entrepreneurial decision-making (Urban, 2008).

Various views can be identified (Baron, 2004; Mitchell, Busenitz et al., 2002; Mitchell, Smith et al., 2002; Mitchell et al., 2007, Urban, 2008). Thus, self-efficacy is an individual's belief in his/her ability to perform certain tasks (Bandura, 1997). Entrepreneurial intentions have been used to define a self-prediction to engage in certain types of behaviour (Aljzen, 1991; Ajzen & Fishbein, 1977; Bae, Qian, Miao, & Fiet, 2014), that is, immediately after the formation of intentions occurs, actual behaviour is anticipated (Bae, Qian, Miao, & Fiet, 2014).

1.4 Problem statement

South Africa is still characterised by a high failure rate of SMEs relative to other emerging countries on the continent (Galawe, 2017). In the South African context, new ventures (particularly SMEs) do not normally proceed from the start-up phase, which is the first entrepreneurial phase, to the subsequent stages such as survival, success, take off and resources maturity (Fatoki & Van Aardt Smith, 2011; Leboea, 2017). Furthermore, Venter and Urban (2015) concur that South Africa has too many survivalist entrepreneurs (people who have no option and are seeking out a basic living). Hence, the study addresses the influence that entrepreneurial self-efficacy can have on adaptive cognition (metacognitive knowledge and goal orientation).

1.4.1 *Main problem*

The main problem is to investigate the influence of entrepreneurial self-efficacy (developing new product and market opportunities) on adaptive cognitions dimensions which are metacognitive knowledge and goal orientation.

1.4.2 *Sub-problems*

The first sub-problem is to investigate the influence of Entrepreneurial self-efficacy (developing new product and market opportunities) on adaptive cognitions dimensions which are Metacognitive knowledge.

The second sub-problem is to investigate the influence of Entrepreneurial self-efficacy (developing new product and market opportunities) on adaptive cognitions dimension which is Goal orientation.

1.5 Research purpose, research question and aims of the study

The study sought to investigate the influence of entrepreneurial self-efficacy on adaptive cognition. Furthermore, the researcher then expanded on the extant body of literature in the field of entrepreneurship by providing the necessary tools and resources that entrepreneurs should bear in mind throughout the entrepreneurial activity, especially those who plan to start-up their SMEs and thrive in an entrepreneurially

dynamic environment. Social-psychological studies assume that intention is the single best predictor of actual behaviour (Bagozzi, Baumgartner & Yi, 1989; Bae, Qian, Miao & Fiet, 2014).

The study then broadens the understanding of entrepreneurial self-efficacy, metacognitive knowledge and goal orientation. The study further showed that developing the new product and market opportunities dimension of entrepreneurial self-efficacy, individually have more or less impact on the adaptive cognitive dimensions (Metacognitive knowledge and goal orientation) selected in this study. This research examined 1) the influence that entrepreneurial self-efficacy has on metacognitive knowledge (adaptive cognition dimension), 2) the influence that entrepreneurial self-efficacy has on goal orientation (adaptive cognition dimension).

1.6 The conceptual/theoretical definition of terms

- Gross domestic product refers to an estimate of the overall national income and output of a particular country's economy at a given term in time (Kira, 2013).

- National development plan refers to "a plan for the country to get rid of poverty and reduce inequality by 2030 through uniting South Africans, unleashing the energies of its citizens, growing an inclusive economy, building capabilities, enhancing the capability of the state and leaders working together to solve complex problems" (National Planning Commission, 2012).

- Entrepreneurial activity in this study, refers to the process of entrepreneurship whereby an individual recognises, evaluates and executes the conceived entrepreneurial goal[CITATION Ven15 \l 7177].

- Bandura's theory of reciprocal behaviour refers to the process of representation for human behaviour, which includes the actions, cognitions, that unequivocally, together commonly impact each other (Bandura, 1978).

- Human capital in this study, refers to the overall investment in education, prior experience, skills and knowledge that is both beneficial and relevant to entrepreneurial success (Unger, Rauch, Frese & Rosenbusch, 2011; Venter & Urban, 2015; Mamabolo, Myres & Kele, 2017).

- Entrepreneurial cognitions are defined as how entrepreneurs use simplifying mental models to piece together unconnected information to identify new products/services, to gather resources to start a new business or decide not to bother (Venter & Urban, 2015).

- Metacognitive knowledge is defined as thinking aloud, reflecting, is strategic, and planning and the ability to monitor yourself (Venter & Urban, 2015).

- Entrepreneurial self-efficacy refers to individuals' beliefs on the ability to successfully perform the various roles and tasks of entrepreneurship (DeNoble, Jung & Ehrlich, 1999).

1.7 Contribution of the study

This study examined some of the critical matters around entrepreneurship (specifically on entrepreneurial mind-set and their cognisance on entrepreneurial activity) as a field of research and practice; hence the study aimed to bring forth a number of significant contributions that will be beneficial in the broader field of entrepreneurship scholarship and to entrepreneurship policy makers.

The gap the study sought to fill was to identify what differentiates thriving entrepreneurs from those who are not thriving, by looking at the entrepreneurial self-efficacy, metacognitive knowledge and goal orientation. Therefore, the overarching research question becomes; how entrepreneurial self-efficacy influences adaptive cognitions (metacognitive knowledge and goal orientation), especially in thriving entrepreneurs.

How can entrepreneurs better translate the opportunity identification brought by entrepreneurial intentions to a hands-on applicable start-up (Venter & Urban, 2015), and what moderating variables, therefore, have an impact in that process by looking at all the possible effects that can have an impact on potential entrepreneurs launching a start-up (Venter & Urban, 2015). Currently, there is a gap in the literature that has not shown whether or not adaptive cognitions (i.e., metacognitive knowledge and goal orientation) are influenced by entrepreneurial self-efficacy.

As a youth in South Africa, it is extremely difficult to penetrate the market environment due to the fact that there are so many necessity entrepreneurs in the country (Bosma, Wennekers & Amoros, 2011). The study also aimed to contribute to the current literature on management research in the field of Entrepreneurship and New Venture Creation by showing that the individual cognitive mind-set is interrelated to the underpinnings of entrepreneurship. One of the gaps the study sought to fill is to identify what differentiates thriving entrepreneurs from those that do not thrive, by looking at the entrepreneurial self-efficacy, metacognitive knowledge and goal orientation.

South Africans have displayed high levels of entrepreneurial self-efficacy as well as intentions towards starting their businesses, as shown in the Global Entrepreneurship Monitor (Bosma, Wennekers & Amoros, 2011). However, practically, this tends to contradict itself in a way that the same individuals do not go out there and start such businesses. Although much research has been done in entrepreneurial self-efficacy DeNoble, Jung & Ehrlich (1999), little is known about the influence between entrepreneurial self-efficacy and adaptive cognitive dimensions.

1.8 Chapter summary

The study provides the theoretical background of an entrepreneurial mind-set as a basis for opportunity recognition which is the crucial part during entrepreneurial decision making. Moreover, the researcher displays how adaptive cognitions is linked to entrepreneurial self-efficacy. The context of the study conducted showed how relevant and crucial the study is in a country like South Africa. The problems the study identified and the contributions the study made are exactly the solutions to most of South Africa's problems, such as the high unemployment rate, inequality and poverty.

CHAPTER 2: LITERATURE REVIEW

This chapter focuses on literature review and the chapter is structured as follows; introduction, literature background, entrepreneurial self-efficacy; Hypothesis 1, adaptive cognitions, metacognitive knowledge, goal orientation; Hypothesis 2, entrepreneurial self-efficacy and adaptive cognitions, conceptual framework of hypothesis and conclusion of literature review.

2.1 Introduction

Human capital was initially used to investigate the value of education and consequently emphasised that people have differing knowledge and skills that constitute economic value (Venter & Urban, 2015). More recently, it is considered that human capital is particularly important in discovering and creating entrepreneurial opportunity. Consequently, it increases perception, feasibility and desirability of pursuing entrepreneurship (Venter & Urban, 2015).

There had been an identification made through factual statements that macro-economic and micro-economic indicators are considered to be crucial determinants of entrepreneurial activity in a country (Welter & Smallbone, 2011; Williams & Youssef, 2015; Urban & Muzamhindo, 2018). According to Bae, Qian, Miao and Fiet (2014), entrepreneurship education could stimulate entrepreneurial self-efficacy, because it is related to four of its determinants, namely (1) enactive mastery, (2) vicarious experience, (3) verbal persuasion, and (4) emotional arousal (Bandura, 1982, 1986).

Entrepreneurship-oriented intentions are regarded as antecedents of entrepreneurial action (Bird, 1988; Kolvereid, 1996; Krueger & Brazeal, 1994; Krueger, Reilly & Carsrud, 2000; McGee, Peterson, Mueller & Sequeira, 2009). Furthermore, McGee, Peterson, Mueller and Sequeira (2009) attested that self-efficacy, when viewed as a key antecedent to new venture intentions, is referred to as entrepreneurial self-efficacy (Boyd & Vozikis, 1994; Chen et al., 1998; Krueger & Brazeal, 1994).

The study's interests were on establishing those sets of characteristics among entrepreneurs which fall within entrepreneurial self-efficacy and adaptive cognitions (i.e., metacognitive knowledge and goal orientation).

2.2 Literature background

There had been proliferating literature on entrepreneurial education, which has provided positive perspectives on entrepreneurship and new venture creation as a field of study and practice. Furthermore, it is directly tied in with the key aspects of social capital; the key factors are institutional environments, cultural values, normative values, among others, which are critical to entrepreneurial activity/process. Therefore, this research equally tries to make sense of the entrepreneurial mind-set by looking at the underlying cognitions (entrepreneurial self-efficacy) and adaptive cognitions.

Self-efficacy judgements are task specific and regulate behaviour by determining task choices, effort and persistence. Self-efficacy also facilitates learning and task performance, particularly early in the learning process (Stevens & Gist, 1997). Self-efficacy can also change as a result of learning, experience and feedback (Gist & Mitchell, 1992). "Metacognition narrates a higher-order, cognitive activity that serves to organize what individuals know and recognize about themselves, tasks, situations, and their environments in order to promote effective and adaptable cognitive functioning in the face of feedback from complex and dynamic environments" (Brown, 1987; Flavell, 1979, 1987; Haynie & Shepherd, 2009).

Haynie and Shepherd (2009) conceptualised that adaptive cognition serves as the aggregate of metacognition's five theoretical dimensions, namely: goal orientation, metacognitive knowledge, metacognitive experience, metacognitive control, and monitoring. "The implications of these actions for dynamic, adaptable thinking are important, in that metacognitive processing is responsible for formulating the set of available alternatives from which the entrepreneur considers when faced with a decision task" (Haynie & Shepherd, 2009).

The reason for this study to only focus on metacognitive thinking and goal orientation was to also highlight why some entrepreneurs succeed and others do not, how they plan and execute their goals effectively and what strategies they take and build upon in a

dynamic environment. Furthermore, the point was also to show what other incubators could do to provide their entrepreneurs with an environment similar to those that thrive. “Little attention has been paid to the role of processing feedback in entrepreneurship in general, and specifically to individual differences in one’s ability to “make the most” of feedback” (Haynie & Shepherd, 2009, p:708).

2.3 Entrepreneurial self-efficacy

Bae, Qian, Miao and Fiet (2014) stated that “entrepreneurship scholars have viewed human capital as a determinant of entrepreneurial intentions” (Davidsson & Honig, 2003). In this study, human capital is “the skills and knowledge that individuals acquire through investments in schooling, on-the-job training, and other types of experience” (Becker, 1964; Unger, Rauch, Frese & Rosenbusch, 2011, p: 343).

Entrepreneurial self-efficacy refers to individuals’ beliefs in their ability to successfully perform various roles and tasks of entrepreneurship (Chen, Greene, & Crick, 1998; DeNoble, Jung, & Ehrlich, 1999; McGee, Peterson, Mueller & Sequeira, 2009; Bae, Qian, Miao, & Fiet, 2014). It is described as one of the triggers of entrepreneurial intentions (Chen, Greene, & Crick, 1998; DeNoble, Jung, & Ehrlich, 1999; Douglas, 2013; Fitzsimmons & Douglas, 2011; Krueger, Reilly & Carsrud, 2000; Scott & Twomey, 1988; Segal, Schoenfeld, & Borgia, 2007; Wang, Wong & Lu, 2002).

McGee, Peterson, Mueller and Sequeira (2009) posit that self-efficacy, when viewed as a key antecedent to new venture intentions, is referred to as entrepreneurial self-efficacy (Boyd &Vozikis, 1994; Chen et al., 1998; Krueger & Brazeal, 1994). However, the literature on entrepreneurial self-efficacy is quite robust; there remain at least three challenges that impede further development and appropriate application of the construct[CITATION McG09 \l 7177]. Bandura (1977, 1997), however, it has been argued that self-efficacy is supposed to be more applicable in a specific context and activity domain (McGee, Peterson, Mueller & Sequeira, 2009).

Furthermore, McGee, Peterson, Mueller and Sequeira (2009:969) in Bandura (1997) argued that “the more task specific one can make the measurement of self-efficacy, the more the predictive role efficacy is likely to play in research on the task-specific outcomes of interest.”

Gist (1987) quoted by (McGee, Peterson, Mueller & Sequeira, 2009) suggested that researchers aggregate a number of related but domain specific measures rather than relying on an omnibus test. McGee, Peterson, Mueller and Sequeira (2009) argued that while a composite measure of self-efficacy would be arguably more convenient, a number of scholars have sacrificed convenience in favour of greater predictive power (e.g., Begley & Tan, 2001; Chen et al., 1998; De Noble et al., 1999; Forbes, 2005; Kolvereid & Isaksen, 2006).

