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Emotional Intelligence of Entrepreneurs

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EMOTIONAL INTELLIGENCE OF ENTREPRENEURS

A Dissertation

Submitted to the School of Education

Duquesne University

In partial fulfillment of the requirements for
the degree of Doctor of Education

By

Eric Patrick Swift

December 2013

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Eric Patrick Swift

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**DUQUESNE UNIVERSITY
SCHOOL OF EDUCATION
Department of Instruction and Leadership**

Dissertation

Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Education (Ed.D.)

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ABSTRACT

EMOTIONAL INTELLIGENCE OF ENTREPRENEURS

By

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December 2013

Dissertation supervised by Dr. James Henderson

Entrepreneurship benefits the individual and society, but it was unclear whether emotional intelligence (EI) predicts entrepreneurial outcomes. New ventures fail at a high rate. A possible factor in the success or failure of small business could be the emotional intelligence (EI) level of the entrepreneur, defined as the ability to perceive, use, understand, and manage emotions. However, few studies to date had empirically explored EI and entrepreneurship or investigated the predictive value of EI in important measures of entrepreneurial outcomes, such as the success rate in starting new businesses, business longevity, and business profitability. The present study was designed to fill this gap in the literature.

The purpose of this study was to determine whether EI scores are predictive of new venture creation (Hypothesis 1), business longevity (Hypothesis 2), new business success rate (Hypothesis 3), or business profitability (Hypothesis 4). Hypotheses were tested using logistic regression (H1) or linear regression (H2, H3, H4). Each analysis controlled for the demographic variables of age, gender, and education level.

Regression analysis (n=52); logistic analysis, and correlation analysis showed no statistically significant effect of emotional intelligence scores on business starts, longevity, or profitability when controlling for age, gender, and education. Furthermore, the existence of a business plan prior to starting a business was not correlated with business starts, longevity, or profitability.

This study was unique by being one of the first to examine the EI construct empirically with a population of entrepreneurs seeking assistance using the MSCEIT instrument. The results have implications for the selection and training of entrepreneurs, the design of micro-enterprise training programs and the success of the entrepreneur. As a result of this study, a summary of human capital factors of entrepreneurship was developed in Table 3 that can be used as a framework for future research and training purposes.

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CHAPTER I
INTRODUCTION

Problem

Entrepreneurship benefits the individual and society, but it is unclear whether emotional intelligence (EI) is predictive of entrepreneurial outcomes. Emotional intelligence (EI) is defined as perceiving, using, understanding, and managing emotional information (Caruso & Salovey, 2004). Emotional and social capital are correlated with higher individual economic income (Tomer, 2003) and EI is argued by some to be the missing link to explaining entrepreneurial behavior (Cross & Travaglione, 2003). If emotional intelligence reflects a distinguishing characteristic of entrepreneurship, then EI scores in the perceiving, use, understanding, and managing of emotional information should be predictive of new venture creation and small business outcomes. However, prior studies to date had not empirically explored EI with a population of entrepreneurs using the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). Furthermore, the predictive value of EI in important measures of entrepreneurial business achievement, such as business longevity, the success rate in starting new businesses, and business profitability had also not been explored.

It is important to determine how EI impacts entrepreneurship because the educational and business communities presently have little empirical data for making decisions regarding the potential role of EI in the educational process or guidelines for effectively fostering EI. If EI is the missing link to explaining entrepreneurial behavior (Cross & Travaglione, 2003), then one step to filling this gap in the published literature

was to conduct a quantitative study to determine the predictive value of EI in entrepreneurial achievement, including new venture creation, the success rate in starting new businesses, business longevity, and business profitability. This study was specifically designed to fill this gap in the literature.

The current magnitude of worldwide entrepreneurial activity, education, and training programs is great. Entrepreneurs positively impact their own financial well-being on a micro level, and the economic welfare of their communities and nations on a macro level. Though the majority of existing businesses employ fewer than five people, successful entrepreneurs are responsible for a disproportionate amount of job growth (Drucker, 1986; Litan, 2005; Schramm, 2006; Van Praag & Versloot, 2008). Despite the popularity of entrepreneurship and the benefits of such activity, entrepreneurs face quite a few problems.

One problem for small businesses is the alarmingly high failure rate. Creative destruction, as posited by Schumpeter (1934; 2000), is alive and well today, observable through a review of the turnover rate of Fortune 500 companies. Schramm (2006) has shown that the idea of economic destruction is a statistical fact. Through the 1960s and 1970s, the annual turnover of the Fortune 500 companies averaged only 20 companies per year. By the 1980s, this 4% turnover rate had doubled to 8%, or 40 companies. Finally, in 2005, nearly three-quarters of the top 100 companies had not existed just 25 years earlier. In addition, the Kauffman Foundation Research Report stated that after a year of startup activity, only 20% of businesses had successfully started, while another 20% had ceased startup activity or had already gone out of business (Litan, 2005).

Survival rates of businesses that do get started are low over a variety of time periods. Only about 70% survive over a two-year period and only 50% survive over a five year period (United States Department of Labor, Bureau of Labor Statistics [USDoL], 2013). In addition, according to Scott Shane, many entrepreneurs are not successful financially. He notes that the typical profit for the owner-managed business is \$39,000 per year. In addition, only 9,500 firms (or roughly 1.6%) out of the 590,000 that are started each year will ever cross the \$5 million in sales mark (Shane, 2008).

Moreover, no agreed upon framework exists for studying, selecting or training entrepreneurs. According to Schramm (2006), our current knowledge about entrepreneurship is roughly analogous to our understanding of medicine 100 years ago. Schramm (2006) has noted that despite some increase in entrepreneurship training programs and activities, more research is needed on the human capital side of entrepreneurship, as has been done by Van Praag and Versloot (2008) and Baron (Baron, 2007; 2008; Baron & Markman, 2000; 2003). In sum, despite a rising interest in entrepreneurship research, training, and activity, three persistent problems exist: the failure rate of businesses, the lack of an established framework for the study of entrepreneurship, and the failure of modern economic theory to even include, recognize, or agree on the role of the entrepreneur.

Even though the amount of research in the field of entrepreneurship grew dramatically in the 1980s (Gatewood, Miranda, & Hoy, 1990; Katz, 2004), no one has definitely answered why some new businesses succeed and others fail. In particular, it is unclear whether emotional intelligence is an affective disposition related to entrepreneurs or whether it is predictive of entrepreneur outcomes. This research explores competencies

related to high achieving entrepreneurs and specifically assesses whether the level of emotional intelligence is predictive of new venture creation and other business outcomes.

Benefits of Entrepreneurship

No one denies the importance and positive impact of the entrepreneur and entrepreneurial activity, as there are many benefits at the micro and macro levels, and that these benefits exist is almost universally accepted (Robson, Wijbenga, & Parker, 2009). Phelps (2005) suggested that economists should study both the entrepreneur as a micro actor and the entrepreneurial economy as an interactive system. He noted that entrepreneurship has several benefits for society, including greater individual job satisfaction, greater investment, and competitive economic advantage. Roughly three-quarters of the 21 million business enterprises in the United States are sole proprietorships (Schramm, 2006).

Schramm (2006) provided a summary of specific economic benefits that accrue from entrepreneurial activity - such as job creation, technological innovation, and a dynamic economy - because these smaller businesses can be more market sensitive and more flexible than larger businesses can. Van Praag and Versloot (2008) agreed that politicians admit the importance of entrepreneurial activity because they know that entrepreneurs stimulate the majority of economic growth, job growth, and innovation through creating new businesses.

While many recognize the importance of the entrepreneur, perhaps no one has spoken as eloquently as Schramm (2006) who said, “to be an American is to be an entrepreneur. Most Americans have wondered at one time or another if they should start a business - that’s how deeply entrepreneurship is ingrained within our character” (p. 70).

Schramm (2006) further stated that the startup firm is the single most important unit of economic activity in our system and yet we know little about small companies or the people who create these firms. Finally, Schramm (2006) wrote,

For the United States to survive and continue its economic and political leadership in the world, we must see entrepreneurship as our central comparative advantage. Nothing else can give us the necessary leverage to remain an economic super power. Nothing else will allow us to continue to enjoy our standard of living. We either support and nurture entrepreneurial activities, or run the risk that we will become progressively irrelevant on the world stage and suffer economically at home (p. 1).

Entrepreneur Competencies

As noted earlier, relatively little research has been done on the entrepreneur and what is necessary for success. Much of the research that has been done has focused on the characteristics, personality, motivation, and skills of entrepreneurs; therefore, the next level of research should focus on the entrepreneurial competencies required for success. Competency research on entrepreneurs leads to a long list of skills that are personal, social, and emotional in nature, whereas traditional economists have looked only at the financial and economic factors related to entrepreneurship, ignoring the individual actor altogether. As many (Drucker, 1986; Schumpeter, 1934, 2000; Van Praag & Versloot, 2008) have pointed out, the phenomenon of entrepreneurship cannot be divorced from the psychology of the individual actor. Van Praag (2005), and Van Praag and Versloot (2008), both noted that broad research shows human and financial capital are the two main drivers of venture performance.

Emotional Intelligence

The theory of emotional intelligence as developed by Mayer, Salovey, and Caruso (2000a) describes an ability to perceive, use, understand, and manage our emotions. This ability underpins our self-motivation, social skills, and leadership performance (Goleman, 1995). Baron (2008) has done the best job of demonstrating that EI may be a measure of potential payoff for the entrepreneur. The authors detailed a linkage between affective dispositions, cognitive processes, and outcomes to the entrepreneur. Specifically, Baron described *affect* as the precursor to priming the mood and serving as a heuristic cue for entrepreneurs, which then affects basic cognitive processes such as perception, judgment, decisions, memory, and creativity. These cognitive processes are then linked to potential effects on key aspects of the entrepreneurial process, such as opportunity recognition, acquisition of resources, development of social networks, and the capacity to respond to dynamic environments and intense levels of stress. Emotional intelligence was measured using the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) (Mayer, Salovey, & Caruso, 2002a), which reliably assesses the perceiving, using, understanding, and managing of emotional information.

Research Purpose

This study was primarily concerned with improving the human and social capital of the entrepreneur in order to increase the survival rate of startup businesses. This research built upon the framework suggested by Baron (2008) to determine if affective characteristics (such as emotional intelligence) are predictive of entrepreneur outcomes.

Basically, this research explored whether affective dispositions (such as emotional intelligence) influence our cognition (Baron & Markman, 2000) and social

skills (Goleman, 1995). In turn, do cognition and social skills effect entrepreneur actions (Barron, 2008) and results? Several researchers have pointed out the importance of social skills and networks (Aldrich & Zimmer, 1986; Tomer, 2003; Wright, Mosey, & Lockett, 2009) for the success of the entrepreneur. In simplest terms, this study was conducted to determine if emotional intelligence is indeed the “missing link” for entrepreneurs according to Cross and Travaglione (2003), by asking if emotional intelligence is predictive of new venture creation and entrepreneurial achievement.

Research Questions and Hypotheses

This study was carried out to determine the predictive value of EI scores on entrepreneurial achievement, including the success rate in starting new businesses, business longevity, number of employees, and earnings. Four research questions were asked: (1) Does EI predict Entrepreneurship? (2) Does EI predict Business Longevity? (3) Does EI predict New Business Success Rate? (4) Does EI predict Business Profitability? Each research question had four sub-hypotheses corresponding to the four measured constructs of EI: (a) perceiving, (b), using, (c), understanding, and (d) managing emotional information (Mayer, Salovey, & Caruso 2002a; 2002b). The research questions directly led to the development of specific hypotheses.

Table 1 outlines the independent and dependent variables for each of the four research questions and corresponding hypotheses. The summary of research questions and variables table is followed by the specific hypotheses and sub-hypotheses derived from the research questions.

Table 1 Summary of Research Questions and Variables

Research Question	Independent Variable	Dependent Variable
Does EI predict New Venture Creation?	Perceiving Using Understanding Managing	New Venture Creation (Business Starts)
Does EI predict Business Longevity?	Perceiving Using Understanding Managing	Business Longevity (Years in Business)
Does EI predict New Business Success Rate?	Perceiving Using Understanding Managing	# Current Active Business / Total Business Starts
Does EI predict Business Profitability?	Perceiving Using Understanding Managing	Business Profitability Gross Sales & Net Profit

The specific hypotheses for this study are detailed below. Note that the analysis plan for hypothesis testing (detailed in Chapter 3) accounts for important demographic variables of age, gender, and education level of participants.

Hypothesis 1: EI in new venture creation

Emotional intelligence (EI) scores are significantly predictive of new venture creation.

Hypothesis 1a

Emotional intelligence (EI) perceiving scores are significantly predictive of new venture creation.

Hypothesis 1b

Emotional intelligence (EI) using scores are significantly predictive of new venture creation.

Hypothesis 1c

Emotional intelligence (EI) understanding scores are significantly predictive of new venture creation.

Hypothesis 1d

Emotional intelligence (EI) managing scores are significantly predictive of new venture creation.

Hypothesis 2: EI and business longevity

Emotional intelligence (EI) scores are significantly predictive of business longevity in entrepreneurs. Longevity is also known as survival rate or number of years in business.

Hypothesis 2a

Emotional intelligence (EI) perceiving scores are significantly predictive of business longevity in entrepreneurs.

Hypothesis 2b

Emotional intelligence (EI) using scores are significantly predictive of business longevity in entrepreneurs.

Hypothesis 2c

Emotional intelligence (EI) understanding scores are significantly predictive of business longevity in entrepreneurs.

Hypothesis 2d

Emotional intelligence (EI) managing scores are significantly predictive of business longevity in entrepreneurs.

Hypothesis 3: EI and success rate in starting new businesses

Emotional intelligence (EI) scores are significantly predictive of success rate in starting new businesses in entrepreneurs. Success rate is determined by the quotient of current number of active businesses and the total of businesses started.

Hypothesis 3a

Emotional intelligence (EI) perceiving scores are significantly predictive of success rate in starting new businesses in entrepreneurs.

Hypothesis 3b

Emotional intelligence (EI) using scores are significantly predictive of success rate in starting new businesses in entrepreneurs.

Hypothesis 3c

Emotional intelligence (EI) understanding scores are significantly predictive of success rate in starting new businesses in entrepreneurs.

Hypothesis 3d

Emotional intelligence (EI) managing scores are significantly predictive of success rate in starting new businesses in entrepreneurs.

Hypothesis 4: EI and business profitability

Emotional intelligence (EI) scores are significantly predictive of business profitability (gross sales and net profit) in entrepreneurs.

Hypothesis 4a

Emotional intelligence (EI) perceiving scores are significantly predictive of business profitability in entrepreneurs.

Hypothesis 4b

Emotional intelligence (EI) using scores are significantly predictive of business profitability in entrepreneurs.

Hypothesis 4c

Emotional intelligence (EI) understanding scores are significantly predictive of business profitability in entrepreneurs.

Hypothesis 4d

Emotional intelligence (EI) managing scores are significantly predictive of business profitability in entrepreneurs.

Significance

This study was unique in two respects. First, it examined the emotional intelligence construct for one of the first times using the MSCEIT instrument with a population of entrepreneurs seeking assistance. Second, the author used the leadership literature and educational psychology viewpoints to inform the study of entrepreneurship. This study has significance related to the selection and training of entrepreneurs as well

as potential economic impact to the individual entrepreneur, the community, and the society at large in terms of job creation, poverty alleviation, and economic vitality.

Key Concepts

Harvey and Reed (1997) defined social science as the study of complex systems; it includes education, psychology, and economics among other disciplines. Figure 1 portrays a framework for exploring and understanding the phenomenon of entrepreneurship. This is the perspective that the researcher used while selecting and reviewing the literature. All three fields are concerned with measuring, defining, describing, and changing human behavior. An essential question in the social sciences is how to improve human behavior. This study was concerned with factors relating to the behavior and results of entrepreneurs, and whether or not emotional intelligence is one of those factors.

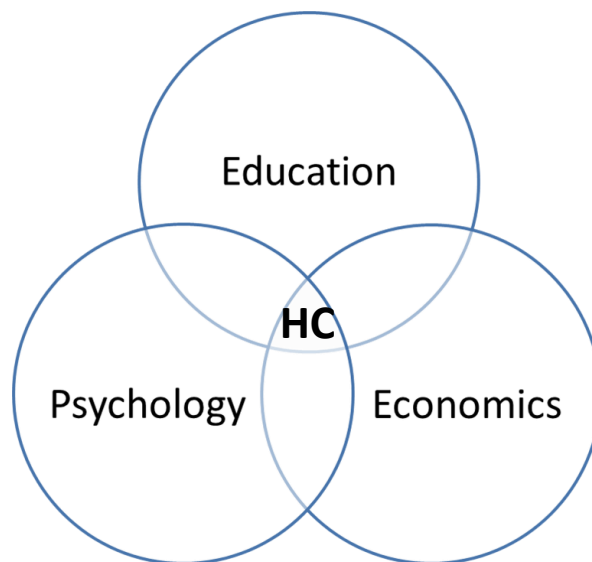


Figure 1. Research perspective

Entrepreneurship is a complex system that has thus far been best understood by applying a combination of social sciences. The consideration of social and emotional factors on achievement has received more attention in recent years. Gustafsson (2006) developed a framework showing the inter-relationships of the social sciences as they pertain to entrepreneurship. Specifically, Gustafsson (2006) lists sociology, economics, management, and psychology as disciplines contributing to our understanding of entrepreneurship. At the center of these disciplines is the concept of human capital. Entrepreneurs that possess stronger human capital and broader social networks are more effective networkers (Wright, Mosey, & Lockett, 2009). Carolis and Saporito (2006) laid out a theoretical framework for how social capital and cognition influence entrepreneur opportunities. Wright, Mosey, and Lockett (2009) and Baron and Markman (2003) also indicated the importance of social capital and human capital in entrepreneurs' success. In addition, several other authors connect social capital to entrepreneurship such as Aldrich and Zimmer (1986) who suggested that social ties and social network diversity broaden the scope of opportunities for entrepreneurs and that increased connectedness increases the flow of information as well as resource availability.

The Economic Landscape

Economic conditions (i.e., unemployment, stagflation) of the 1970s in the United States were the catalyst for a resurgence of the entrepreneurial economy in the 1980s. Under the influence of Milton Friedman's thought, Carter and Reagan initiated legislation to support and encourage individual participation in the economy. These moves signaled the end of the bureaucratic economy of the '50s and '60s as well as a move away from

the ideas of Drucker (1986), Keynes, and others who promoted big government, big business, and big unions.