1.3.1 Entrepreneurial self-efficacy dimensions

The first dimension (developing new product and market opportunities), "involves a person's belief in being able to create new products and to find opportunity, in order to have a solid foundation to launch a venture;

The second dimension, building an innovative environment, involves a person's belief in being able to encourage others or his/her team to try a new idea or to take innovative action.

The third dimension, initiating investor relationships, involves a person's belief in being able to find sources of funding for their venture.

The fourth dimension, defining core purpose, involves a person's belief in being able to be clear with his/her vision and to maintain the vision, and clarify it to his/her team and investors.

The fifth dimension is associated with coping with unexpected challenges and involves a person's belief in being able to tolerate and deal with ambiguity and uncertainty in the start-up entrepreneur.

The sixth dimension, developing critical human resources, involves a person's belief in being able to recruit and retain important and talented individuals to be the members of the venture' (Setiawan, 2014). Hence, in this study the researcher only focuses on developing new product and market opportunities as an entrepreneur launching and running a venture.

Developing new product and market opportunities is a single dimension of entrepreneurial self-efficacy as identified by DeNoble, Jung and Ehrlich (1999). The researcher chose this dimension due to the fact that it focuses on the entrepreneurial mind-set required in developing a new product and being able to market such a product.

1.3.2 Hypothesis 1

H1: Entrepreneurial self-efficacy (developing new product and market opportunities) has an influence on the metacognitive knowledge dimension of adaptive cognition.

2.4 Adaptive Cognitions

"Entrepreneurship scholars suggest that cognition research can serve as a process lens through which to inspect the individual side of entrepreneurship by investigating the memory, learning, problem identification, and decision-making abilities of entrepreneurs" (Mitchell, et al., 2002; Haynie & Shepherd, 2009). Haynie and Shepherd (2009) developed a measure to appropriately measure the individuals' differences in adaptive cognitions in a given entrepreneurial context.

Haynie and Shepherd (2009) defined cognitive adaptability as "the ability to effectively and appropriately change decision policies (i.e., to learn) given feedback (inputs) from the environmental context in which cognitive processing is embedded". An empirical study conducted by Rozin (1976) on cognitive tasks suggested that, although such a cognitive task is so hard to accomplish, it has a positive relationship with a decision performance that can be characterised as "complex, dynamic, and inherently uncertain (Earley & Ang, 2003; Haynie & Shepherd, 2009). Hence, the entrepreneurial environment represents that kind of a context[CITATION Hay09 \l 7177].

Adaptive cognition has five dimensions, which are metacognitive knowledge, monitoring, goal orientation, metacognitive experience and metacognitive control. However, for the purpose of this study, only metacognitive knowledge and goal orientation are discussed in detail in the next section. As such, it is described that the origins of cognitive adaptability result from the conjoint effects of, firstly, the context in which the individual functions, and secondly, the motivations of that individual through which context is interpreted[CITATION Hay09 \l 7177].

2.4.1 Metacognitive Knowledge

According to Haynie and Shepherd (2009), metacognitive decision-making allows the entrepreneur to think ahead or re-organise current knowledge structures and heuristics,

promoting adaptable cognitions in the face of novel and uncertain decision contexts. Such helps entrepreneurs formulate and enable them with "high-order" cognitive strategies in taking advantage of unprecedented opportunities while pursuing entrepreneurial ends (Haynie, Shepherd, Mosakowski, & Early, 2010).

"Metacognitive knowledge focused internally relates to an understanding of individual's own preferences and values (e.g., an entrepreneur is aware that he or she enjoys dealing with external constituents more than employees); knowledge of one's strengths and weaknesses at certain tasks (e.g., better dealing with "hard numbers" than with people issues); and knowledge of personal strategies to cope with a changing environment (e.g., self-reflection, rational, information gathering)" (Haynie & Shepherd, 2009:699).

According to Haynie and Shepherd (2009) as cited by Govender (2016), metacognition includes thinking that allows an individual to be more self-aware, to actively engage in reflective thought, to rationalise aloud, to be visionary and strategic, to be astute in planning, and finally to be able to self-monitor, as cited in. Metacognitive knowledge is attributed as a notable predictor of entrepreneurial intentions (Urban, 2012).

According to (Bandura, 2001, p: 3) as cited by Urban (2008) attested that the entire entrepreneurial process unfolds because individual entrepreneurs act and are motivated to pursue opportunities. Metacognition describes a higher-order, cognitive process that serves to organise what individuals know and recognise about themselves, tasks, situations, and their environments in order to promote effective and adaptable cognitive functioning in the face of feedback from complex and dynamic environments (Brown, 1987; Flavell, 1979; 1987).

To think metacognitively describes such activities as "to be self-aware, to think aloud, to reflect, to be strategic, to plan, to have a plan in mind, to know what to know, to self-monitor" (Guterman, 2002, p: 285). Metacognition is considered to be, at least in part, a conscious process (referred to as metacognitive awareness) (Flavell, 1979; Nelson, 1996) that is situated within a social context (Allen & Armour-Thomas, 1993; Jost, Kruglanski, & Nelson, 1998) and is different from cognition.

Equally, empirical studies indicate that metacognition is separate from other cognitive constraints on learning, such as intelligence, and that an individual's development and application of metacognitive processes cannot be predicted "with even a moderate

degree of accuracy." Metacognitive knowledge can be focused both internally (self) and externally (the environment) (Haynie & Shepherd, 2009).

Thus, Haynie and Shepherd (2009) defined metacognitive knowledge to be the extent to which an entrepreneur relies on what is already known about oneself, other people, tasks, and strategy when engaging in the process of generating multiple decision frameworks focused on interpreting, planning, and implementing goals to "manage" a changing environment.

This means that the metacognitive dimension of knowledge operationalised as the extent to which the individual relies on what is already known about the self, other people, tasks, and strategy when engaging in the process of generating multiple decision frameworks (Haynie & Shepherd, 2009), is a dependent variable of entrepreneurial self-efficacy.

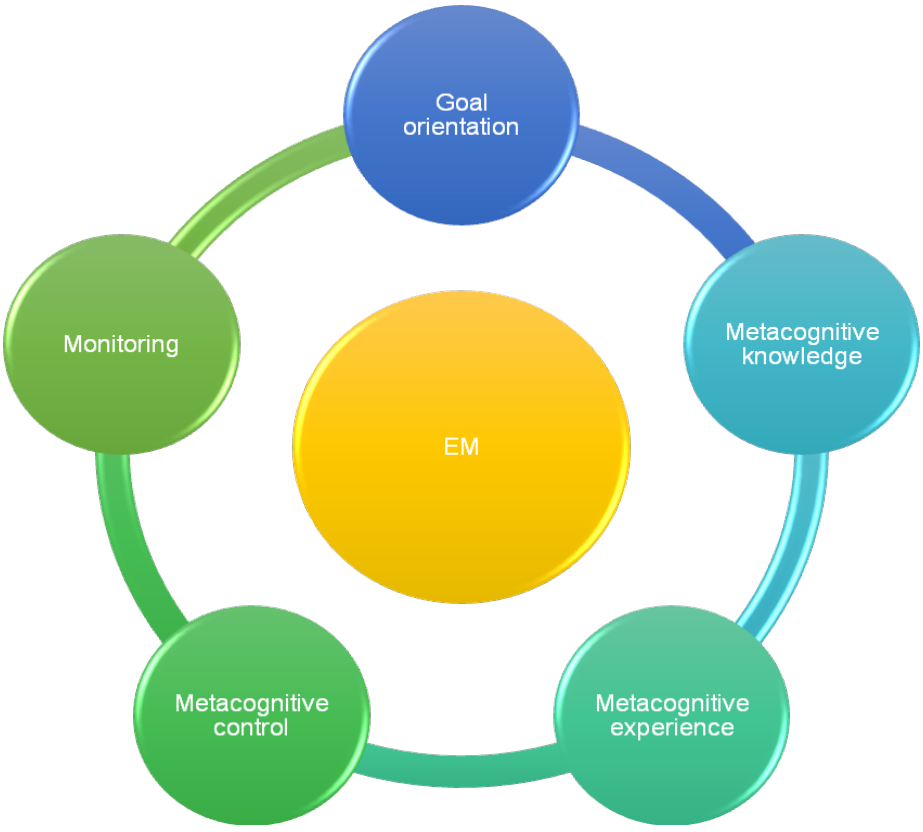


Figure 1: The model of an entrepreneurial mind-set

Source: (Haynie & Shepherd, 2009, p: 698)

2.4.2 Goal Orientation

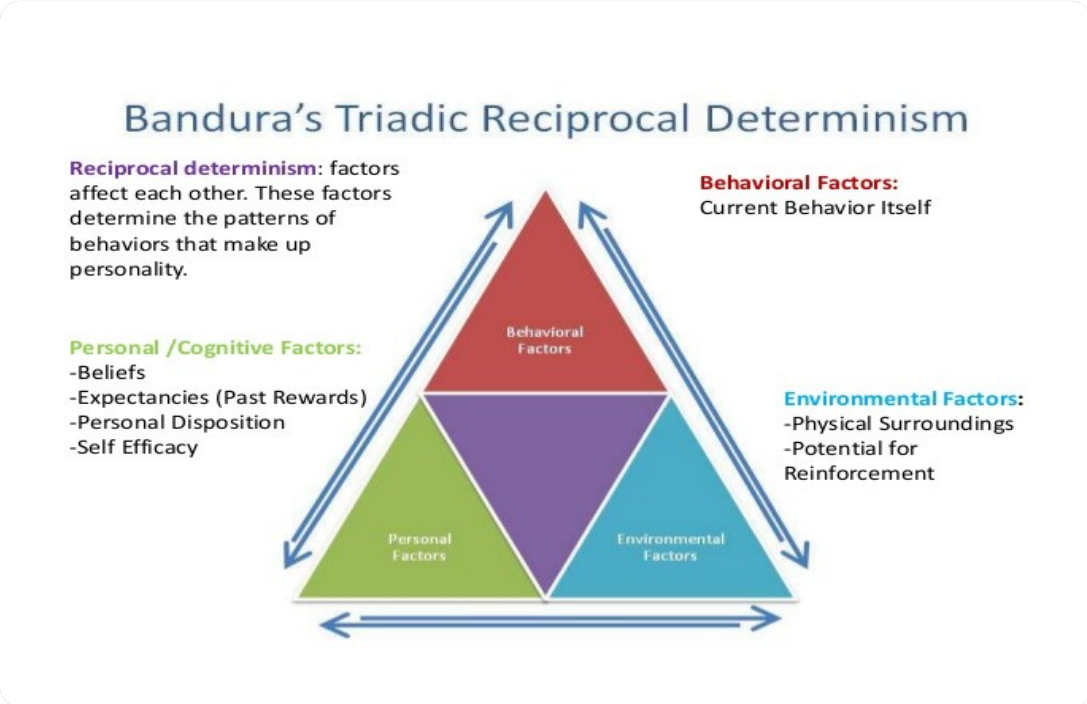
Urban (2012) concurs with (Unger, Rauch, Frese & Rosenbusch, 2011) that the goals that entrepreneurs follow are interpreted as a function, or as a consequence of the environment in which those goals originate. Consequently, individuals are consistently in pursuit of trying to increase their profits, given their investments in human capital

According to Drnovsˇek, Wincent and Cardon (2010), the entire meaning of the entrepreneurial self-efficacy is deeply rooted on the "socio-cognitive approach" which concurrently probes the constant change in the reciprocal action among individuals and the environment by making sense of 'what cognitive, motivational and affective' procedures are incriminated in an individual's commitment to embark on the entrepreneurial process (Baron, 1998; Shane & Venkataraman, 2000; Baron, 2004) and equally shows how these sets of procedures are shaped by institutional environments (Mitchell, et al., 2002).

Motives influence how context is perceived and interpreted (Griffin & Ross, 1991; Schacter, 1996) and at the same time, the context may define an individual's motives (Wyer & Srull, 1989). Thus, Haynie and Shepherd (2009) suggested that this interaction serves as the basis for the development and employment of metacognitive strategies focused on satisfying some motivation; or realising some cognitive outcome. In an entrepreneurial context, these motivations may be, for example, to improve market share, enhance manufacturing efficiency, or increase annual revenue.

In essence, the goals entrepreneurs follow are understood as a function—or as end results of the environment in where such goals originate in the first place (Haynie & Shepherd, 2009). As such, Haynie and Shepherd (2009) further argue that the realm 'of cognitive adaptability as resulting from the conjoint effects of (1) the situation in which the individual functions, and (2) the drives of that individual through which context is taken'.

gure



2. Illustrates Bandura's Triadic Reciprocal Determinism

Source: Bandura (1989, p: 167)

2.4.3 Hypothesis 2

H2: Developing new product and market opportunities have an influence on the goal orientation dimension of adaptive cognition.

2.5 Entrepreneurial self-efficacy and adaptive cognitions

Theoretically, entrepreneurs are required to possess both the entrepreneurial mind-set and a specific social capital for them to start and run a venture (Shane & Venkataraman, 2000; Venter & Urban, 2015). Thus, a deep belief on one's ability to start and run a business is crucial together with relevant entrepreneurial adaptable cognitions. Empirically, the entrepreneur could have applied any number of strategies to shape how to think about the entrepreneurial task (Haynie & Shepherd, 2009).