Furthermore, micro credit and micro entrepreneur training programs were tried around the world, resulting in increased employment and personal incomes. These ideas were imported into the United States. For example, the Small Business Administration was founded in 1953 and university-based small business development centers were started in 1976 to provide management and technical assistance to entrepreneurs. The Small Business Development Act was originally drafted in 1977, but was not signed into law until July 2, 1980 (SBA, 2012).

In addition, technological change, global competition, and access to credit all helped to give entrepreneurs a level playing field alongside big business (Schramm, 2006). Emotional intelligence began to receive attention from the popular press during the '90s because of the changing face of the workplace. The modern employee began to work in teams, collaborate, and participate in a much less homogeneous workforce than in the past. Hence the new economy required expanded skills.

Entrepreneurship

Mace first used entrepreneurship as a topic of instruction at Harvard in 1943, and Drucker offered a course in entrepreneurship and innovation at NYU in 1953 (Cooper, 2003; Katz, 2003). Despite these courses, little research on entrepreneurship or entrepreneur training programs was carried out until the 1980s. Researchers today (Grebel, Pyka, & Horst, 2003; Shane & Venkataraman, 2000) have lamented that entrepreneurship as a discipline lacks a cohesive accepted framework, which means that people tend to question the worth of studying entrepreneurship as a separate discipline

from business or economics. A review of the literature indicates that the field is broad and diverse. While definitions of entrepreneurship vary and tend to focus on the individual participant or actor, all agree that entrepreneurial activity is “a crucial factor in the diffusion of new technologies, international competitiveness, and job creation” (Gebel, Pyka, & Horst, 2003, p. 493).

Post-1980, research and training opportunities expanded dramatically for entrepreneurs. Research findings in entrepreneurship became useful for “conferences, pilot programs, economic development strategies, and improvement of employment opportunities. Private foundations are interested in research that can be used to educate entrepreneurs” (Gatewood, Miranda, & Hoy, 1990, p. 24). Researchers, on the other hand, are often concerned with profiling the individual entrepreneur through studies on characteristics or traits of the individual engaged in such activity.

In general, journal articles on entrepreneurship can be described as being written from a macro or micro perspective. The macro focused articles cover economics, sociology, political and cultural themes while the micro focused articles emphasize individual entrepreneurs’ processes and characteristics. Furthermore, journal articles reviewed by the researcher can be classified into three categories: case studies, models, and entrepreneurial instruction. Using case studies or surveys, many authors have attempted to answer why some people choose entrepreneurship or why some succeed while others do not by examining the individual traits, characteristics, skills, or attitudes of the individuals. Other studies attempted to integrate various disciplines to create a holistic model of entrepreneurship. A third group of studies examined the effectiveness of various instructional approaches. From this category, studies suggested that soft skill

training is just as important as technical training for the success of entrepreneurs. For example, one study examined the results of a new curriculum instituted at a New Jersey Micro Enterprise Training Center, as well as factors that led to the graduates' success (Cook, Belliveau, & VonSeggem, 2001). Other studies have differentiated between "skill" training and "achievement-motivation" training approaches (Durand, 1974; Miron & McClelland, 1979) and concluded that neither is as effective separately as both are together.

Entrepreneurial Leadership

The leadership literature and entrepreneurial literature share parallel themes. According to Cogliser and Brigham (2004), the fields of entrepreneurship and leadership "theoretically converge both in the models employed and the research questions addressed" (p. 771). In addition, the historical perspective reveals that leadership and entrepreneurship research share a common life cycle. Early on, leadership literature focused on the charisma, traits, or characteristics of the individual leader. Next, the research examined the specific behaviors and skills that a leader portrays and attempted to instruct future leaders based on these skills. Third, leadership was examined in a more contextual manner, taking into account the environment and situational variables that come into play between a leader, the followers, and the other stakeholders. Similarly, a review of the entrepreneurial literature reveals a primary focus on the individual attributes, motivations, and characteristics of the person. A secondary focus is on training entrepreneurs in specific skill sets needed to start and manage a venture. Only recently have models been developed to consider the context and multi-variable environments in which entrepreneurial activities occur. Furthermore, both the leadership literature and

entrepreneurship literature recognize personal networks, social support, and interpersonal skills as integral to individual and team success (Carolis & Saporito, 2006; Cross & Travaglione, 2003; Lechleer, 2001; Tomer, 2003). Another overlapping area of study between leadership and entrepreneurship is an evaluation of the optimum functioning of teams in terms of new venture creation. In addition, Fernald, Soloman, and Tarabishy suggested a new paradigm of entrepreneurial leadership be studied as the two constructs share many characteristics (2005). For example, both leaders and entrepreneurs are visionary, risk-takers, achievement oriented, and able to motivate themselves and others. Both are also flexible and persistent. In the last 20 years, emotional intelligence concepts have been developed and applied to leaders and leadership, but not empirically tested with entrepreneurs.

Social Elements

A strand of research exists that recognizes social skills as instrumental in entrepreneurial success. For example, two models of successful entrepreneurial activity (Greenberger & Sexton, 1988; Lechleer, 2001) included “social interaction” and “social support” as necessary for entrepreneurial success. The former study proposed that social support influences the entrepreneur through role models and expectancy theory to develop positive self-belief, positive expectations, and knowledge of the behavior of an entrepreneur. The latter study defined communication, coordination, mutual support, cohesion, and conflict resolution as elements of social interaction that occur within the context of entrepreneurial venture teams. Additional research suggests that entrepreneurs can best be understood in the context of social networks and network theory. Baron and Markman (2000) claimed that personal networks and social skills build human or social

capital, a necessary ingredient for entrepreneurial activities. Social capital and social skills expand an individual's personal network, enhance one's reputation, and improve interpersonal relations, resulting in greater entrepreneurial success. Additional studies have examined family support, life stage theory, and career frustration as the motivation for pursuing entrepreneurial activity. Generally, these studies support the proposition that skill-based training, as well as social-emotional enhancement, would lead to greater entrepreneurial success; however, this has not been empirically proven.

Emotional Intelligence

The first reference to emotional intelligence appeared in 1852 in a thesis entitled *Man Primeval or The Constitution and Primitive Condition of the Human Being* by John Harris. Darwin also wrote of the role of emotions for the human species in his book from 1886 called *The Expression of the Emotions in Man and Animals*. In modern times, *The Bell Curve* by Richard Herrnstein and Charles Murray (1996) ignited a debate about the role of intelligence for success. Because of the American ideals of fairness and democracy, we search for ways for our children to excel in both academic and non-academic pursuits. Parents and teachers naturally observe individual differences in children's abilities, so the idea of multiple intelligences, popularized by Gardner (1999), made a resurgence and was readily accepted. In 1995, Goleman popularized the work of Salovey and Caruso on emotional intelligence (EI) with a book of the same name. Cross and Travaglione (2003) explored the EI of five Australian entrepreneurs and queried whether EI might define the 21st-century entrepreneur.

Human Capital

Economics has traditionally been the guiding perspective in studies of entrepreneurship. Schumpeter (1934; 1943; 2000) was a key person in this discussion and later Drucker (1986) and others emphasized innovation. Davidsson and Honig (2003) explored the role of social and human capital among nascent entrepreneurs and concluded that social ties were a strong predictor of entrepreneurship. Today, the economic literature recognizes the connection between human or intellectual capital, and personal income levels (Tomer, 2003). Human capital is the full human capacity in terms of skills, knowledge, and potential that resides within the individual (Kreitner, 2009).

This view should be applied to entrepreneurship as well. Traditional economists look only at the financial and economic factors related to entrepreneurship and ignore the individual actor altogether. As Drucker (1986), Van Praag (2005), Van Praag and Versloot (2008), and Schumpeter (1934; 2000) have pointed out, you cannot divorce the phenomenon of entrepreneurship from the psychology of the individual actor.

Researchers must study both in order to fully understand entrepreneurship. Baron (2008) has done the best job of linking EI in terms of measuring affect in relation to potential payoffs for the entrepreneur. He describes *affect* as the precursor to priming the mood and serving as a heuristic cue for entrepreneurs, which then effects basic cognitive processes, such as perception, judgment, decisions, memory, and creativity. These cognitive processes are then linked to potential effects on key aspects of the entrepreneurial process, such as opportunity recognition, acquisition of resources, development of social networks, and the capacity to respond to dynamic environments

and intense levels of stress. The relationship of affect, cognition, and entrepreneur action are summarized in Table 2.

Table 2 Link between Affect, Cognition, and Entrepreneur Action

Affect	Priming of mood	Effects on basic cognitive processes	Potential effects on key aspects of entrepreneurial process
Dispositional and or event generated	Relevant associations Affect as a heuristic cue	Perception, judgment, decisions, memory, creativity, preference of heuristic thought, cognitive processes for dealing with stress	Opportunity recognition, acquisition of financial and human resources, development of broad social networks, capacity to respond to change, tolerance for stress

Barron, 2008

Summary

Researchers approach entrepreneurship research from the perspectives of many disciplines. This study was done through the lens of educational psychology and informed by leadership literature and economic theories. Based on work with over 400 entrepreneurs, anecdotal evidence leads the researcher to believe that entrepreneurial success is not due to intelligence, financial capital, or business acumen alone. Research recognizes many variables as important to entrepreneurial achievement, including the softer skills of motivation, networking, decision making, and others.

Under the umbrella of educational psychology, particularly with regard to learning theories, certain research themes in the leadership literature parallel some in the entrepreneurial literature. Educational psychology can be used to inform the study of

entrepreneurship as it has been used to inform leadership studies in such aspects as measurable outcomes, personal traits, mental processes, and now multivariate perspectives including social-emotional.

The author's anecdotal experience with successful students and business owners parallels the understanding gleaned from research concerning our understanding of leadership and entrepreneurship. For example, researchers first looked at traits, then cognitive processes, and now social networks and teams. EI studies have been done with student leaders, educational leaders, nonprofit leaders, and corporate leaders, but not empirically with entrepreneurial leaders.

In the leadership, entrepreneurship, and educational literature, the current focus is on the importance of collaboration, networks, social skills, and networking. Yet, the social-emotional aspects of entrepreneurship (besides motivation) remain largely un-researched. After looking at the leadership literature, the researcher examined a considerable amount of entrepreneurship literature and determined that researchers have studied the psychology of the entrepreneur, the economic perspective, the antecedents to the decision, the decision itself, and social factors. However, it appears that the emotional or affective aspect of the entrepreneur had not been studied, at least not empirically with the MSCEIT instrument. Researchers have focused on the behavior, the outcome, and the cognitive factors, but not the emotional or affective factors. It may be possible to link the elements of emotional intelligence (the four branches of the model) to descriptions of entrepreneurs. At least one researcher has suggested that EI may be the missing link to explaining entrepreneurs (Cross & Travaglione, 2003). Furthermore, emotional and social capital is linked to higher economic income for individuals (Tomer, 2003). As noted

earlier, Baron (2008) laid out the most detailed linkage between affective dispositions, cognitive processes, and the entrepreneur process. Competency research on entrepreneurs leads to a long list of skills that are personal, social, and emotional in nature. The high level of entrepreneurial activity, programs, and research make the topic worthy of study, and the high failure rate of startup businesses makes it important to find some differentiating factors between successful and non-successful entrepreneurs.

Delimitations

This study was limited to a western Pennsylvania population that self-selected to receive training and consulting from the Duquesne University Small Business Development Center from 2008 through June 2013. The SBDC is part of a nationwide network of entrepreneur training centers whose mission is to provide management and technical assistance to startup and growing businesses.

Definitions

Emotional Intelligence. EI is the human potential to perceive, understand, use, and manage emotions. EI is the combination of interpersonal and intrapersonal intelligences (Goleman, 1995).

Entrepreneur/Business Owner. An entrepreneur is the founder or creator of a firm (Gartner, 1988; Klofsten, 2000).

Human Capital. Human capital is the full human capacity in terms of skills, knowledge, and potential that resides within the individual (Kreitner, 2009).

Intelligence. Intelligence is human potential with bio-psychological roots and the capacity to produce a culturally valued output (Gardner, 1999).

Multiple Intelligence. Multiple-intelligence theory posits that there are several types of distinguishable human capacities, as popularized by Gardner (1999).

Micro-Enterprise. A micro-enterprise is a business with up to five employees, which includes the self-employed (Microenterprise Fact Sheet Series [MFSS], 2000).

Non-Entrepreneur. The non-entrepreneur, compared to the entrepreneur, does not start a business (Gartner, 1988; Klofsten, 2000).

Profitability. Profitability is determined by whether the business is operating at a net profit or a net loss. According to Scott Shane, only 30% of start-ups are profitable after seven years (Shane, 2008). For this study we used the highest year of gross sales and net profit reported by the business owner.

Social Capital. Social capital is the benefits that accrue to an individual and/or a network due to the interaction of the social network (Kreitner, 2009).

Survival Rate. Survival rate is a common measure of entrepreneur success (Van Praag, 2005) in economic development literature that is typically measured in years. For this study the term “business longevity” is used synonymously with “survival rate” or “years in business.”

CHAPTER II
REVIEW OF LITERATURE

Overview

A visual organizer for the literature review section follows this overview. The history, theory, and practice of both entrepreneurship and emotional intelligence were reviewed and summarized. The literature was reviewed through the lens of educational psychology where the affective, behavior, cognitive, and social elements of entrepreneurship were identified. This resulted in an understanding of human capital as the link between emotional intelligence and entrepreneurial achievement as well as a table of factors suggested for further research of entrepreneurs. Visual organization of this literature review is displayed in Figure 2.

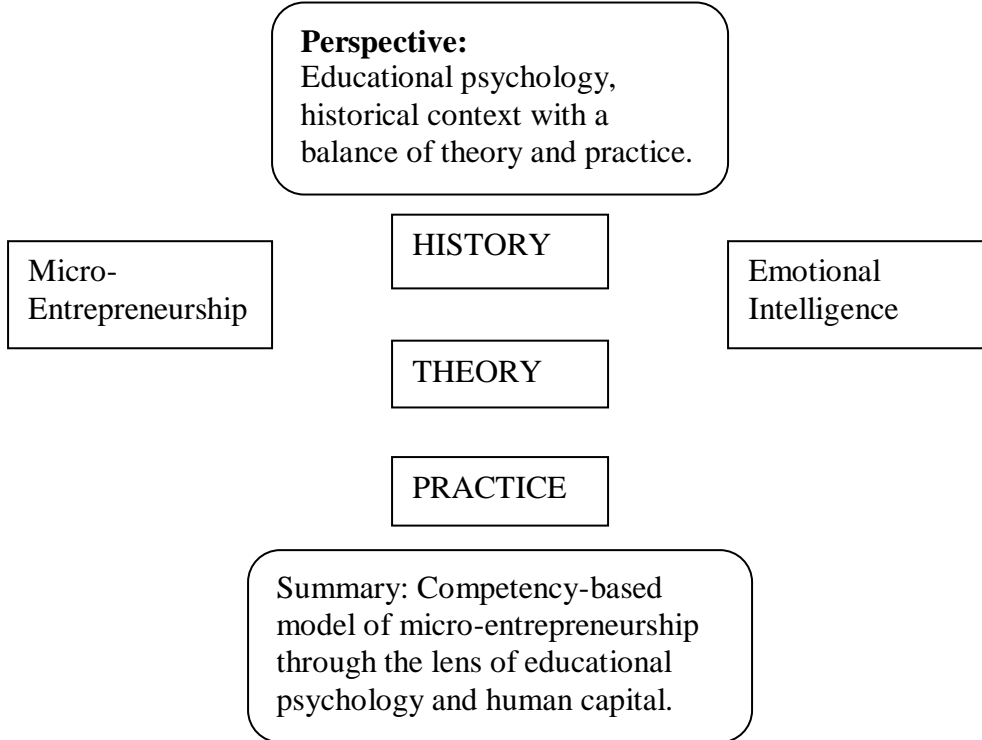


Figure 2. Visual organization of literature review

In the history section, the domestic, international, and legislative landscape of entrepreneurial activity is described. In the theory section, the definitions and various perspectives of entrepreneurship are explored. Finally, in the practice section, research on training programs is shared.

Historical Perspective

Entrepreneurial Activity

Since the 1980s, entrepreneurial activity, interest, and research have increased globally. In addition, entrepreneurial education and training programs are multiplying. Entrepreneurial activity, education, and training produce a profound impact on individuals, countries, and the world. As of 2008, there were 30 million businesses in the United States. Seventy-two percent (72%) of these businesses are sole proprietorships (US Census, 2008). The reality of business activity in the United States is that the majority are small or micro businesses. According to the 1992 census, from 1987 to 1992 the number of minority-owned businesses increased 60% to over two million businesses. Women's businesses also grew rapidly during this period, so that in 1992, women owned 6.4 million businesses (Johnson, 1998b).

Interest in entrepreneurship exists at all levels of society. A survey of MBA students at the University of Pittsburgh revealed that "44 percent want to become independent entrepreneurs and 80 percent expressed interest in taking one or more courses in entrepreneurship (Hynes, 1996, para.15). The number of courses and programs in entrepreneurship offered by American colleges and universities has grown significantly since the first course offered by Harvard and NYU.

In addition, entrepreneurial training programs, known as micro-enterprise training programs (METs), expanded from 328 in 1995 to over 500 in 2002 according to the *Pittsburgh Post-Gazette* (“Entrepreneurs,” 2002). These programs have great individual and economic impact. In a June 2012 press release, the Pennsylvania Small Business Development Center network described the impact of its work. The state network consulted with 12,061 clients, providing 117,636 hours of consulting in all. In addition, 13,876 people attended 757 events held by the state network. This training and consulting resulted in clients’ obtaining investments of \$171 million, government-awarded contracts amounting to \$259 million, and new international sales of \$23,865 million. According to the Small Business Administration, small businesses in Pennsylvania accounted for 72 % of the new jobs during the period from 2005 to 2008 (SBA, 2012).

Micro-enterprise programs offer benefits to individuals, economies, and countries worldwide. These programs assist in job creation, community development and poverty alleviation (Jones, 2004). In addition, “[e]ntrepreneurship creates wealth [and] contributes to industrialization and economic growth, thus increasing the standard of living and improving the tax basis for governments” (Dana, 2001, p.405). Individuals benefit by becoming more economically self-sufficient, thus rising out of poverty, and consumers benefit from having greater choice in the marketplace. Countries benefit from greater economic development, less poverty, and lower unemployment rates. While there are great benefits to entrepreneurial activity; there are also significant challenges to micro-entrepreneurs. Businesses fail at alarming rates and entrepreneurs may not have access to capital, information, or other resources necessary to succeed.