According to Haynie and Shepherd (2009), a meta-cognitively aware entrepreneur will identify such reality, and engage in the process of identifying alternative strategies that maximise the likelihood of achieving his/her goal (i.e., identifying the most appropriate marketing strategy). De Noble et al. (1999) identified six dimensions of entrepreneurial self-efficacy, namely:

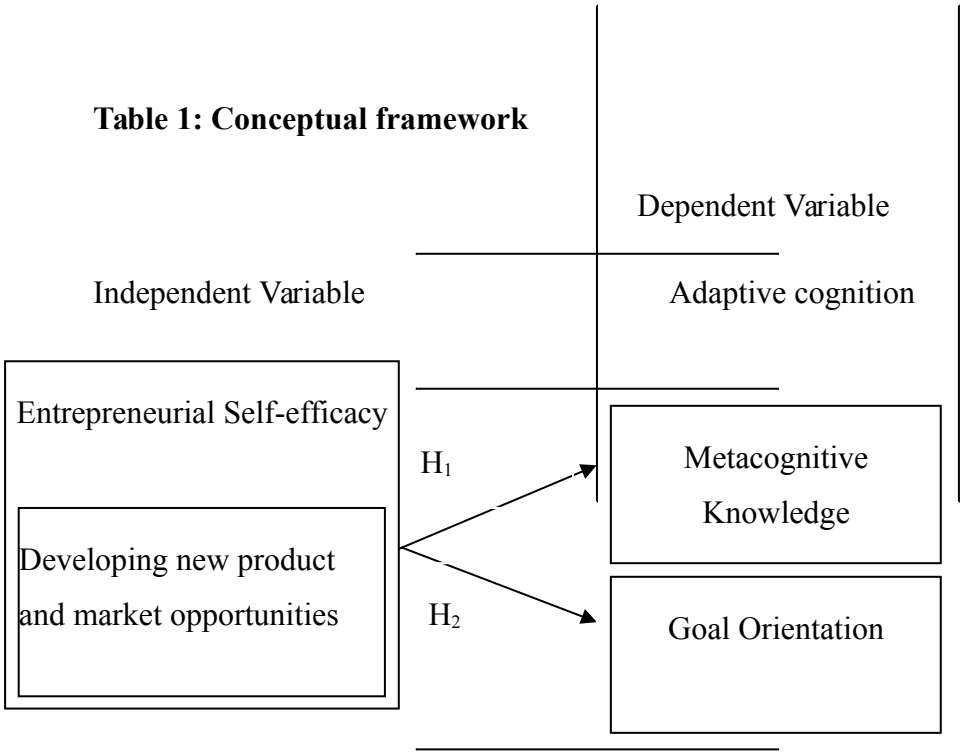
developing new product and market opportunities; building an innovative environment; initiating investor relationships; defining core purpose; coping with unexpected challenges; developing critical human resources.

The first dimension (developing new product and market opportunities), involves a person's belief in being able to create new products and to find opportunities, in order to have a solid foundation to launch a venture;
The second dimension, building an innovative environment, involves a person's belief in being able to encourage others or his/her team to try a new idea or to take innovative action.
The third dimension, initiating investor relationships, involves a person's belief in being able to find sources of funding for their venture.
The fourth dimension, defining core purpose, involves a person's belief in being able to be clear with his/her vision and to maintain the vision, and clarify it to his/her team and investors.
The fifth dimension is associated to coping with unexpected challenges, involves a person's belief in being able to tolerate and deal with ambiguity and uncertainty in the start-up entrepreneur.
The sixth dimension, developing critical human resources, involves a person's belief in being able to recruit and retain important and talented individuals to be the members of the venture' (Setiawan, 2014). Hence, in this study the researcher only focuses on developing new product and market opportunities as an entrepreneur launching and running a venture.

2.6 Conceptual framework of hypotheses

For one to be able to start a new venture and successfully run such a venture, one of the most important factors is self-efficacy (ESE). Self-efficacy provides entrepreneurs with motivation and strength to remain persistent and put more effort in entrepreneurially challenging tasks (Bandura, 1994; Galawe, 2017). Furthermore, relevant adaptable cognitions become very important to promote effective and adaptable cognitive functioning in the face of feedback from complex and dynamic environments (Brown, 1987; Flavell, 1979, 1987; Haynie & Shepherd, 2009).

Table 1: Conceptual framework



Source: (Haynie & Shepherd, 2009)

The diagram explains the relationship between the entrepreneurial self-efficacy dimension of metacognitive knowledge and the goal orientation dimensions of adaptive cognition.

2.7 Conclusion of Literature Review

As the result of the fragmented and broadness of the examined research literature on what influence entrepreneurial self-efficacy has on metacognitive knowledge and goal orientation, the entrepreneurial mind-set in terms of cognitions will help in examining the difference between thriving entrepreneurs and entrepreneurs who are not thriving. There are possibly individual attributes which differ widely, such could be entrepreneurial self-efficacy and adaptable cognitions.

The research on the influence of entrepreneurial self-efficacy on adaptive cognitions is still at its infancy in the domain of entrepreneurship as a field of scholarship and practice.

CHAPTER 3: RESEARCH METHODOLOGY

This chapter covers the methodology adopted during the research process which includes; the research paradigm, research design, data screening, the population and sampling, research instrument, the procedure followed when collecting data, how the data was analysed and interpreted, as well as the validity and reliability of the research instrument used.

3.1 Research Paradigm

Research paradigm refers to the set of beliefs which provides guidelines for the researcher's actions (Lincoln, Lynham, & Guba, 2011). The research paradigm in this report on entrepreneurial self-efficacy and adaptive cognition followed a Modernism and positivism perspective by the fact that; quantitative method is the dominant and the most used in conducting such studies. Positivism attempts to get any causality or relationship in between variables; hence, empirical analysis, regressions and experimentation are used in such studies (Scotland, 2012).

Moreover, as knowledge is not certain, hypotheses are not rejected nor proved (Creswell, 2009), hence the researcher fails to reject. This study followed a deductive approach and is quantitative in form. The form is suitable for testing relationships between theory and research. With respect to the positivistic research approach, the research should be objective (epistemology), characterised by the independence of the researcher in the data collection and analysis process. The research seeks to study patterns of ordered events and behaviour (ontology).

3.2 Ethical Consideration

In this research, the anonymity standards were used which strongly guaranteed privacy. The participant involvement was completely voluntary and personal details will be photocopied and put in a safe place so that they do not get lost. Individuals were not being forced into participating in this research. Participants were assured that sensitive

information will not be made available to anyone who is not directly involved in the study. Voluntary participation was the requirement of informed consent.

I received an ethical clearance certificate for this research report which was issued by the ethics committee at the Wits Business School.

3.3 Research Design

The research design is always there to provide guidelines when conducting a research. This research report followed a quantitative research methodology under an empirical perspective, whereby (i) it investigates the influence of entrepreneurial self-efficacy on adaptive cognitions, (ii) investigates the influence of entrepreneurial self-efficacy on metacognitive knowledge and lastly, (iii) investigates the influence that entrepreneurial self-efficacy has on goal orientation.

Experimental design was used whereby the independent variable was manipulated and all other variables held constant. The advantage of this design is that it affords the opportunity to also collect other data types where necessary (Creswell, 2013). The one variable is not receiving treatment while the other (dependent) is receiving treatment. One of the advantages includes allowing the researcher to collect primary data in a short period of time, in this case, from South African SMEs (Field, 2009) and a disadvantage is that of "common method bias and a lack of in-depth insight about the constructs on this study against which the researcher needs to guard" (Galawe, 2017).

This study was a cross-sectional study and data was collected over a period of three months. Since this was a cross-sectional study, the interpretation of the findings (effects and relationships) cannot deduce causality with an acceptable level of confidence (Galawe, 2017). Thus, "it is always advisable to target a bigger sample size to cater for low response rate, unusable and missing data" (Galawe, 2017). Surveys are an efficient method to collect data from a huge sample, but they have limitations that need to be managed and minimised (Cooper et al., 2006).

According to Sedgwick (2018), cross sectional studies are normally quick, easy, and cheap to perform. However, they are often based on a questionnaire survey. Interestingly, there cannot be a follow-up operation because participants are interviewed

only once if the study is qualitative or mixed method (Sedgwick, 2018). On the other hand, 'a cross sectional study may be prone to non-response bias if participants who consent to take part in the study differ from those who do not, resulting in a sample that is not representative of the population' (Sedgwick, 2018).

3.4 Population and Sample

3.4.1 Population

The population of interest was registered SMEs in Gauteng, South Africa. Other SMEs in other locations were not considered due to financial constraints. The population targeted in the study were SMEs that are in incubation hubs around Gauteng.

3.4.2 Sample and sampling method

A targeted sample of 155 SMEs in all sectors included both genders (male and female) in Gauteng, South Africa. A simple random sampling was followed which gave each and everyone a chance to complete the questionnaire(s) in Gauteng, South Africa.

This is fair since everyone had a chance to equally participate in the survey[CITATION Coo11 \l 1033]. The sample frame had been drawn and consists of entrepreneurs in Gauteng (South Africa) and the participants are from all business sectors. The conceptualised sampling frame in this study clearly captured the required representative sample.

Table 2: Profile of respondents

Description of respondent type	Number to be sampled
Innovation Hub (Pretoria)	100
Riversands – Four-ways (Incubation Hub)	85

3.5 The research instrument

The instrument includes the biographical characteristics such as, gender, ethnicity and the key variables questions are structured in a Likert scale style (i.e. scores are Not very

much like me (1) and Very much like me (7); the questionnaire is included in the Appendices. Previous Cronbach alpha for the instrument was ($\alpha \geq 0.7$) which indicates the reliability of the instrument used. The questionnaire was administered online.

The questionnaire has been used before for studies related to entrepreneurial self-efficacy and adaptable cognitions. On the questionnaire, there are two (2) variables, each variable constitutes three dimensions. The first question is about entrepreneurial mind-set which looks at the (i) Entrepreneurial self-efficacy (Questions 1-3), Metacognitive knowledge (Questions 4-6) and (iii) Goal orientation (Questions 7-9) respectively.

Table 3: Entrepreneurial Mind-set

Dimensions	Variables	Type of variable	Questions
Entrepreneurial mind-set_ESE	Entrepreneurial self-efficacy	Independent variable	1. I am able to achieve most of the goals I have set for myself. 2. When facing difficult tasks, I am certain I will accomplish them. 3. Even when things are tough, I can perform quite well.
Adaptive Cognitions_MK	Metacognitive knowledge	Dependent variable	1. I challenge my own assumptions about a task before I begin. 2. I think about how others may react to my actions.

			3. I find myself automatically employing strategies that have worked in the past.
Adaptive cognition_GO	Goal orientation	Dependent variable	1. I often define goals for myself. 2. I understand how the accomplishment of a task relates to my goals. 3. I set specific goals before I begin a task.

3.6 Procedure for data collection

The data was collected using questionnaires and targeted a sample of 200 SMEs in all sectors included both genders (male and female) in Gauteng (South Africa). Primary data had been used previously to collect data by means of questionnaires/instruments.

The questionnaire was administered online using Qualtrics software and an e-mail containing the survey link was sent to each and every target respondent to complete. Anonymity of respondents is assured when completing the survey. According to Cooper and Schindler (2011), survey questions that give assurance of anonymity of respondents increases the responses.

3.7 Data analysis and interpretation

Data was captured in Qualtrics and then cleaned before it was analysed using SPPS V25. This helped with cleaning, identifying missing data and minimises residuals in the constructs measured. Before the data could be analysed using IBM SPSS V.25, the researcher started by checking for the completeness and quality of the data then coded

the data. Different statistical techniques were used to analyse the data which included descriptive statistics, correlation coefficients, linear regression analysis and analysis of variance (ANOVA).

In essence, graphical displays were used to capture the accuracy of the distributions and variable relationships [CITATION Coo11 \l 7177]. Moreover, frequency tables were used to arrange data from the highest to the lowest as clearly displayed by percentages. Bar charts and pie charts helped with relative comparisons of nominal data [CITATION Coo11 \l 7177]. Thereafter, this was followed by descriptive statistics and correlation analysis. Then the researcher performed the assumptions testing by checking for normality, outliers, linearity, multicollinearity and t-tests.

Exploratory data analysis (EDA) is associated with the calculation of descriptive statistics and frequencies in search of clues and patterns in the data (Cooper & Schindler, 2011). Moreover, graphical displays are used in order to give an accurate overview of distributions and variable relationships (Cooper & Schindler, 2011). According to Cooper and Schindler (2011), bar charts and pie charts assist with relative comparisons of nominal data. Multiple regression analysis can describe the relationships among two or more interval scaled variables (Hair, Anderson, Babin, & Black, 2010). Correlation helps figure and identify whether there is any linear relationship that exists between dependent and independent variables (Creswell, 2013).

Furthermore, multiple regression analysis assumes:

The linearity of the phenomenon measured, the constant variance of error terms, and independence of error terms, lastly, normality of error term distribution (Hair et al., 2010).

3.8 Validity and reliability

In this section, the researcher looked at reliability and validity which indicates the adequacy and accuracy of the measurement procedures that are evaluated in research studies (Field, 2013; Bhattacherjee 2012). Validity is the extent to which the measure accurately represents the underlying construct which is supposed to be measured (Field,

2013). In order to keep a certain degree of accuracy of the underlying construct, adherence to both theoretical and empirical approaches was ensured.

3.8.1 External validity

External validity involves the generalisability of the research findings to the population (Cooper, Schindler, & Sun, 2006). It is about ensuring that the findings from the sample will apply in real life and in other contexts (Weiner, 2007; Galawe, 2017). Statistically, the bigger the sample one has, the more response rate one can expect, which should automatically increase the level of confidence with respect to findings and one should be able to generalise the study to other contexts.

The proposed study was based on four diverse incubation and innovation hubs around Gauteng, South Africa, characterised by a fairly large sample size with an expected high response rate. The researcher was able to generalise the findings to other similar incubation hubs. However, the findings may have a limited generalisability on the traditional start-up environment like rural areas, townships and urban parts of South Africa.

3.8.2 Internal validity

Internal validity refers to the results experienced in a study which are due to the manipulation of the independent variable and not some other factor[CITATION McL13 \l 7177]. To avoid any bias and errors when conducting this study, the researcher used an instrument which had been previously used in similar research studies. The targeted respondents of this research study are educated, and they did not have any challenges with respect to cognitive abilities. Thus, the method followed cannot be biased.

The fact that data was collected using questionnaires and not physically having a face-to-face conversation or interview may result in a participant giving what she/he thinks is required during data collection.

3.8.3 Reliability

Reliability is a key concern when measuring a behaviour or attribute when using a psychological test (Drost, 2011). In other words, reliability is the degree to which the measurement can be done more than once, when different people execute the measurements on different events, under different conditions, with purportedly optional instruments which measure the same constructs. As Hair et al. (2010) suggest, the researcher used the following reliability measures: Cronbach's Alpha >.7, Item-to-total correlations >.5 and Inter item correlations >.3

In total essence, reliability is the uniformity of measurement (Bollen, 1989) or constancy of measurement over a collection of different conditions which yields the same results obtained (Nunnally, 1975). Reliability is always estimated and not measured; one should always bear that in mind. Cronbach alpha and Kuder-Richardson coefficient are the most commonly used to measure the internal consistency in a questionnaire or instrument. 'Data generated from behavioural research studies are influenced by certain systematic and non-systematic errors of measurement (Drost, 2011). Random errors and systematic errors are forms of measurement errors (Rosenthal & Rosnow, 2011).

These are Test/Retest and Internal consistency. Test/Retest refers to the consistent repeated method used to estimate reliability. The logic behind Test/Retest is that one should obtain the same results on both tests (e.g., same score for test 1 and test 2). Internal consistency is concerned with the consistency of test components (Drost, 2011).

According to Rossiter (2011), internal consistency is measured using Cronbach's alpha 'on a multiple-item' of a construct or variable. Internal consistency estimates the extent to which the items used in an instrument measure a certain behaviour or trait in the test. The researcher ensured reliability by using Test-retest and internal consistency to avoid certain emotional bias and errors. The Cronbach alpha (α) should be ≥ 0.7 ($\alpha \geq 0.7$). Cronbach's alpha coefficients was run to test the reliability of the instrument scale (Cronbach, 1951).

In this regard, the researcher used internal consistency reliability analysis. The idea behind the use of internal consistency reliability analysis is that the variables in the

sample should be measuring the same construct and thus be highly inter-correlated (Hair et al., 2010; Mthanti, 2012). Firstly, Hair et al. (2010) suggested that in order to diagnose internal consistency, one should consider inter-item correlations and item-to-total correlations. Hair et al. (2010) suggest that researchers should use as a diagnostic measure a reliability coefficient, with Cronbach's alpha being the most commonly used[CITATION Mth12 \l 7177]. The recommended lower limit for Cronbach's alpha is 0.7[CITATION Nun78 \l 7177]. In this study, the Cronbach Alpha .788 exceeds the recommended Cronbach Alpha of 0.7.

A pilot study of 10 sample respondents was run to measure reliability and validity of the sample selected.

CHAPTER 4: PRESENTATION OF RESULTS

4.1 Introduction

The objective of this chapter is to present and interpret the results from the study's analysis. The chapter begins with the presentation of the demographics of the respondents (entrepreneurs), followed by the results of hypotheses and lastly, the summary of the results.

4.2 Demographic profile of respondents

The researcher targeted 185 respondents from different incubation hubs in Gauteng, but only 143 responded to the online survey distributed through Qualtrics and using paper-based questionnaires. There were five responses that were not complete and the researcher decided to remove those from further analysis. Hair, Anderson, Babin and Black (2010) suggest that the minimum sample size of 50 responses is deemed sufficient for conducting multiple regression analysis. Moreover, Arrindel and van der Ende (1985) argued that the sample sizes of less than 100 responses cannot provide stable factors when using exploratory factor analysis. Therefore, a sample size of 143 responses is sufficient for conducting factors when using exploratory factor analysis.

4.2.1 Gender and Ethnicity

The sample characteristics of respondents shows that more males (61.8%) than females (38.2%) were sampled overall. Furthermore, most respondents were blacks (82.6%), followed by whites (6.5%), Asians (2.6%), Indians (2%) and then coloureds (0%). Table 4.2 illustrates how the sample is distributed according to gender and Table 4.3 shows the race. The results suggest a need to develop incubation hubs that promote inclusive entrepreneurship for under-represented racial groups. Although some entrepreneurs might have sufficient resources to run their businesses successfully independently of such incubation hubs, there might be a number of SMEs that might really make good use of such resources provided by incubation hubs.

Frequency table

Table 4 illustrates that more than half a percentage in terms of gender is represented by males (61.8%) and females only accounts for 38.2%, which is relatively low since the country is tirelessly working on women participation and transformation in key strategic sectors of the economy, especially black women, as defined in the Employment Equity Act.

Table 4: Gender

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	89	62.24	61.8	61.8
	Female	54	37.76	38.2	100.0
	Total	143	100.0	100.0	
Total		143	100.0		

Figure 3 shows that black Africans (84.62%) are predominantly well represented in these incubation hubs, followed by whites (10.5%), Indians (2.1%) and lastly, Asians (2.1%). One could argue that a fair percentage of black Africans in such incubation hubs is represented by black males. The researcher at this point cannot give any information on the coloured entrepreneurs in such incubation hubs since there are no statistics presented in the analysis.

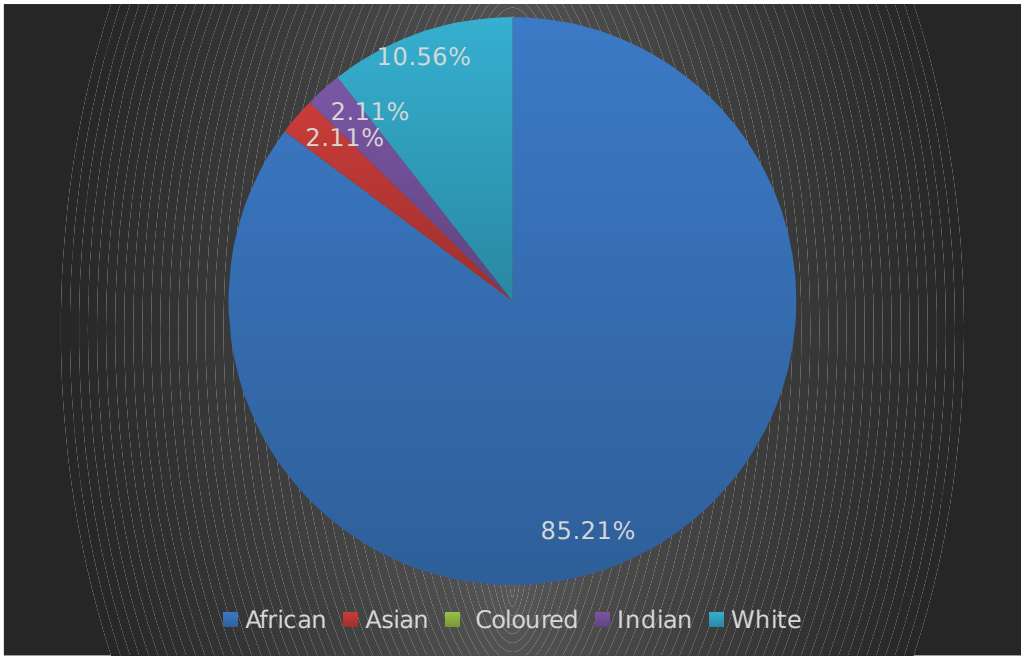


Figure 3: Ethnicity

4.3 Exploratory Factor Analysis

Exploratory factor analysis was performed using SPSS for all the item scales to determine the number and structure of factors. The extraction method used was principal axis factoring (PAF) with Kaiser's criterion and scree plot. The rotation method used to optimise the factor structure was Promax which is an Oblique method. Oblique rotation was chosen because the factors are posited to be decomposed. The pattern matrix was preferred over structure matrix for interpretative purposes because it contains information about the unique contribution of a variable to a factor and is easy to interpret [CITATION Fie13 \t \l 7177].

This section begins by reporting and interpreting the exploratory factor analysis results of the analysed constructs.

4.3.1 Factor Analysis DV- Goal Orientation

Table 5: KMO and Bartlett's Test

As illustrated in Table 5, a statistically significant Bartlett's test of sphericity (p= .000) and a satisfactory Kaiser-Meyer-Olkin measure of sampling adequacy is greater than 0.5, (KMO=0.725; p<0.05) which means that sample size and the set of variables were adequate for factor analysis[CITATION Gal17 \l 7177]. Furthermore, the researcher conducted Bartlett's test of sphericity to test that the original correlation matrix is an identity matrix and appropriate for factor analysis (Hair et al., 2010). The results indicated by Bartlett's test of Approx. Chi-Square =175.959, DF =6, p<0.05, presented that the correlation between items is large enough and significant for factor analysis.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.725
Bartlett's Test of Sphericity	Approx. Chi-Square	175.959
	df	6
	Sig.	.000

Initially, the study had nine items per factor before running the tests. Many of these items were not clear as to which factor they were loading to (cross loadings) and other items loaded negatively on some factors. Moreover, a few factors were below the cut-off score of 0.4 and such items were excluded during exploratory factor analysis. The researcher expected to have a minimum of three or four items per factor (for example, the independent variable having three or four items loading to it) and so is the dependent variable. After running the exploratory factor analysis tests, it was seen that there were cross-loadings as well as negative loadings, the researcher then had to run IV and DV independently.

The results showed that one of the dimensions of Metacognitive knowledge loaded with the Goal Orientation factor, therefore, the researcher treated the dimension as one of the Goal Orientation dimensions and formulated a new hypothesis. This came after the metacognitive knowledge (as a dependent variable) could not have fewer than three items loadings to it, so a factor could not be made since no convergence was present. Therefore, the new EFA consisted of entrepreneurial self-efficacy (Independent

variable) with three items that make a factor and Goal Orientation (Dependent variable) with four items that make that factor.

The following tables shows the results obtained by the researcher:

Table 6: Total variance explained for goal orientation

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.435	60.870	60.870	2.002	50.056	50.056
2	.738	18.444	79.314			
3	.528	13.192	92.506			
4	.300	7.494	100.000			
Extraction Method: Principal Axis Factoring.						

Scree plot

Table 6 illustrates that the one factor explains 60.87% of the total variance, as shown in the scree plot. The one (1) factor is shown below in figure 1. The scree plot is not in agreement with the eigenvalue rule, since the scree plot displays one factor if the cut-off is by the point of inflexion. In this case, the scree plot only displays a rough estimate of possible factors in terms of numbers since it is not considered to extract factors.

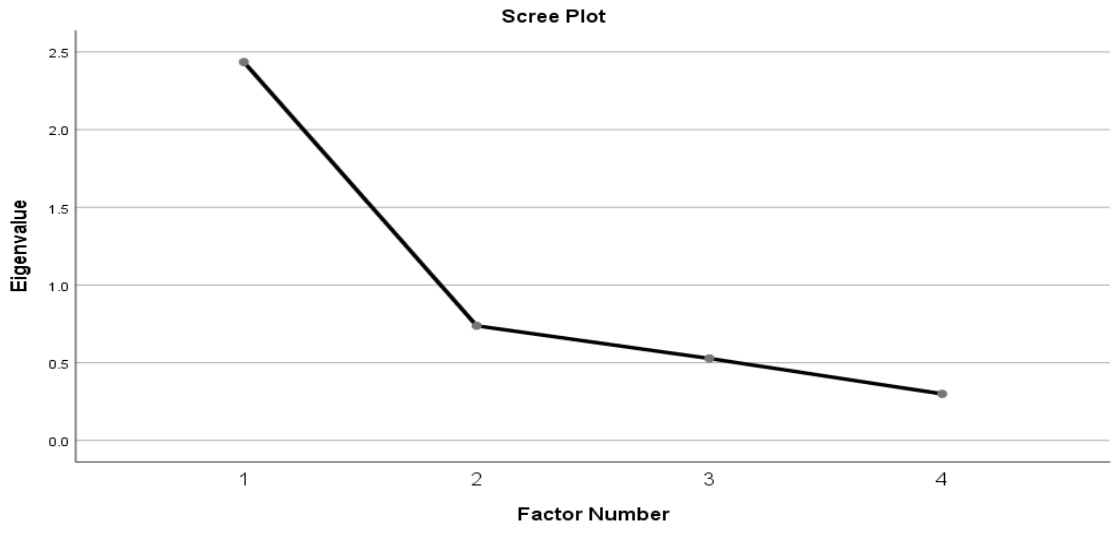


Figure 4: Scree plot-Goal Orientation

Table 7: Factor Matrix-Goal Orientation

The factor matrix illustrates the items that converged to factor 1 and they are all above the cut-off point of 0.4. These items include one item of the metacognitive knowledge dimension that converged with the goal orientation dimension of the adaptive cognitions. The initial goal orientation items are those loading the highest and the recent item is the one loading the lowest of them all.

Factor Matrix[a]	
	Factor 1
GO2	.924
GO3	.680
GO1	.648
MK1	.518
Extraction Method: Principal Axis Factoring.	
a. 1 factors extracted. 14 iterations required.	

4.3.2 Factor Analysis for an Independent variable (ESE)

Table 8: KMO and Bartlett's Test-Entrepreneurial self-efficacy

As illustrated in Table 8, a statistically significant Bartlett's test of sphericity (p= .000) and a satisfactory Kaiser-Meyer-Olkin measure of sampling adequacy is greater than 0.5, (KMO=0.725; p<0.05) which means that sample size and the set of variables were adequate for factor analysis[CITATION Gal17 \l 7177]. Furthermore, the researcher conducted Bartlett's test of sphericity to test that the original correlation matrix is an identity matrix and appropriate for factor analysis (Hair et al., 2010). The results indicated by Bartlett's test of Approx. Chi-Square =175.959, DF =6, p<0.05, presented that the correlation between items is large enough and significant for factor analysis.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.609
Bartlett's Test of Sphericity	Approx. Chi-Square	151.373
	df	3
	Sig.	.000

Table 9: Communalities-Entrepreneurial self-efficacy

The initial test for ESE1 = .605 with an extraction value of = .988, ESE2 initial test is =.541 with an extraction value of =.547, lastly ESE3 initial test is = .259 (which is the lowest) with an extraction value of = .261 (the lowest extraction value).