Global

A survey of the history of entrepreneurship provides the social-economic-political context within which the rise of entrepreneurial training programs has occurred domestically and globally since the 1980s. While the first class in entrepreneurship was offered at Harvard in the 1940s with the advent of some entrepreneurial research, the field of entrepreneurial research exploded in the 1980s (Alvarez, 1993). According to Johnson (1998a), “The first micro enterprise programs were established in the mid-1980s” (p. 5). The goals of micro-credit and micro-training programs align with one of two approaches: economic development organizations and social welfare programs. Both types of programs exist domestically as well as internationally.

Domestic

In the United States, business education focused on theories that promoted, reinforced, and advanced the causes of corporate America from the 1950s through the 1970s. In 1975, 104 college courses were available in entrepreneurship. By 1980, this number had grown to 163 and by 1985, to 253 (Hisrich, 1988). Since the 1980s, the U.S. has changed dramatically. From 1980 to 1986, the Fortune 500 companies lost 2.8 million jobs. According to Hisrich, any actual job growth came from small enterprises. Hisrich (1988) states that dual income families were on the rise, and a “new surge of individualism, self-actualization, creativity, and concern about the work-environment accompanied a wave of prosperity and economic growth in industrialized nations” (p. 2). As of 2008, out of the 31.607 million businesses filing tax returns, 22.614 million were sole proprietors (U.S. Census, 2008). This number represents 71.5% of all businesses in the United States.

A number of key changes occurred from 1980 to 1989 that changed the economic scene in America and across the globe. These are discussed in the following paragraphs, but briefly, they include the rise of the service industry with a corresponding decline in manufacturing jobs. In addition, the 1987 crash on Wall Street led to a two-year recession. The collapse of the Soviet Union and the crumbling of the Berlin Wall in 1989 followed this recession. Finally, an explosion of Internet applications, including e-commerce, occurred in the 1990s. The rise and fall of the “dot-com” companies also occurred, in which fortunes were made and lost on paper overnight (Asquith & Weston, 1994).

Schramm (2006) has provided a snapshot of the many regulatory and economic shifts that took place in the United States during this time. The American economy was reborn in the late 1980s and through the 1990s as vigorously entrepreneurial (p. 30). Schramm then delineates at least a dozen factors that contributed to this “happy accident”—the triumph of entrepreneurial capitalism.

In 1971, the Bretton Woods agreement created the floating dollar which made the United States more attractive to foreign manufacturers and investors. In addition, companies with new increased competition focused on innovation and cost reductions. The 1974 Employee Retirement Income Security Act (ERISA) paved the way for more worker mobility by allowing employees increased control over their pension assets. In addition, a change in 1979 allowed pension fund managers to invest a portion of assets in venture capital funds, which was a boon to entrepreneurs. Billions of dollars of government-funded research through universities began to pay dividends, especially after the Bayh-Dole Act of 1980 when the government renounced any property claims over

government-funded discoveries. This development spurred the commercialization of university inventions. Airline deregulation in 1978 made travel cheaper and made it easier for companies to open nationwide markets. Similarly, deregulation in the telecommunications and utility industries allowed for more price competition and innovation. The 1978 Steiger Amendment cut the capital gains tax from 49% to 28%. This encouraged increased private investment into new firms through venture capital funds. Financial innovations (such as junk bonds) led to increased corporate restructuring through leveraged buy-outs, and the number of initial public offerings increased. The rise of the personal computer, the Internet, and the knowledge-worker in the 1990s greatly increased access to information and leveled the playing field between large and small businesses.

Schramm (2006) discussed a profound shift from the managerial economy to an entrepreneurial economy as early as 1985, which was also described by Drucker (1986). Ironically, Drucker previously had proclaimed the demise of the entrepreneur due to big business, big government, and big unions. The collapse of the communist system, symbolized by the fall of the Berlin Wall in 1989, signaled the apparent triumph of market capitalism.

In addition to the fall of the Berlin Wall and the collapse of the Soviet Union, two additional significant events occurred in 1986 and 1992. The first was the individual labor act that propelled the Soviet Union toward a market-based economy (Chittipeddi & Wallett, 1991). In addition, the Economic Union of 1992 created a trading block that could become the largest in the world if the member countries would integrate and assimilate their cultures and customs. The euro has since become the primary European

currency. “To cope with a dynamic and complex environment, many big companies are undertaking efforts to become more entrepreneurial to improve competitiveness” (Macharzina, 2000, p. 199). Similarly, less developed countries have turned to micro-enterprise training programs for economic development purposes. According to Macharzina, business incubators and business plan competitions have expanded exponentially across the globe since the early 1990s.

Alvarez (1993) summarized certain triggering events that precipitated the rise of entrepreneurship in Britain, Mexico, and Spain. He surmised that the energy crisis of the 1970s was the dominant factor in Britain and Spain, whereas the internal debt crisis of the 1980s was the triggering event for Mexico. Because of economic crises, individuals and governments turned to entrepreneurship as a solution.

Japan has expanded from generating only 2% of the world’s gross national product at the end of World War II to emerging as the second leading economic power in the 1980s (Paleno & Kleiner, 2000). In Japan, as in the United States, small businesses (those with fewer than 100 employees) are primarily responsible for this growth. Seeing the importance of small business to its economy, the Japanese government has passed pro-business laws to “modernize facilities, improve technology and strengthen their financial position to increase the overall opportunities available to small business” (Paleno & Kleiner, 2000, p. 133).

Other European countries, such as Germany and Italy, have grown to reflect an entrepreneurial economy. Paleno and Kleiner (2000) claim that since the unification of Germany there has been a rapid rise of small businesses with the expectation that these new business will “encourage social change, improve Germany’s competitiveness, and

create lower long-term unemployment” (p. 133). The Italian people are also very entrepreneurial. “Figures indicate that there is the same number of people employed by small business as large industrial firms” (p. 133) - this despite unfriendly government regulation.

Overall, the global landscape has changed because of increased production, technological developments, the unification of previously separate markets, and the opening of previously closed markets. The spread of free enterprise and the breakdown of political, social, and cultural boundaries have created more opportunities for global-minded entrepreneurs than ever before. As governments worldwide encourage this phenomenon (usually after some financial crisis), countries see their unemployment rates decrease and their quality of life increase. For various demographic, psychological, political, and social reasons, entrepreneurship has been embraced by individuals and institutions who share common economic goals of prosperity and economic development. Entrepreneurship is the next cottage industry of the new millennium, offering the promise of curing both individual and societal economic ills.

Theory

Entrepreneurship is as hard to define and understand as the term leadership. As Peter Kilby (1971) wrote, defining entrepreneurship is like “hunting for the heffalump, a mythical creature that defies description” (p. 1). Both entrepreneurship and leadership are observable only through the actions of individuals. When defining the phenomenon of either entrepreneurship or leadership, what are the most important factors to consider? Definitions of both examine factors such as the intrinsic characteristics of individuals, learnable behaviors and skills, cognitive and social processes, and the outcome of the

processes that involve leadership or entrepreneurship. Klofsten (2000) attempted to define the concept of entrepreneurship as follows: “One central difference between entrepreneurs and non-entrepreneurs is that entrepreneurs create organizations while non-entrepreneurs do not.” Entrepreneurship is in simple language the “creation of organizations” (para. 4). Gartner (1988) also agreed with this simple definition of the entrepreneur as the founder of a firm.

Paul DiMasi (n.d.) offered a somewhat more historical perspective on the definition, commenting that the earliest definition of entrepreneurship dates from the 18th century and described the risk bearing process of buying at certain items at certain prices and selling at uncertain prices. This definition led others to question whether there was any unique entrepreneurial function or whether it was simply a form of management. Drucker (1986) added the concept of innovation to entrepreneurship, describing several different types of innovation.

Both Klofsten and DiMasi concluded that entrepreneurship involves creating organizations, and that the entrepreneur is then the founder or creator of such an enterprise. Perhaps the primary difference between an entrepreneur and a small business owner, or between a leader and a manager, is that one provides the long-term direction or vision of an organization while the other carries out this mandate on a day-to-day basis. In the end, entrepreneurship may be the same as leadership or may be a specific type of leadership with the goal of creating new enterprises.

For the purposes of this study, entrepreneurship was defined as founding a new business organization or enterprise. Specifically, the micro-entrepreneur is the founder of a one-person enterprise, thus including the self-employed. Entrepreneurship is a process

carried out through the affective, behavioral, and cognitive processes of an individual or team toward the end of creating a new economic or social enterprise.

In *Understanding Entrepreneurship: A Research and Policy Report 2005*, Schramm laid out the watershed moments in entrepreneur research as follows (p. 7):

- 1911. Schumpeter, in his *Theory of Economic Development*, describes entrepreneurs as central to the creative destruction that continually re-creates our economy. Interestingly, modern economists that have prescribed to the equilibrium theory have no place for the “creative destruction” of the entrepreneur and fail to address the role of the entrepreneur in modern economic theories. (Schumpeter, 1911/1934)
- 1921. Knight, in *Risk, Uncertainty and Profit*, explains how entrepreneurs acquire resources. (Knight 1921/2005)
- 1945. Hayek, in *The Use of Knowledge in Society*, suggests that limited information availability is the source of the differences in realization of entrepreneurial opportunities. (Hayek, 1945)
- 1973. Kirzner, in *Competition and Entrepreneurship*, proposes that entrepreneurs are alert to profit opportunities, thus helping to restore economic equilibrium. (Kirzner, 1973)
- 1986. Drucker, in *Innovation and Entrepreneurship*, classifies entrepreneur opportunities and provides advice to the emerging entrepreneur economy. (Drucker, 1986)

Economic Views

Chapter two of Van Praag and Versloot's 2008 text provided an overview of the classic economic views of entrepreneurship as proposed by several key figures: Richard Cantillon, Jean-Baptiste Say, Alfred Marshall, Joseph Schumpeter, Frank Knight, and Israel Kirzner.

Richard Cantillon (Van Praag & Versloot, 2008) was the first to recognize the economic impact of the entrepreneur, who indeed was one of the three types of agents in his economic system: landowners or capital, entrepreneurs or arbitrageurs, and labor. He viewed the market as self-regulating and entrepreneurs as responsible for balancing supply and demand through arbitrage. Thus, the entrepreneur bears the greatest risk. Jean-Baptiste Say as described by Van Praag and Versloot (2008) assigned great significance to the entrepreneur as having a pivotal role in production, distribution, and consumption by coordinating economic activities at the market and firm level. An entrepreneur is thus a modern leader, manager, and merchant.

Van Praag (2005) and Van Praag and Versloot (2008) differentiated between early neoclassical economic thought and modern neoclassical thought on entrepreneurship. While earlier economists paid considerable attention to entrepreneurial theories, the post-1930 neoclassical model with its production function, rational choice, and perfect information had little room for the entrepreneur (Van Praag, 2005; Van Praag & Versloot, 2008). Marshall viewed the entrepreneur as bearing the responsibility to provide commodities, innovations, and progress to the economic process by directing labor, bearing risk, and making choices. In essence, entrepreneurs receive an excess "rent" on their unique set of capacities.

Schumpeter replaced the idea of an entrepreneur as a manager with the entrepreneur as a leader of the firm. Schumpeter “integrated psychological theory into the economic theory of entrepreneurship” (Van Praag, 2005, p. 19). Schumpeter saw the entrepreneur as the destroyer of equilibrium and the innovator of progress, but not as a risk bearer or supplier of capital, a function belonging to the banker. For Schumpeter, entrepreneurs provide something new to the marketplace, which affords them a temporary monopoly and thus a monetary return on their activities. He does suggest that, psychologically, entrepreneurs are a rare breed in that they possess a special will to conquer, a joy in creating, and a “mental freedom” (Hertje, as cited in Van Praag, 2005, p. 20).

Frank Knight returned to Cantillon’s views and refined them. The entrepreneur is the bearer of uncertainty, which requires certain personal characteristics such as confidence, will, and the ability to motivate others and make decisions.

Finally, the neo-Austrian economic perspective broke from modern neo-classic economic theory on equilibrium and entrepreneurship. Modern economists focus on a state of equilibrium with no place for the entrepreneur, whereas the neo-Austrians recognized the constant state of disequilibrium with a pivotal role for the entrepreneur. Indeed, Kirzner (as cited in Van Praag, 2005) viewed the entrepreneur as crucial to the very operation of the market. Entrepreneurial knowledge is the “highest order of knowledge” (p. 25) in that entrepreneurs can recognize an opportunity and their ability to act on an opportunity requires a certain “creativity and leadership” (p. 25).

Entrepreneurship Practice

Education versus Training

It is generally accepted in the field of education that there is a difference between education and training. While both involve a learning process that can use formal and informal methods, differences exist. Education is concerned with general knowledge and outcomes (including reading, writing, and arithmetic) and character, social, or moral outcomes. In contrast, training usually focuses on economic or practical outcomes related to occupational skills and behaviors (Merriam & Brockett, 1997). In the field of entrepreneurship, the same distinction exists between entrepreneurial education and entrepreneurial training as described by Garavan and O'Connell (1994). For example, these authors have made a distinction between “enterprise education” and “small business and entrepreneurship education and training” (para. 9).

The major objectives of enterprise education are to develop enterprising people and inculcate an attitude of self-reliance using appropriate learning processes.

Entrepreneurship education and training are aimed directly at stimulating entrepreneurship which may be defined as independent small business ownership or the development of opportunity-seeking managers within companies (p. 4).

In general, entrepreneurial education exists at colleges and university business schools across the country where students discuss relevant concepts and content. In contrast, entrepreneurial training occurs in specialized programs (some at educational institutions) where trainers encourage participants to engage in specific entrepreneur activities. In practice, both education and training appear similar in the classroom; however, the purpose and outcomes are different.

Micro-Enterprise

Micro-enterprise is usually defined as a very small business with less than five employees (Jones, 2004). The Association for Enterprise Opportunities (AEO), founded in 1991, is a national association of organizations committed to micro-enterprise development. According to the AEO, a micro-enterprise, which is a sub-set of small business, has fewer than five employees. “It is small enough to benefit from loans under \$25,000 and generally too small to access commercial banking services. In the majority of micro-enterprises, the owner is the sole operator and worker” (MFSS, 2000).

Micro-Enterprise Programs

Micro-enterprise programs offer business development services—such as training, consulting, technical assistance, and access to credit—to those individuals wishing to become entrepreneurs. In the year 2000, the United States had an estimated 700 micro-enterprise development programs, up from about 100 only a decade earlier. These programs operated in 46 states, served over 55,000 clients, and loaned almost \$33 million dollars in 1997 (MFSS, 2000). Of these programs, 95% offer training or access to training (Johnson, 1998a) and are often referred to as micro-enterprise training programs (METs). Some programs, known as micro-credit programs, also provide access to credit.

Micro-Enterprise Training Programs

Purpose

The type of micro-enterprise program depends on the purpose of the program, the provider of the program, and the population serviced. Garavan and O’Cinneide (1994) identified the seven most commonly cited objectives of entrepreneurship education and

training programs. These can be summarized in terms of providing the knowledge, skills, and techniques to analyze a business situation and to prepare a plan of action to encourage new startups.

According to the Association for Enterprise Opportunity (AEO), the common link of all MET programs is the promotion of self-employment as a means of economic survival. Most MET programs fall into one of three broad categories based on purpose: business development, community and economic development, and poverty alleviation (MFSS, 2000). The micro-enterprise training programs achieve these three broad objectives by offering training, technical assistance, and access to capital. Specifically, the training could involve personal effectiveness training, economic literacy, and business training. In addition, prior to receiving training, some organizations recruit and screen to attract certain populations. The technical assistance could include business plan review, loan application assistance, mentoring, or specialized help with legal, compliance, or accounting issues. Finally, there are several types of lending options including individual direct loans, peer group loans, seed capital grants and individual development accounts. METs that do not provide capital directly usually offer access to other willing lending agencies or loan programs.

Providers

Providers of entrepreneur training programs include colleges, universities, financial institutions, government agencies, foundations, not-for-profits, and private corporations. Funding for these providers comes primarily from the federal government and foundations. From 1980 to 1999, funding averaged \$57 million per year. While the majority of funding comes from the Small Business Administration, other federal

government agencies have also contributed, including the Department of Health and Human Services, Treasury, Department of Labor, Housing and Urban Development, and the Department of Agriculture. In addition, the Ford Foundation and Charles Stewart Mott Foundation averaged over \$2.5 million per year in total (MFSS, 2000).

Population

Micro-enterprise training programs serve the general population of budding entrepreneurs as well as underserved minority groups, such as women, African Americans, the unemployed, and immigrants. In general, programs tend to be small, serving fewer than 100 clients per year. While many MET programs specifically target certain underserved populations, often the more educated, recently unemployed individual will take advantage of MET services.

Models of Training Programs

The literature describes three models for understanding entrepreneur training programs, from a simple formula to a complex matrix used to classify all existing programs. Gideon Nieman (2001) described a simple formula, $E/P = FM(E/S \times B/S)$, which the University of Pretoria used to develop its business curriculum. The formula is attributed to Van Vuuren as cited in Nieman (2001). The model suggests that entrepreneurial performance (E/P) is a function of personal motivation (M), entrepreneurial skills (ES), and managerial skills (B/S) (Nieman, 2001).

Ibrahim and Soufani (2002) provide a conceptual model of entrepreneurship training where they define the source of entrepreneurial traits and managerial skills. For example, the model suggests that people gain entrepreneurial traits from family, culture, formal education, and government organizations. They acquire managerial skills via

experience and formal training programs. The positive implication from both these models of entrepreneurial training is that entrepreneurship is indeed a collection of skills and abilities that individuals can learn.

A third model offered by Johnson (1998b) is more concerned with classifying existing micro-enterprise training providers than providing a training methodology. This typology classifies MET programs according to the following four factors: organizational mission, characteristics of client population, type of lending, and training services. This typology is a rubric for measuring and evaluating current programs. The author suggests that classification involves asking questions, such as which type of program works best for which population. A review of the literature shows that a great variety of training practices are employed by the hundreds of training programs in existence.