Commonalities		
	Initial	Extraction
ESE1	.605	.988
ESE2	.541	.547
ESE3	.259	.261
Extraction Method: Principal Axis Factoring.		

Table 10: Total Variance Explained-Entrepreneurial self-efficacy

The results from table 10 show that 1 factor extracted explained a total of 69.837% of the variance with Factor 1 = 69.837%. This factor was extracted from the table, which explains the cumulative variance in percentage.

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.095	69.837	69.837	1.796	59.865	59.865
2	.659	21.962	91.799			
3	.246	8.201	100.000			
Extraction Method: Principal Axis Factoring.						

Table 11: Factor Matrix-Entrepreneurial self-efficacy

The factor matrix illustrates the items that converged with factor 1 and they are all above the cut-off point of 0.4. All these items are ESE_total items which loaded positively on the factor. These items indicate the convergence on the entrepreneurial self-efficacy dimension.

Factor Matrix[a]	
	Factor
	1
ESE1	.994
ESE2	.740
ESE3	.511
Extraction Method: Principal Axis Factoring.	
a. Attempted to extract 1 factor. More than 25 iterations required. (Convergence=,001). Extraction was terminated.	

Scree Plot-Entrepreneurial self-efficacy

Table 10 illustrates that the one factor explains 69.837% of the total variance, as shown in the scree plot. The one (1) factor is shown below.

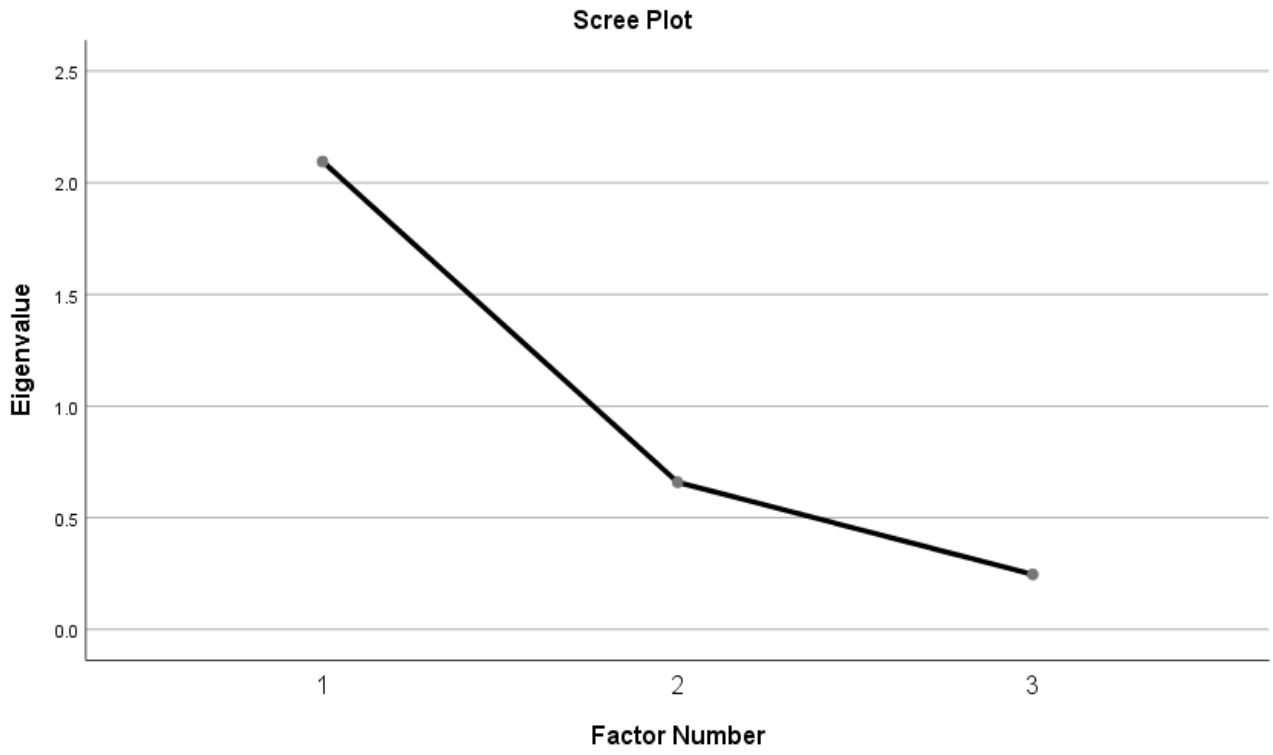


Figure 5: Scree plot-Entrepreneurial self-efficacy

4.4 Reliability Analysis

This section shows the reliability analysis results which are Cronbach alpha, Inter-Item correlation matrix and inter-item statistics.

4.4.1 Scale: Goal_Orientation

Table 12: Reliability Statistics for Goal Orientation

The recommended lower limit for Cronbach's alpha is 0.7 (Nunnally, 1975). In this study, the Cronbach alpha 0.774 exceeds the recommended Cronbach alpha of 0.7 and it means that the diagnostic measure is reliable.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	No of Items
.774	.781	4

Table 13: Inter-Item Correlation Matrix

Table 13 illustrates the inter-item correlation matrix among the items that make up the goal orientation (new) dimension of adaptive cognitive with four items. The inter-item correlation matrix of **GO1** with **GO2** is = .637, inter-item correlation matrix of **GO1** with **G3** is = .427 and inter-item correlation matrix of **GO1** with **MK1** is = .282 (which is lowest of them all). The inter-item correlation matrix of GO2 with GO3 is = .599, **GO2** inter-item correlation matrix with **MK1** is = .467. The **GO3** inter-item correlation matrix with **MK1** is =.418. The inter-item correlation matrix as shown below shows that there is a positive correlation between the items. Since all the items shown below are positive, this means that they are measuring the same underlying characteristics.

Inter-Item Correlation Matrix				
	GO1	GO2	GO3	MK1
GO1	1.000	.637	.427	.282
GO2	.637	1.000	.599	.467
GO3	.427	.599	1.000	.418

MK1	.282	.467	.418	1.000

Table 14: Inter-Total Statistics

GO1 scale mean is = 17.35, scale variance= 6.891, correlation = .545, Squared multiple correlation of .410 and Cronbach Alpha of = .743. **GO2** scale mean is = 17.57, scale variance= 5.388, correlation = .730, Squared multiple correlation of .572 and Cronbach Alpha of = .637. **GO3** scale mean is = 17.73, scale variance= 5.538, correlation = .603, Squared multiple correlation of .387 and Cronbach Alpha of = .707. **MK1** scale mean is = 18.14, scale variance= 6.008, correlation = .473, Squared multiple correlation of .249 and Cronbach Alpha of = .781. The columns present the value that the Cronbach alpha would likely be if certain items were to be removed from the scale. Table 14 shows that removing item GO1, GO2 and GO3, except for ESE3, would lower the Cronbach's alpha.

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
GO1	17.35	6.891	.545	.410	.743
GO2	17.57	5.388	.730	.572	.637
GO3	17.73	5.538	.603	.387	.707
MK1	18.14	6.008	.473	.249	.781

4.4.2 Scale: Entrepreneurial Self-Efficacy

This section shows the reliability analysis results which are reliability statistics, inter-item statistics, inter-item correlation matrix, inter-total statistics, scale statistics and reliability analysis for all variables.

Table 15: Reliability Statistics

The recommended lower limit for Cronbach's alpha is 0.7 (Nunnally, 1975). In this study, the Cronbach alpha 0.783 exceeds the recommended Cronbach alpha of 0.7 and it means that the diagnostic measure is reliable.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	No of Items
.783	.779	3

Table 16: Inter-Item Correlation Matrix

Table 16 shows the inter-item correlation matrix of ESE items where the inter-item correlation matrix of **ESE1** with **ESE2** = .736 and inter-item correlation matrix of **ESE1** with **ESE3** is = .509. Lastly, inter-item correlation matrix of **ESE2** with **ESE3** = . 376. The inter-item correlation matrix, as shown below, shows that there is a positive correlation between the items. Since all the items shown below are positive, this means that they are measuring the same underlying characteristics.

It shows that the ESE Inter-Item Correlation Matrix which is positive, and most items indicate a strongly correlation of above 0.5.

Inter-Item Correlation Matrix			
	ESE1	ESE2	ESE3
ESE1	1.000	.736	.509
ESE2	.736	1.000	.376
ESE3	.509	.376	1.000

Table 17: Item-Total Statistics

ESE1 scale mean is = 11.87, scale variance= 3.201, correlation = .767, Squared multiple correlation of .605 and Cronbach Alpha of = .529. **ESE2** scale mean is = 11.80, scale variance= 3.487, correlation = .668, Squared multiple correlation of .541 and Cronbach Alpha of = .656. **ESE3** scale mean is = 11.65, scale variance= 5.243, correlation = .475, Squared multiple correlation of .259 and Cronbach Alpha of = .848. The columns present the value that the Cronbach alpha would likely be if certain items

were to be removed from the scale. Table 17 shows that removing item ESE1 and ESE2, except for ESE3, would lower the Cronbach's alpha.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
ESE1	11.87	3.201	.767	.605	.529
ESE2	11.80	3.487	.668	.541	.656
ESE3	11.65	5.243	.475	.259	.848

4.5 Descriptive Statistics

This section shows the descriptive statistics results for both Goal_Orientation and Entrepreneurial self-efficacy.

Table 18: Descriptive Statistics

Descriptive Statistics

	Mean	Std. Deviation	N
Goal_Orientation	5.8986	.78455	143
Entrepreneurial self-efficacy	5.8858	.94704	143

Goal_Orientation had a mean of = 5.8986, standard deviation of = .78455 and with four items. On the other hand, Entrepreneurial self-efficacy had a mean of = 5.8858, standard deviation of = .94704 and with three items. The standard
deviation assists to calculate with a 95% level of confidence to have a sense of where the sample mean lies. For example, the Goal_Orientation and Entrepreneurial self-efficacy is 95% confident that the sample mean lies between 5.8986 and 5.8858.

4.6 Correlation Analysis

Table 19 shows the correlation matrix which suggests that the constructs measured could be interrelated and therefore independence of factors can never be generalised.

The correlation between Entrepreneurial self-efficacy and Goal_Orientation is = .795 with a significant p-value = .000 ($p<0.05$).

Table 19: Correlation Matrix

		Entrepreneurial self-efficacy	Goal_Orientation
Correlation	Entrepreneurial self-efficacy	1.000	.795
	Goal_Orientation	.795	1.000
Sig. (1-tailed)	Entrepreneurial self-efficacy		.000
	Goal_Orientation	.000	
N	Entrepreneurial self-efficacy	143	143
	Goal_Orientation	143	143

4.7 Regression Assumptions testing

This section shows the results of the regression assumptions testing which includes multicollinearity and normality. Regression assumptions testing looks at whether or not there are any assumptions violated before the running of the actual regression analysis.

4.7.1 Multicollinearity

First it is important to note that from the correlation analysis, there were no correlation coefficients that were greater than 0.8, thus no evidence of multicollinearity. Table 20 shows the collinearity diagnostics of Entrepreneurial self-efficacy with Goal_Orientation showing two dimensions and an eigenvalue that is above 1.

Table 20: Collinearity diagnostics

In theory, values that are greater than 15 indicate that there might be a problem with collinearity and values that are above 30 indicate a serious problem of collinearity. In this instance, two condition indices are less than 15 which means that there is no problem of multicollinearity.

Table 20 illustrates that there is no multicollinearity between ESE_total and GO_total as shown on the collinearity statistics column. Both the dependent and independent

variables are significant with a p-value = .000 (p<0.05). Table 4.18 below shows that GO_total is significant with p= .000, 95% BCa (5.226:8.721). Furthermore, ESE_total is significant with GO_total, p= .000, 95% BCa (.535: .730) and a (β=.795).

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2.020	.252		8.015	.000	1.522	2.518		
	Entrepreneurial Self-Efficacy	.659	.042	.795	15.587	.000	.575	.743	1.000	1.000

a. Dependent Variable: Goal_Orientation

4.7.2 Normality

This section shows the results of normality in terms of Q-Q plots for both Goal_Orientation (dependent variable) and Entrepreneurial self-efficacy (predictor).

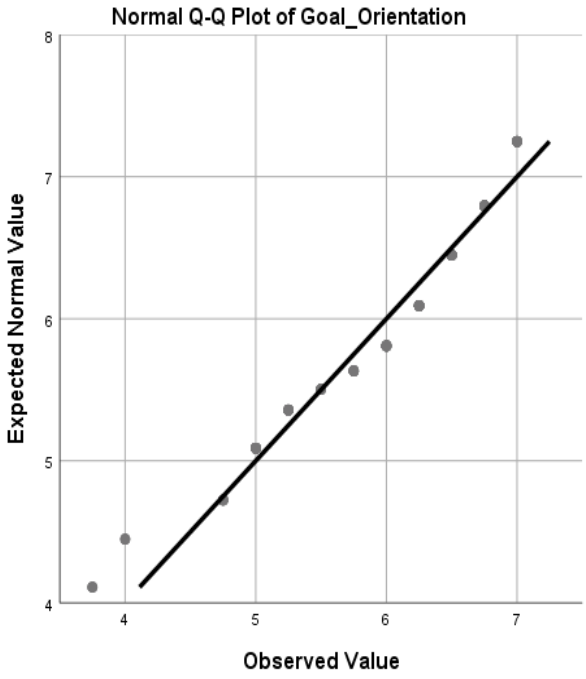


Figure 6: Q-Q plot-Goal Orientation

The Q-Q Plot of Goal Orientation seems to follow a normal distribution.

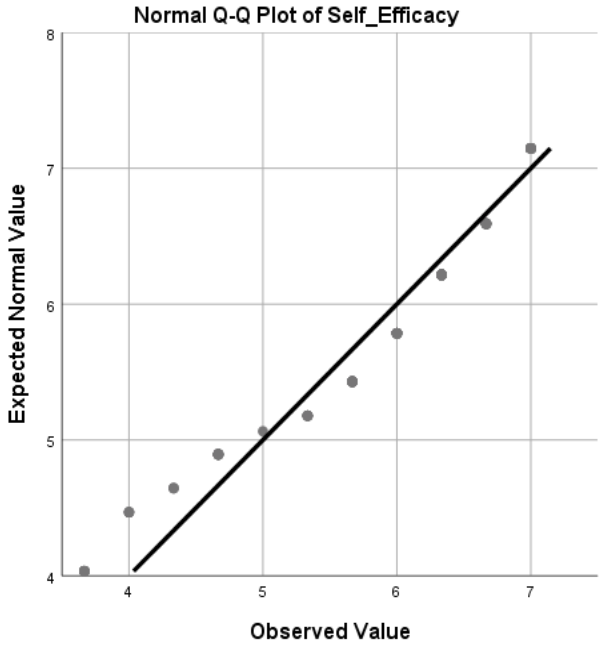


Figure 7: Q-Q plot-Entrepreneurial self-efficacy

The Q-Q Plot of Entrepreneurial Self-efficacy seems to follow a normal distribution. The Q-Q Plot of GO_total seems to follow a normal distribution.

In conclusion, the data in table 21 indicates a little skewness and kurtosis, for all Entrepreneurial self-efficacy and Goal_Orientation, but it does not differ significantly from normality.

Table 21: Skewness and Kurtosis

Concluding, regarding skewness and kurtosis: The data is a little skewed and kurtotic, for both Goal_Orientation and ESE_total, but it does not differ significantly from normality. The researcher assumes that the data is approximately normally distributed, in terms of skewness and kurtosis. As the rule of thumb, the cut-off points for skewness is -0.8 and 0.8 and for kurtosis is +/-3.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Goal_Orientation	143	3.75	7.00	5.8986	.78455	-.701	.203	-.054	.403
Entrepreneurial self-efficacy	143	3.67	7.00	5.8858	.94704	-.848	.203	-.102	.403
Valid N (listwise)	143								

4.7.3 Linearity

There is evidence of linearity between the dependent and independent variables, the correlation matrix showed that the correlation co-efficient is greater than 0.3 (table 19) thus implying linearity. Figure 6- and figure 7 shows that there is a linear positive relationship on both variables.

4.7.4 Outliers

Figure 6-7 shows that there are no severe outliers on both the variables, each item has at least two outliers. Such outliers may have been caused by a variability in the measurement or due to an experimental error. As indicated in figure 6 and figure 7 above, they are not extreme outliers.

4.8 Hypothesis testing

4.8.1 Hypothesis 1

H1: Entrepreneurial self-efficacy (developing new product and market opportunities) has an influence on the metacognitive knowledge dimension of adaptive cognition

This hypothesis 1 was withdrawn because items could not converge during the exploratory factor analysis tests, the researcher noticed that there were many items that were not loading appropriately to any factor.

4.8.2 Hypothesis 2:

H_2: Developing new product and market opportunities has an influence on the goal orientation dimension of adaptive cognition.

Similarly, to hypothesis 1, hypothesis 2 was withdrawn because items could not converge during the exploratory factor analysis tests, the researcher noticed that there were many items that were not loading appropriately to any factor.

These hypotheses (Hypothesis 1 and Hypothesis 2) could not hold after the researcher ran the tests and the loadings were not clear as to which items loadings were in different factors. It seemed like the respondents responded to the questions as if they were asking the same thing. After the EFA, the Goal_Orientation was shown to hold as well as the Entrepreneurial self-efficacy, as shown by the exploratory factor analysis (EFA), as well as the reliability tests. The Goal_Orientation then had four items loading under it. Hence, a new hypothesis emerged to check the influence that the Entrepreneurial self-efficacy dimension has on the Goal-Orientation dimension of adaptive cognition.

H_3: Developing new product and market opportunities has an influence on the goal orientation dimension of adaptive cognition.

4.8.3 Hypothesis 3

The influence of ESE_total (developing new product and market opportunities) has an influence on the Goal_Orientation dimension of adaptable cognition.

The predictor variable (ESE_total) has an influence on goal_orientation, as shown by the empirical evidence that p= .000 (<0.05). This hypothesis emerged because it did converge after the exploratory factor analysis tests and had no negative loading of items on the factors.

Table 22 shows the model summary of the predictor (entrepreneurial self-efficacy) and dependent variable (goal_orientation). The model summary shows the R= .795, R square = .633, Adj. R square of =.630, Std. Error of the estimate of = 4.7712 and Durbin-Watson of = 2.217. This R indicates a strong positive regression line between entrepreneurial self-efficacy and goal-orientation. The results in the model summary showed that ESE explained 63.3% of variation in goal_orientation as shown by an r-square of 0.633. Durbin Watson statistic of 2.217 showed there is independent observation since it is close to 2. Table 22 shows that the model explains 63.3% of the variance.

Table 22: Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.795[a]	.633	.630	.47712	2.217

a. Predictors: (Constant), Entrepreneurial Self-Efficacy

b. Dependent Variable: Goal_Orientation

The ANOVA shows the sum of squares of = 22.307, DF= 1, Mean Square of = 55.307, F= 242.960 and Sig. = .000 (P< .05). Table 23 indicates that the model summary was significant in its prediction of the goal orientation dimension.

Table 23: ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.307	1	55.307	242.960	.000[b]
	Residual	32.097	141	.228		
	Total	87.405	142			
a. Dependent Variable: Goal_Orientation						
b. Predictors: (Constant), Entrepreneurial Self-Efficacy						

Table 4.24 shows the coefficients of goal_orientation: 95% BCa (1.522: 2.518) with a significant p = .000 (P<.05) and entrepreneurial self-efficacy: 95% BCa (.575:.743) with a significant p = .000 (P<.05) and a Beta (β= .795).). For every unit change in goal orientation, entrepreneurial self-efficacy changes by 0.659. Therefore 79.5% of the change in goal orientation is explained by ESE.

Table 24: Coefficients

Coefficients[a]										
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2.020	.252		8.015	.000	1.522	2.518		
	Entrepreneurial Self-Efficacy	.659	.042	.795	15.587	.000	.575	.743	1.000	1.000
a. Dependent Variable: Goal_Orientation										

4.9 Summary of the results

The factors that were eliminated during the reliability analysis were because they could not meet the set criteria for a reliable and consistent construct. It is only factors that were tested for convergence and divergence validity using EFA that were deemed reliable and consistent in this study. Similar to hypothesis 1, hypothesis 2 was withdrawn because items could not converge during the exploratory factor analysis tests, the researcher noticed that there were many items that were not loading appropriately to any factor. The second hypothesis did not converge either because of the factor loadings of the items, therefore it was not supported.

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

The study investigated the influence of entrepreneurial self-efficacy (developing new product and market opportunities) on adaptive cognitions dimensions which is metacognitive knowledge. Moreover, it investigated the influence of entrepreneurial self-efficacy (developing new product and market opportunities) on adaptive cognitions dimension which is goal orientation. Subsequently, a conceptual framework was developed which shows the influence between entrepreneurial self-efficacy dimensions with the adaptive cognition dimensions.

This chapter covers the following key concepts; the demographics profile of respondents, discussion pertaining to Hypothesis 1, discussion pertaining to Hypothesis 2, hypothesis 3 and lastly, the conclusion.

5.2 Demographic profile of respondents

As alluded in chapter 4, the sample characteristics of respondents' shows that more males (61.8%) than females (38.2%) were sampled overall. Furthermore, most respondents were blacks (84.62%), followed by whites (10.5%), Asians (2.1%), Indians (2.1%) and then coloureds (0%). Table 4 illustrates how the sample is distributed according to gender and Figure 3 shows the race. The results suggest a need to develop incubation hubs that promote inclusive entrepreneurship for under-represented racial groups.

The researcher was expecting to find a balanced percentage of those previously disadvantaged individuals in incubation hubs, equally represented in such entrepreneurial ecosystems leveraging on resources that are at their disposal. Contrary to other expectations, the researcher thought it would prove both the adaptable cognitions to be dependent on the entrepreneurial self-efficacy dimension which is "developing new product and market opportunities".

Hence, the first hypothesis posed by the researcher was that the entrepreneurial self-efficacy dimension tested in the study had an influence on metacognitive knowledge of adaptive cognition.

5.3 Hypothesis 1 and Hypothesis 2

The results of hypothesis 1 and 2 were withdrawn because items could not converge during the exploratory factor analysis tests; the researcher noticed that there were many items that were not loading appropriately to any factor. The literature suggests that entrepreneur's entrepreneurial self-efficacy is the individuals' beliefs on the ability to successfully perform various roles and tasks of entrepreneurship (DeNoble et al., 1999), while metacognitive knowledge is defined as one's conscious understanding of cognitive matters as they relate to people, tasks, and strategy (Flavell, 1979; von Wright, 1992), thus, this 'could be internally and externally directed'[CITATION Hay09 \l 7177].

The researcher only focused on showing that the entrepreneurial self-efficacy dimension has an influence on the metacognitive knowledge dimension of adaptive cognition. The literature based on empirical review had identified that these are contextual, dynamic and adaptable. That means that, although they might not apply to every case or scenario the same, it cannot be guaranteed that one entrepreneur can make an exact decision that another would or can. At the same time, as these can be adaptable, it is difficult to suggest or conclude that such decisions are contagious. The first hypothesis therefore, could not converge after the exploratory factor analysis that tests for the variability of the factors from domain knowledge (Glenberg & Epstein, 1987; Haynie & Shepherd, 2009).

In a nutshell, both hypothesis 1 and hypothesis 2 were flawed as they could not pass the tests after exploratory factor analysis as was shown on the pattern matrix. The factor matrix of the Entrepreneurial self-efficacy and Goal_Orientation displayed a convergence of the items loadings to the factor. Thus, this resulted in the emergence of the new hypothesis 3 which included an item of the Metacognitive knowledge (MK_1) which loaded in the Goal_Orientation.

5.4 Hypothesis 3

Hypothesis 3: ESE (developing new product and market opportunities) has an influence on Goal Orientation

To answer the hypothesis, the correlation between the independent variables (developing new product and market opportunities) and the dependent variable (goal orientation) was assessed. Table 23 shows that developing new product and market opportunities was significantly related to goal orientation. Hypothesis 3 is supported and significant, therefore the study concludes that developing new product and market opportunities have an influence on the goal orientation dimension. This dimension included an item of metacognitive dimension, which the researcher incorporated with the Goal_Orientation dimension as it converged and loaded positively on the factor.

To understand how this relationship of context and motivation gives rise to the term goal orientation, Haynie and Shepherd (2009) defined this to be: 'the process to which the individual interprets environmental variations in light of a wide variety of personal, social, and organizational goals' (Haynie & Shepherd, 2009).

Goal orientation acts as a catalyst to the metacognitive resources of metacognitive knowledge and metacognitive experience (Haynie & Shepherd, 2009) which are also the dimensions of adaptable cognitions. The goal orientation dimension suggests that motives influence how context is perceived and interpreted (Griffin & Ross, 1991; Schacter, 1996; Haynie & Shepherd, 2009) and at the same time, context may define an individual's motives (Wyer & Srull, 1989; Haynie & Shepherd, 2009). To capture this interaction of context and this kind of motive, Haynie, Shepherd, Mosakowski, and Early (2010) offered the term 'goal orientation', which they defined as: 'the degree to which the individual interprets environmental variations in light of a wide variety of personal, social, and organizational goals'. In conclusion, the literature agrees with these findings.

The purpose of this study was to build on research which suggests that cognitive adaptability, enabled by metacognition, may be an important cognitive process in the entrepreneurial context. Specifically, it was hypothesised that individuals with greater metacognitive abilities will have higher entrepreneurial intentions. The empirical

evidence ensuing from this study provides limited support in that only the knowledge metacognitive dimension was a significant predictor of entrepreneurial intentions.

5.5 Conclusion

The results on the first hypothesised hypotheses were all not supported and not significant as they could not converge. This means that the researcher's hypotheses drawn from the literature review are true, valid and reliable. This study has proven that entrepreneurial self-efficacy and entrepreneurial intentions can be attributed to adaptive cognitions, given the fact that self-efficacy, when viewed as a key antecedent to new venture intentions, is referred to as entrepreneurial self-efficacy (Boyd &Vozikis, 1994; Krueger & Brazeal, 1994; Chen et al., 1998; McGee, Peterson, Mueller, & Sequeira 2009).

Bandura (1977, 1997), however, argued that self-efficacy is supposed to be more applicable on a specific context and activity domain[CITATION McG09 \l 7177]. Haynie and Shepherd (2009) defined cognitive adaptability as "the ability to successfully and appropriately change decision policies (i.e., to learn) given feedback (inputs) from the environmental context in which cognitive processing is embedded".

Empirical study conducted by Rozin (1976) on cognitive tasks suggested that, although such a cognitive task is so hard to accomplish, it has a positive relationship with a decision performance that can be characterised as 'composite, dynamic and inherently uncertain' (Earley & Ang, 2003; Haynie & Shepherd, 2009). Hence, the entrepreneurial environment represents that kind of a context[CITATION Hay09 \l 7177].

CHAPTER 6: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter covers the following key concepts; the conclusion of the study, implications and recommendations, limitations of the study and lastly, suggestions for further research.