A very plausible model of entrepreneurship was developed by Shane (2003) where the central premise is that entrepreneurship is at the nexus of individuals and opportunity and the process of discovering and exploring those opportunities (p. 10). This model is valuable in that it recognizes both micro factors of the individual entrepreneur such as psychological and cognitive factors as well as macro contexts such as industry, resources, and the environment.

Micro-enterprise Practices

Methods

In general, MET providers use training and consulting to improve participants' entrepreneurial ability. Providers use a variety of didactic tools. Garavan and O'Conneide (1994) adapted information from Randolph and Posner in order to identify four categories of learning styles/pedagogical techniques useful in training entrepreneurs: active applied,

active experimentation, reflective applied, and reflective conceptualizing. More specifically, the AEO provides the following list of pedagogical techniques commonly used by entrepreneur training centers: weekly peer coaching and training, monthly round tables for business owners and guest expert, web-based discussions, information and technical bulletins (distributed via fax, e-mail, or regular mail), on-site training with affinity groups or trade associates, annual site visits by consultants, periodic advanced training, training via video, mentoring, and business service centers (MFSS, 2000).

Teaching methods vary according to the resources, expertise, and bias of the provider. Traditional classroom lecture and discussion are the primary methods used for startup training. Trainers use social teaching methods, such as mentoring or coaching, for clients with advanced training needs. Some of the newer training methods include using multimedia tools and collaborative teaching techniques. Both increase the reach of MET centers, which are traditionally short on resources. The wide variety of teaching methods in use provides a fertile ground for future research. Two questions unanswered by existing research are whether MET centers are using assessment practices to match the client population with the proper instructional method and whether entrepreneurs prefer certain instructional techniques over others. One dissertation reviewed showed that female entrepreneurs prefer learning from peers over other methods of instruction, such as self-direction through books, through seminars, or through traditional classroom instruction (DeRose, 2006).

Competencies

As with business or leadership education and training, entrepreneur training involves affective, behavioral, and cognitive competencies. Traditionally, MET training

has focused on the technical skills necessary to complete a business plan. Some programs have included motivational training that concentrates on goal setting and personal effectiveness. The research suggests that neither approach is as effective as both approaches together (Durand, 1974; Miron & McClelland, 1979). In essence, just as in corporate professional development, both soft skills and hard skills are required to be a successful entrepreneur. The hard or technical skills involve completion of financial projections and drafting various legal, accounting, and tax schedules. Soft skills include both interpersonal and intrapersonal competencies, such as leadership and emotional intelligence.

Conceptual knowledge, such as the principles of marketing or finance, is the basis for most startup training programs. In addition, program trainers teach procedural knowledge of how to complete the financial schedules of a business plan. As far back as the 1970s, researchers examined the personal characteristics of the entrepreneur, such as an internal locus of control and achievement orientation. Recently, in both the leadership and entrepreneurial literature, writers have examined the contribution of social and emotional competencies to success. For example, in a recent International Business Research presentation by Inyang (2009), a variety of competencies required for successful entrepreneurship were described, including time management, communication, decision making, leadership, and management of certain business functions (pp. 66-69).

Schramm (2006) attributes several characteristics to the entrepreneur including optimism, energy, drive, frustration by bureaucracy, need for control, and acceptance of risk. Finally, Van Praag and Versloot (2008) empirically demonstrated that the following factors influence the likelihood of self-employment success: education, family,

experience, opportunity, recognition, willingness, access to capital, and a non-risk-averse nature.

Training Outcomes

The results of micro-enterprise training programs are very positive for individuals and for the economy. MET programs alleviate poverty by raising the income levels of the impoverished. MET programs provide job opportunities, first for the entrepreneur, thus alleviating the transfer payment burden, and then later for other employees. In fact, small businesses contribute more to job growth in countries than large businesses. While the outcomes for MET programs are positive, specific results depend on the population, purpose, provider, and training methodology. Specifically, entrepreneurs who start with more education and more capital are generally more successful than lower-income, less-educated entrepreneurs (Van Praag & Versloot, 2008). In addition, social networks play an important role in the success of the entrepreneur (Baron & Markman, 2000; Carolis & Saporito, 2006; Hargadon, 2005; Singh, 1998). It may be that access to capital, information, and assistance is more important than the actual knowledge and skills of any one specific entrepreneur. There are multiple personal and economic benefits to micro-enterprise training programs for the participants. The two studies noted below showed a majority of participants starting a business and creating at least a half-time job for each participant. In addition, the participants had greater confidence and a sense of well-being (Schmidt & Kolodinsky, 2007). While business incomes were modest, these type of programs do help to alleviate poverty and improve net worth (Raheim, 1996).

Implications for Research

A global survey of entrepreneur training programs provides a fertile field for potential research questions or topics in the following four areas: paradigms, programs, practices, and competencies.

Paradigms

Garavan and O’Cinneide (1994) summarize the current state of research:

Research on entrepreneurship education and training is sparse, with the development of the literature in the area only in the past two decades. While the field is expanding, most of the research has tended to be fragmented and with an exploratory, descriptive orientation. The lack of a clear consensus on the definition of an entrepreneur contributes to the confusion; it is therefore understandable that the content of entrepreneurship education and training programs varies according to the trainer's personal preferences as to definition and scope (para.12).

Without generally accepted definitions of and process models for entrepreneurship, entrepreneur training programs, or profiles of the individual entrepreneur, the gates are open for future theoretical research. These models may need to be based in adult learning or leadership theories.

Programs

Garavan and O’Cinneide (1994) continued with suggestions for research on specific programs and teaching methodologies. For example, content, teaching strategy, and evaluation remain largely unresearched. The author found many program specific types of research undertakings such as case studies or program evaluations. One future

research project could entail conducting a meta-analysis of existing programs. The result of this would be an exemplar model for micro-enterprise training representing the best practices of existing centers. In fact, the AEO is conducting a Microenterprise Standards and Accreditation Project in an effort to develop “standards for minimally acceptable performance” for micro-enterprise development programs (MFSS, 2000). Another possibility is to assess the types of programs that are most effective for specific populations under the assumption that certain approaches may work best with certain groups. Again, the results of this type of study could provide design, curriculum, or instructional guidance for future training programs. The AEO standards could be used to do program evaluation research on micro-enterprise training centers.

Practices

In addition to the possibility of conducting theoretical research, case studies, or program evaluations, specific didactic practices could be assessed through correlation or comparative studies. For example, does the length of training programs affect individual outcomes? Are programs with mentoring, peer networks, or other cooperative learning strategies more effective than non-collaborative programs (DeRose, 2006)? Finally, researchers could compare the effectiveness of multimedia delivery versus classroom delivery of entrepreneurial training programs.

Competencies

Finally, while much research has focused on the characteristics, personality, motivation, and skills of entrepreneurs, the next level of research should focus on the entrepreneurial competencies required for success. Paul DiMasi (n.d.) summarizes these types of research efforts:

Considerable effort has also gone into trying to understand the psychological and sociological wellsprings of entrepreneurship. These studies have noted some common characteristics among entrepreneurs with respect to need for achievement, perceived locus of control, orientation toward intuitive rather than sensate thinking, and risk-taking propensity. In addition, many have commented upon the common, but not universal, thread of childhood deprivation, minority group membership and early adolescent economic experiences as typifying the entrepreneur (para. 5).

Several researchers (Inyang, 2009; Schramm, 2006; Van Praag & Versloot, 2008) have looked at competencies required to be an entrepreneur. Specifically, researchers could design correlation studies to answer the following questions: Is self-directed behavior associated with entrepreneurial achievement? Do entrepreneurs share common learning style preferences, motivation, or personalities? How much of an entrepreneur's success is due to internal variables versus external variables?

Entrepreneurship and Human Capital

Van Praag and Versloot (2008) have suggested that broad research shows human and financial capital to be the two main drivers of venture performance. In general, they are more influential for performance than ethnicity, family background, social capital, or the business strategy of the small business founder. In addition, the human and financial capital of the entrepreneur determines the relationship between performance and many of the other determinants such as business strategy and social capital. During the literature review, the researcher used the lens of educational psychology and viewed the research in terms of the affective, behavioral, and cognitive factors or what is called the A-B-C's of

Human Capital. This perspective led to a compilation of factors related to entrepreneurship which is summarized in Table 3. Note that the highlighted factors are the variables tested as part of this study.

Table 3 Summary of Factors Related to Entrepreneurship

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
<i>AFFECTIVE</i>	<i>BEHAVIORIAL</i>	<i>COGNITIVE</i>	<i>DEMOGRAPHIC</i>	<i>ENVIRONMENT</i>
Emotional Intelligence	Planning	Ability to recognize opportunity	Income	Opportunity exists
Achievement motivation	Action Bias	Decision to pursue opportunity	Industry Experience	Access to capital, information, networks, and markets
Low risk Aversion	Specialized skills	General Business Knowledge	Prior Entrepreneurship	Favorable taxation and regulatory practices
Optimism	Milestone Completion	Intelligence	Parental Entrepreneurship	Technological and Capital Barriers
Openness and Extraversion			Gender Education Age	Cultural Market Orientation

“Human capital theory in general indicates that previous knowledge plays a critical role in intellectual performance; it assists in the integration and accumulation of new knowledge as well as the adoption to new situations” (Weck, as cited in Van Praag & Versloot, 2008, p. 116). Human capital is at the intersection of education and business, leadership, entrepreneurship, and instruction.