6.2 Conclusions of the study

This study makes a contribution to the fields of cognitive psychology and entrepreneurship, mainly by identifying, defining and determining the importance and meaning of entrepreneurial self-efficacy and adaptable cognitions' dimensions while making a distinction between ESE, metacognitive knowledge and goal orientation. The implications of this study indicate that the relationship between ESE, MK and GO is dynamic, adaptable and contextual.

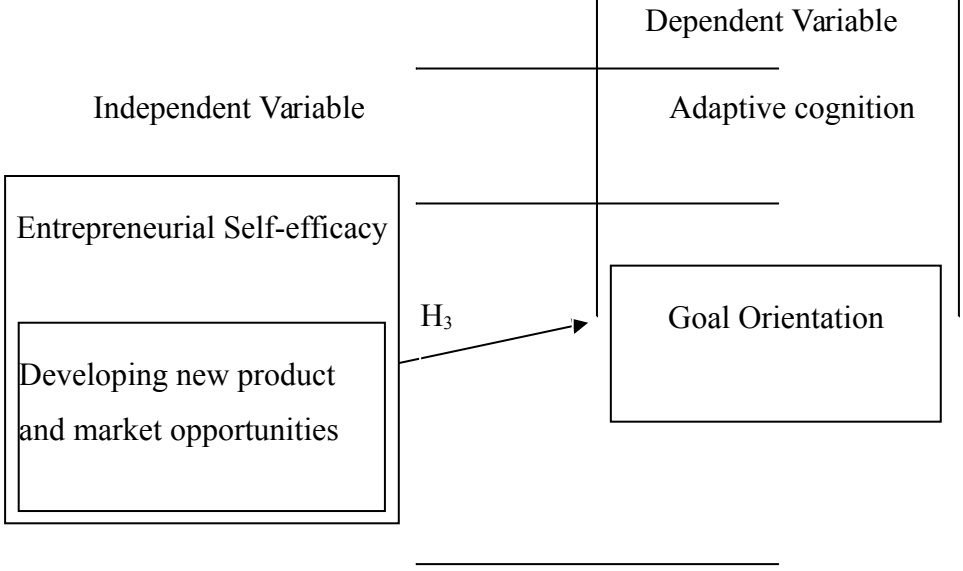
Furthermore, such implication illustrates how the entrepreneurial self-efficacy dimension, metacognitive knowledge and goal orientation are important in incubation hubs and especially SMEs in an emerging market context such as South Africa. In conclusion, Haynie and Shepherd (2009) believed that MAC (measure of adaptive cognition) "opens up" a number of opportunities for important empirical testing of cognitive adaptability in entrepreneurial contexts.

This study contributed to adaptive cognitions, especially on the dimensions of metacognitive knowledge and goal orientation by adding that the MK_1 dimension of metacognitive knowledge in this study converged and loads more positively with the Goal_Orientation dimension. The study then argue that the goal orientation dimension of adaptive cognitions could be more attributed to entrepreneurial self-efficacy than metacognitive knowledge.

Haynie and Shepherd (2009) pointed out that not much attention has been focused on "the role of managing feedback in entrepreneurship in general, and specifically to individual differences in one's ability to "make the most" of feedback". According to

Haynie and Shepherd (2009, p: 707) "early entrepreneurship research adopted a psychological lens to study individual entrepreneurial characteristics". Among other discoveries, Haynie and Shepherd (2009, p: 709) "considered cognitive adaptability as the extent to which individuals are dynamic, flexible, self-regulating, and engaged in the process of generating multiple decision frameworks focused on sensing and processing variations in environments, then subsequently selecting among those multiple alternatives to effectively interpret, plan, and implement a wide variety of personal, social, and organizational goals in the context of a changing reality".

Table 25: The researcher therefore propose a new conceptual framework



6.3 Implications and Recommendations

The researcher recommends that the scholars and researchers of entrepreneurial self-efficacy and adaptable cognition find a model that distinguishes and defines the relationship between them. The researcher only focused on single dimensions of both variables, therefore, the researcher suggests a study on all the dimensions to advance this scholarly field of research and practice. It is advisable for entrepreneurs to hone such an ESE skill as it yields so many results when it comes to decision-making and understanding in the process of developing new product and market opportunities.

6.3.1 Implications for practitioners

Understanding metacognitive processing would assist national policy makers who are trying to encourage more opportunity-focused entrepreneurial behaviour (Haynie, Shepherd, Mosakowski, & Early, 2010). By devoting attention to how entrepreneurs think about thinking, this article makes a contribution towards understanding and assisting in the development of potential entrepreneurs.

In terms of the methodology, the use of SMEs in incubation hubs as a sample is desirable in this type of research as the present study has demonstrated, since metacognition develops throughout childhood, and matures in early adulthood (Schraw, 1998; Haynie, Shepherd, Mosakowski & Early, 2010).

The use of measures, as selected for this study, reinforces that individual entrepreneurial intent has proven to be an important and continuing construct in entrepreneurship theory and research (Barbosa et al., 2008; Haynie, Shepherd, Mosakowski & Early, 2010). Furthermore, it is argued that entrepreneurial intent is substantially more than merely a proxy for entrepreneurship – it is a legitimate and useful construct in its own right that can be used not just as a dependent, but as an independent and a control variable (Thompson, 2009; Haynie, Shepherd, Mosakowski & Early, 2010).

6.3.2 Implications for policy makers

The practical implications of this study can be advanced to include the SMEs in incubation hubs across the country, where consideration of cognitive adaptability and entrepreneurial self-efficacy can enhance individual entrepreneurs and propel adaptable thinking. 'This thinking is needed in an environment where both technology and knowledge are becoming obsolete at a rate unprecedented in history, and subsequently entrepreneurs need metacognitive thinking by employing analogies, as well as synthesising information relative to some goal to deal with the complexity of the business environment, as well as to use an ambidextrous strategy to achieve growth' (Kollmann, Kuckertz & Stoeckmann, 2009; Haynie et al., 2010).

6.4 Limitations of the study

The fact that data was collected using questionnaires and not physically having a face-to-face conversation or interview may have had a limitation as the participant was perhaps not giving the overall information the researcher have intended to get than would have been the case in a qualitative study (i.e., being physically present at the time of data collection). “The principal limitation of this study is also the principal limitation of factor analysis, which relates to methodological approaches to data reduction and analysis: specifically the appropriateness and utility of certain extraction and rotational methods given the purpose and nature of the analysis (exploratory vs. confirmatory; correlated vs. uncorrelated)” (Haynie & Shepherd, 2009, p: 709).

Another limitation is that it cannot be concluded that all entrepreneurial self-efficacy dimensions have an influence on the adaptive cognition dimension, since the researcher only focused on some of these dimensions in this study. Such bias might have resulted in the researcher not getting his/her outcomes right and therefore she/he then needs to re-do the tests by collecting new data and even to select a new sample of participants. Most of the factor items did not converge and loaded negatively on the factors in the pattern matrix.

6.5 Suggestions for further research

6.5.1 For scholars in entrepreneurship and psychology

They must focus on understanding and developing a model for entrepreneurial self-efficacy, goal orientation and metacognitive knowledge. This will help with providing an understanding on how to mitigate flawed risks in the dynamic environment. The psychology branch should further research the impact of goal orientation, metacognitive knowledge and individual self-efficacy as it is suggested that this is one and the same thing based on the literature, which is intentions and entrepreneurial intentions when it come to the field of entrepreneurship.

Another research should focus on developing a meta-analytic study on all the dimensions of entrepreneurial self-efficacy as well as those of adaptive cognition, to

further identify whether is there a correlation and/or influence among these dimensions and what impact they have on individual entrepreneurs.

REFERENCES

Adler, P. S., & Kwon, S.-W. (2002). Social Capital: Prospects for a new concept. *Academy of Management Review, 27*(1), 17-40.

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84* (5), 888–918.

Allen, B., & Armour-Thomas, E. (1993). Construct validation of metacognition. *Journal of Psychology, 127(2)*, 203–211.

Anderson, M. H. (2008). Social network and cognitive motivation to realize network opportunities: A study of managers information gathering behaviours. *Journal of Organizational Behaviour, 29* (1), 51-78.

Arrindel, W. A., & Van der Ende, J. (1985). An empirical test of the utility of the observations to variables ratio in factor and component analysis. *Applied psychological Measurement, 9*(2), 165-178.

Bae, T. J., Qian, S., Miao, C., & Fiet, J. O. (2014). The Relationship Between Entrepreneurship Education and Entrepreneurial Intentions: A Meta-Analytic Review. *Entrepreneurship Theory and Practice*, 38(2),217-254.

Bandura, A. (1978). The self-system in reciprocal determinism. *American Psychologist, 33(4)*, 344–358.

Bandura, A. (2001). Social Cognitive Theory: An Agentic Perspective. *Annual Review of Psychology, 52(1)*, 1-26.

Baron, R. A. (1998). Cognitive mechanisms in entrepreneurship: why and when entrepreneurs think differently than other people. *Journal of Business Venturing, 13*(4), 275-294.

Baron, R. A. (2004). The cognitive perspective: A valuable tool for answering entrepreneurships basic "why" questions. *Journal of Business Venturing, 19(2)*, 221-239.

Becker, G. (1964). *Human capital*. Chicago: University of Chicago Press.

Becker, G. (1975). *Human capital* (2nd ed.). Chicago: University of Chicago Press.

Bollen, K. (1989). *Structural Equations with Latent Variables.* North Carolina: John Wiley & Sons.

Bosma, N., Wennekers, S., & Amoros, J. E. (2011). *GEM extended report: Entrepreneurs and entrepreneurial employees across the globe.* Babson, MA: Babson College.

Boyd, N., Vozikis, & G.S. (1994). The influence of selfefficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice, 18(4)*, 63-77.

Brendeman, H. (2003). Understanding Conflict in Labour Dispute Resolution. *South African Journal of Labour Relations, 27*(1), 81-102.

Brown, A. (1987). Metacognition and other mechanisms. In F. W. (Eds.), *Metacognition, motivation, and understanding* (65–116). Hillsdale, NJ: Lawrence Erlbaum Associates.

Carland, J. W., Hoy, F., & Carland, J. A. (1988). Who is an entrepreneur? Is a question worth asking. *American Journal of Small Business*, 12(4), 33-39.

CCMA. (2001). *Help that bargaining Councils will help with backlog.* Business Day. Retrieved June 6, 2001

Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business Venturing, 13*(4), 295–316.

Cook, T., & Campbell, D. (1979). Quasi-experimentation: Design and analysis issues for field settings. In T. Cook, & D. Campbell, *Quasi-experimentation: Design and analysis issues for field settings* (1-15). Chicago: Rand McNally.: Houghton Mifflin: Boston.

Cooper, D. R., & Schindler, P. S. (2011). *Business Research Methods (11th ed.).* New York: McGraw-Hill/Irwin.

Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods.* New York: McGraw-Hill.

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology, 78*(1), 98-104.

Coser, L. A. (1956). *The functions of social conflict.* Glencoe, IL: The Free Press.

Creswell, J. W. (2009). *Research design: Qualitative and mixed methods approaches.* London: SAGE.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches* . Thousand Oaks, CA: Sage.

Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing, 18*(3), 301–331.

Davis, M. H., Hall, J. A., & Mayer, P. S. (2016). Developing A New Measure Of Entrepreneurial Mindset: Reliability, Validity, And Implications For Practitioners. *Consulting Psychology Journal: Practice and Research, 68*(1), 21-48.

DeNoble, A. F., Jung, D., & Ehrlich, S. B. (1999). Entrepreneurialself-efficacy: The development of ameasure and its relationship to entrepreneurial action. In P. Reynolds, W. Bygrave, S. Manigart, C. Mason, G. Meyer, H. Sapienza, & K. Shaver (Eds.). *Frontiers of entrepreneurship research*, 73–87.

Douglas, E. J. (2013). Reconstructing entrepreneurial intentions to identify predisposition for growth. *Journal of Business Venturing, 28*(5), 633–651.

Drnovsˇek, M., Wincent, J., & Cardon, M. S. (2010). Entrepreneurial self-efficacy and business start-up: developing a multi-dimensional definition. *International Journal of Entrepreneurial Behaviour & Research, 16* (4), 329-348.

Drost, E. A. (2011). Validity and Reliability in Social Science Research. *Education Research and Perspectives, 38*(1), 105-123.

Earley, P., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures.* Palo Alto, CA: Stanford University Press.

Fatoki, O., & Van Aardt Smith, A. (2011). Constraints to credit access by new SMEs in South Africa: A supply-side analysis. *African Journal of Business Management*, 5(4), 1413-1425.

Field, A. (2009). *Discovering statistics using SPSS.* London: Sage publications.

Field, A. (2013). *Discovering statistics using IBM SPSS.* 4th ed. London: Sage.

Fitzsimmons, J. R., & Douglas, E. J. (2011). Interaction between feasibility and desirability in the formation of entrepreneurial intentions. *Journal of Business Venturing, 26*(4), 431–440.

Flavell, J. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist, 34(10)*, 906–911.

Flavell, J. (1987). Speculations about the nature and development of metacognition. In F. Weinert, & R. (. Kluwe, *Metacognition, motivation, and understanding* (21–29). Hillside, NJ: Erlbaum.

Foxcroft, M., Wood, E., Kew, J., Herrington, M., & Segal, N. (2002). *South African global entrepreneurship monitor executive report.* University of Cape Town.

Galawe, J. K. (2017). *Endogenous and exogenous risk factors in the success of South African small medium enterprises.* Johannesburg, South Africa: University of the Witwatersrand.

Gedajlovic, E., Honig, B., Moore, C. B., Payne, G. T., & Wright, M. (2013). Social Capital and Entrepreneurship: A Schema and Research Agenda. *Journal of Entrepreneurship Theory and Practice, 37*(3), 455-478.

Glenberg, A., & Epstein, W. (1987). Inexpert calibration of comprehension. *Memory & Cognition, 15(1)*, 84–93.

Govender, T. (2016). *The influence of transformational leadership on the relationship between an entrepreneurial mindset and corporate entrepreneurship.* Johannesburg: University of the Witwatersrand.

Griffin, D., & Ross, L. (1991). Subjective construal, social inference, and human misunderstanding. In M. Zanna (Ed.). *Advances in experimental social psychology, 24(1)* , 319-356.

Guterman, E. (2002). Toward a dynamic assessment of reading: Applying metacognitive awareness guiding to reading assessment tasks. *Journal of Research in Reading, 25*(3), 283–298.

Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. (2010). *Multivariate data analysis.* 5th ed. Upper Saddle River, NJ : Prentice Hall.

Haynie, M. J., Shepherd, D., Mosakowski, E., & Early, C. P. (2010). A situated metacognitive model on the entrepreneuial mindset. *Journal of Business Venturing, 25(1)* , 217–229.

Haynie, M., & Shepherd, D. A. (2009). A measure of adaptive cognition for entrepreneurship research. *Entrepreneurship Theory and Practice, 33*(3), 695-714.

Hornaday, J., & Aboud, J. (1971). Characteristics of successful entrepreneurs. *Personnel Psychology, 24*(2), 141-154.

Ireland, R. D., Hitt, M. A., & Sirmon, D. G. (2003). A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management, 29(6)*, 963-989.

Jehn, K. A. (1995). Multimethod examination of the Benefits and Determinants of Intragroup Conflict. *Administrative Science Quarterly, 40(2)*, 256-282.

Jost, J. T., Kruglanski, A. W., & Nelson, T. (1998). Social metacognition: An expansionist review. *Personality and Social Psychology Review, 2(2)*, 137–154.

Kira, A. R. (2013). The Factors Affecting Gross Domestic Product (GDP) in Developing Countries: The Case of Tanzania. *European Journal of Business and Management, 5*(4), 148-158.

Kollmann, T., Kuckertz, A., & Stoeckmann, C. (2009). Continuous innovation in entrepreneurial growth companies: Exploring the ambidextrous strategy. *Journal of Enterprising Culture, 17(3)*, 297-322.

Krueger, N. F. (2007). What lies beneath? The experiential essence of entrepreneurial thinking. *Entrepreneurship Theory and Practice, 31*(1), 123-138.

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5), 411–432.

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

Leboea, S. T. (2017). *The Factors Influencing SME Failure in South Africa.* Cape Town: University of Cape Town (UCT).

Lin, N., Cook, K. S., & Burt, R. S. (2001). Building a network theory of social capital. *In Lin, N; Cook, K S & Burt, R S (Eds.). Social Capital: Theory and research (3-30).* New Brunswick, NJ: Transaction Publishers.

Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies contradictions, and emerging confluences, revisited. *The Sage handbook of qualitative research, 4(1)*, 97-128.

Mamabolo, M. A., Myres, K., & Kele, T. (2017). Human capital investments as sources of skills: An analysis at different entrepreneurship phases. *The Southern African Journal of Entrepreneurship and Small Business Management, 9*(1), 1-12.

Martin, B. C., McNally, J. J., & Kay, M. J. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing, 28(2)*, 211–224.

McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial Self-Efficacy: Refining the Measure. *Entrepreneurship Theory and Practice*, 33(4), 965-988.

McGrath, R., & MacMillan, I. (2000). *The Entrepreneurial Mind-set: Strategies for Continuously Creating Opportunity in an Age of Uncertainty.* Cambridge, MA: Harvard Business School Press.

McGrath, R., MacMillan, I., & Scheinberg, S. (1992). Elitists, risk-takers, and rugged individualists? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs. *Journal of Business Venturing, 7*(2), 115-136.

McLeod, S. A. (2013). *What is validity?*

Mcshane, S., & Glinow, M. (2008). *Organizational Behaviour.* New York: McGraw-Hill; 4th Edition.

Mitchell, R. K., Busenitz, L., Bird, B., Gaglio, C. M., McMullen, J. S., Morse, E. A., & Smith, J. B. (2007). The central question in entrepreneurial cognition research. *Entrepreneurship Theory and Practice*, 1-27.

Mitchell, R. K., Busenitz, L., Lant, T., McDougall, P., Morse, E. A., & Smith, J. B. (2002). Toward a theory of entrepreneurial cognition: rethinking the people side of entrepreneurship research. *Entrepreneurship Theory and Practice, 27*(2), 93-104.

Mitroff, I. (1998). *Smart Thinking For Crazy Times: The Art Of solving The Right Problems.* San Francisco: Berret-Koehler.

Mpangala, P. G. (2004). conflict Resolution and peace Building in Africa as a process: Case Studies of Burundi and Democratic Republic of Congo. *Nyerere Conference Week: An International Conference on African's Road Map to development and elf-reliance: Reality or Myth* (1-26). Golden Tulip.

Mthanti, T. S. (2012). *The impact of effectuation on the performance of South African medium and high technology firms.* Johannesburg: University of the Witwatersrand.

Nastase, M. (2007). Types of Organisational Conflict. *Revista de Management Comparat International, 8*(4), 80-91.

National Planning Commission. (2012). *National Development Plan 2030 Our Future-make it work.* Gauteng, Pretoria: National Planning Commission.

Nelson, T. (1996). Consciousness and metacognition. *American Psychologist, 51(1)*, 102–129.

Nunnally, J. (1975). *Psychometric Theory: 25 Years Ago And Now* (Vol. 4). New YOrk: American Educational Research Association.

Olowu, S. (2001). Conflicts and Control Resolution. *IFE Psychologia : An International Journal, 9*(3), 118 - 138.

Omisore, B. O. (2014). Organizational Conflicts: Causes, Effects and Remedies. *International Journal of Academic Research in Economics and Management Sciences, .3*(6), 118-138.

Owoseni, O. O. (2014). The Influence of Some Personality Factors on Entrepreneurial Intentions. *International Journal of Business and Social Science, 5*(1), 278-284.

Payne, G. T., Moore, C. B., Griffis, S. E., & Autry, C. B. (2011). Multilevel challenges and opportunities in social capital research. *Journal of Management, 37*(2), 491-520.

Pelled, L., Eistenhardt, K., & Xin, K. (1999). Exploring the Blackbox: Analysis of work group Diversity, Conflict and Performance. *Administrative Science Quartely, 44(1)*, 1-28.

Rahim, M. A. (2002). Toward a theory of Management Organisational Conflict. *International Journal of Conflict Management, 13(3)*, 206-235.

Rosenthal, R., & Rosnow, R. (2011). *Essentials of Behavioural Research: Methods and Data Analysis.* 2nd ed. Boston: McGraw-Hill Publishing Company.

Rossiter, J. (2011). *Measurement for the Social Sciences The C-OAR-SE Method and Why it must replace Psychometrics* (Vol. XV). Berlin: Springer.

Rozin, P. (1976). The evolution of intelligence and access to the cognitive unconscious. *Progress in Psychobiology and Physiological Psychology*, 245–280.

Schacter, D. L. (1996). *Searching for memory: The brain, the mind, and the past.* New York: Basic Books, Inc.

Scotland, J. (2012). Exploring The Philosophical Underpinnings of Research: Relating Ontology and Epistemology to the Methodology and Methods of the Scientific, Interpretive, and Critical Research Paradigms. *English Language Teaching, 5*(9), 9-16.

Scott, M. G., & Twomey, D. F. (1988). The long-term supply of entrepreneurs: Students' career aspirations in relation to entrepreneurship. *Journal of Small Business Management, 26*(4), 5–13.

Sedgwick, P. (2018). Cross sectional studies: advantages and disadvantages. *BMJ*, 1-2. doi:BMJ 2014;348:g2276

Segal, G., Schoenfeld, J., & Borgia, D. (2007). Using social cognitive career theory to enhance students' entrepreneurial interests and goals. *Academy of Entrepreneurship Journal, 13(1)*, 69–73.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217-235.

Unger, J. M., Rauch, A., Frese, M., & Rosenbusch, N. (2011). Human capital and Entrepreneurial success: A meta-analytical review. *Journal of Business Venturing, 26(3)*, 341-358.

Urban, B. (2008). Entrepreneurial cognitions: linking willingness and ability expert scripts to self-Efficacy and new venture creation decisions. *South African Journal of Industrial Pschology, 34*(3), 22-28.

Urban, B. (2012). A metacognitive approach to explaining entrepreneurial intentions. *Management Dynamics, 21*(2), 13-33.

Urban, B. (2016). Empirical evidence on the influence of the institutional environment on venture innovation performance in South Africa. *Journal of Developmental Entrepreneurship, 21*(2), 1-14.

Urban, B., & Muzamhindo, A. (2018). An empirical investigation into institutions unlocking entrepreneurial activity. *The Journal of Entrepreneurship, 27*(1), 65-82.

Venter, R., & Urban, B. (2015). *Entrepreneurship Theory in Practice.* Johannesburg: Oxford University Press Southern Africa.

von Wright, J. (1992). Reflections on reflection. *Learning and Instruction, 2(1)*, 59–68.

Wang, C. K., Wong, P. K., & Lu, Q. (2002). Technological entrepreneurship . In P. P. (Ed.), *Tertiary education and entrepreneurial intentions* (pp. 55–82). Greenwich, CT: Information Age Publishing.

Weiner, J. (2007). *Measurement: reliability and validity measures* . Bloomberg School of Public Health, Johns Hopkins University, mimeo (Power Point Presentation) .

Welter, F, & Smallbone, D. (2011). Institutional perspectives on entrepreneurial behaviour in challenging environments. *Journal of Small Business Management, 49*(1), 107-125.

Williams, C. C., & Youssef, Y. (2015). Theorising entrepreneurship the information sector in urban Brazil: A product of exit or exclusion? *Journal of Entrepreneurship, 24*(2), 148-168.

Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship Theory and Practice, 31* (3), 387–406.

Wyer, R., & Srull, T. (1989). *Memory and cognition in its social context* . Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Xavier, S. R., Kelley, D., Jacqui, K., Herrington, M., & Vorderwülbecke, A. (2013). *The Global Entrepreneurship Monitor*. 2012 Global Report, GEM 2012.

Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology, 90*(6), 1265–1272.

APPENDIX A

Research instrument

1. Demographics

1.1 Please **indicate your gender:**

- Male
- Female

1.2 Ethnic group

- Indian
- Coloured
- White
- Chinese
- African

2. Research Instrument

Which of the following led to the genesis of your business idea?

Entrepreneur's Self-efficacy (Developing new product and market opportunities)							
	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. I am able to achieve most of the goals I have set for myself.	1	2	3	4	5	6	7
2. When facing difficult	1	2	3	4	5	6	7

tasks, I am certain I will accomplish them.							
3. Even when things are tough, I can perform quite well.	1	2	3	4	5	6	7

ADAPTIVE COGNITION

Thinking of yourself, how do you agree or disagree with the following statements:

Goal Orientation							
Thinking of yourself, how do you agree or disagree with the following statements:	Not very much like me	Not like me	Slightly unlike me	Neutral	Slightly like me	Much like me	Very much like me
1. I often define goals for myself.	1	2	3	4	5	6	7
2. I understand how the accomplishment of a task relates to my goals.	1	2	3	4	5	6	7
3. I set specific goals before I begin a task.	1	2	3	4	5	6	7

Metacognitive Knowledge							
Thinking of yourself, how do you agree or disagree with the following statements:	Not very much like me	Not like me	Slightly unlike me	Neutral	Slightly like me	Much like me	Very much like me
1. I challenge my own assumptions about a task before I begin.	1	2	3	4	5	6	7
2. I think about how others may react to my actions.	1	2	3	4	5	6	7
3. I find myself automatically employing strategies that have worked in the past.	1	2	3	4	5	6	7

APPENDIX B:

Consistency Matrix

The study seeks to investigate the influence of entrepreneurial self-efficacy dimension on adaptive cognitions, (metacognitive knowledge and goal orientation)							
Aims of research	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Research questions**	**Variables (Independent & Dependent)**	**Source of data**	**Type of data**	**Analysis**
The aim is to investigate the influence of Entrepreneurial self-efficacy (Developing new product and market opportunities) on Metacognitive knowledge (Adaptive cognition dimension).	(DeNoble, Jung, & Ehrlich, 1999). (Bandura, 1978, 2001). (Haynie & Shepherd, 2009).	**H_1**: Entrepreneurial self-efficacy (Developing new product and market opportunities) have an influence on Metacognitive knowledge (adaptive cognition dimension).	What is the influence of Entrepreneurial self-efficacy (Developing new product and market opportunities) on metacognitive knowledge dimension of adaptive cognition?	IV1= Entrepreneurial self-efficacy (Developing new product and market opportunities) DV1= Metacognitive knowledge (Adaptive cognition dimension	Questionnaires **Entrepreneurial Self-efficacy** (Question 1-3) **Metacognitive knowledge** (Question 7-9)	Ordinal data	Descriptive statistics, correlation, linear regression, Exploratory factor analysis.

The aim is to investigate the influence of Entrepreneurial self-efficacy (Developing new product and market opportunities) on Goal orientation (adaptive cognition dimension).	(DeNoble, Jung, & Ehrlich, 1999). (Unger, Rauch, Frese, & Rosenbusch, 2011). (Haynie & Shepherd, 2009).	**H_2**: Entrepreneurial self-efficacy (Developing new product and market opportunities) have an influence on Goal orientation (adaptive cognition dimension).	What is the influence of Entrepreneurial self-efficacy (d-Developing new product and market opportunities) have on Goal orientation (adaptive cognition dimension)?	IV2= Entrepreneurial self-efficacy (Developing new product and market opportunities) DV2= Goal Orientation (adaptive cognition dimension)	Questionnaires **Entrepreneurial self-efficacy** (Question 1-3) **Goal orientation** (Question 4-6).	Ordinal data	