Van Praag and Versloot (2008) devoted an entire chapter to human capital variables in which they asserted, “Unobserved individual characteristics such as ability and motivation affect both the schooling level attained and business performance” (p. 152). The authors continued, “Both intelligence and schooling are important determinants

of successful entrepreneurship” (p. 152). Elements of human capital, such as age, education, and experience are argued to explain opportunity and willingness to switch to self-employment. These elements (shown in bold in Table 3) are therefore included in the present study. Crucial to understanding the present study and the section that follows, many researchers (Baron, 2008; Barron & Markman, 2000; Tomer, 2003; Van Praag & Versloot, 2008) hint at EI as an important component of entrepreneurship.

Summary of Entrepreneurship Literature

Entrepreneurship is a relatively new field of research that is developing in parallel with leadership research. Educational psychology and learning theories help to shed light on entrepreneurship. Entrepreneurial success may be due to a variety of factors such as innate individual characteristics, learned behavior, lifestyle factors, and situational factors. Entrepreneurial activities benefit individuals, families, entire economies, and the world. The effective training of future entrepreneurs is in everyone’s interest. However, predicting new venture creation and entrepreneurial outcomes is an unexplored area of research. One key to understanding entrepreneurship and entrepreneurial success might be Emotional Intelligence (Baron, 2008; Baron & Markman, 2000; Tomer, 2003; Van Praag & Versloot, 2008).

Emotional Intelligence

History of Emotional Intelligence

In addition to reviewing the literature on the history, theory, and practice of entrepreneurship, an examination of literature about the history, theory, and practice of emotional intelligence (EI) was also conducted. The first reference to EI was in 1852 by

John Harris. Goleman (1995), building on the work of Mayer, Salovey, and Caruso (2000a; 2000b; 2004), first popularized the concept of emotional intelligence with his book of the same name. According to Goleman (1995), EI is the key aptitude that profoundly affects all other abilities by either facilitating or interfering with them, and the abilities associated with EI are self-control, zeal, persistence, and the ability to motivate oneself. Because emotions are behind all impulses to act, the ability to control these impulses makes EI the “master aptitude” (p. 78). Cherniss and Adler (2000) view emotional competency as a learned ability based on EI that improves job performance. Competencies can include attitudes and beliefs as well as skills and abilities. Whether EI is defined as intelligence, ability, or a competency, the power of emotions is undeniable. Goleman (1995) goes so far as to say that the ability to control impulse is the basis of will and character, and that it is also at the root of self-restraint and compassion. The next section explains the definitions and models of EI in more detail, explores the origins of EI, and summarizes the research showing the impact of EI on the individual as well as organizations.

Emotions

For a clearer understanding of emotional intelligence, it helps to discuss the two root words that make up this compound construct - namely, emotions and intelligence. While Goleman (1995) popularized the concept, his work was based on research conducted by Caruso and Salovey (2004), who proposed six principles of EI: a) emotions are information; b) ignoring emotions does not work; c) we cannot hide our emotional responses as well as we think; d) decisions must incorporate emotion to be effective; e) emotions follow logical patterns; and f) emotional universals exist.

The authors also list the universal emotions noted by other researchers, for example, Plutchik, Ekman, Tomkins, and Izard (Caruso & Salovey, 2004). A review of the multiple lists shows the following universal emotions: joy or happiness, fear, surprise, sadness or distress, and anger. The authors also suggested the evolutionary purposes of key emotions (p. 12):

1. Fear: Run, there is danger!
2. Anger: Fight!
3. Sadness: Help, I'm hurt!
4. Disgust: Don't eat that; it is poison!
5. Interest: Let's explore.
6. Surprise: Watch out or pay attention!
7. Acceptance: Stay with the group for safety.
8. Joy: Let's cooperate, or reproduce.

At its core, an emotion signals something important and therefore communicates a universal sign to all people as seen in the evolutionary reasons for emotions in the list above. Darwin (1886) discusses the meaning of emotions in man and animals, and provides several examples of how emotions motivate human behavior. For example, an emotional response to terror initiates an automatic response causing our hair to stand up on our necks, just as fine music causes excitement in those that appreciate it and may send a tingling sensation down the spine.

According to Ekman (1993), even though emotional expression develops in infancy, people's ability to express emotions varies greatly. Plutchik (2001) describes eight basic emotional dimensions and lays out a psycho-evolutionary perspective of

emotions. In the end, all these researchers mentioned conclude that emotions play an important role in human evolution, our everyday experiences, and cognition. Think of the impact of the arts, music, and advertising industries on our emotional experiences and responses. Even the word choices in this dissertation or in political speeches may influence individuals differently.

There are benefits to using our emotions. Because of the vital link between thinking and feeling (Damasio, 1994), people who are good at using emotions to facilitate thinking can be better at motivating others. According to Damasio (1994), emotions are important for decision making. In the book *Blink*, Malcolm Gladwell (2005) makes the case that some of our best decisions are made by instinct. Furthermore, Frijda, Manstead, and Bem (2000) believe that emotions motivate us to action and influence our thoughts and beliefs. Several authors (Darwin, 1872; Gardner, 1999; Plutchik, 2001) suggest that emotions have evolutionary purposes; thus, the emotional response is necessary for our survival as an individual and as a species.

Intelligence

Francis Galton (as cited in Gardner, 1999), one of the founders of modern psychological measurements, believed that intelligence ran in families, so he studied the offspring of leading British families. Although Galton was the first to establish a laboratory to gather empirical evidence of people's intellect, Alfred Binet (a French psychologist) is usually credited with fashioning the first intelligence test. Beginning around 1879, Binet's test started with sensory perceptions. It began focusing on the mathematical and verbal abilities as we think of them today. A few years later, in 1912,

German psychologist Wilhelm Stern introduced the name and measure of IQ, or the “intelligence quotient.”

In 1994, *The Bell Curve* was published, creating a buzz about the importance of the singular concept of intelligence as IQ. A year later, Goleman (1995) published *Emotional Intelligence*, which provided a counterpoint to the importance of a singular concept of intelligence. However, this idea of multiple facets of intelligence was not new.

Howard Gardner published no fewer than 19 books from 1973 to 2006, predominantly on the mind, and specifically about multiple intelligences. Gardner (1999) offers three meanings of intelligence, two specific definitions, and eight criteria for evaluating whether ability is intelligence. The three broad meanings of intelligence (Gardner, 1999) are as follows. First, intelligence is a species characteristic—i.e., a general human capacity. Second, intelligence is representative of individual differences, such as traits or skills, which is a major focus of the psychological psychometric tradition. And third, intelligence is the fit execution of an assignment or a performance on which the behaviorists can agree. From an evolutionary perspective, it seems probable that each type of intelligence evolved to deal with a certain set of problems within certain contexts.

Gardner (1999) offers two definitions of intelligence: “the ability to solve problems or to create products that are valid within one or more cultural settings” and “a bio-psychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture” (p. 33). In addition, Gardner (1999) suggests eight criteria as a basis for labeling intelligence. These include the potential of isolation by brain damage; evolutionary plausibility; an

identifiable core operation or set of operations; use of coded symbol systems; a developmental history with a set of expert “end-state” performances; the existence of idiot-savants, prodigies, or exceptional examples; support from experimental psychological tasks; and support from psychometric findings (p. 63).

Multiple Intelligences

According to Gardner (1992), researchers must answer three key questions about intelligence: First, is intelligence a singular or multifaceted concept? Second, is intelligence inherited or learned? And third, are intelligence tests biased? Originally, researchers defined intelligence as a unitary construct, and many people still think of intelligence in this way today.

Gardner (1992) recognized that a singular construct of intelligence does not explain some human realities, such as how some children can excel in one area and not in another while others excel at many things. Even within cognitive tasks, “[w]eakness in learning does not predict success or failure with other cognitive tasks” (p. 31). Based on his work with injured patients and gifted children, Gardner (1999) adopted the “modularity” view of the brain. He viewed intelligence as a group of related functions instead of an all-inclusive single purpose machine. R. L. Thorndike (1953), in a presidential address to the Psychometric Society, discussed “clustering” intelligences, and Stein (1937) was also one of the earliest to mention “social intelligence.” In addition, Robert Sternberg’s 1984 “triarchic” model of intelligence also broke from a traditional unitary view of intelligence. Daniel Goleman (2006) then followed up with a book titled *Social Intelligence* just as he had done previously with his *Emotional Intelligence* (1995).

In *Intelligence Reframed*, Gardner (1999) suggested that the following seven intelligences meet the eight criteria (described earlier) of intelligence: linguistic, logical-mathematical, musical, kinesthetic, spatial, interpersonal, and intrapersonal. In later work, Gardner entertained the possibility of three additional intelligences, namely the naturalist, the spiritual, and the existential. However, in the end, only the naturalist type of intelligence met his eight criteria for intelligence; thus, he proposed an eighth intelligence.

As this study concerns EI, we are most concerned with Gardner's interpersonal and intrapersonal intelligences because EI is an amalgamation of these two intelligences. Gardner (1999) stated that there are social/emotional intelligences that are distinct from the traditional view of intelligence:

Studies of social intelligence have revealed a set of capacities different from standard linguistic and logical intelligences. Similarly, investigations of the new construct of EI have indicated that this phenomenon may well be independent of how one scores on the traditional intelligence tests (p. 41).

Gardner (1999) defined interpersonal intelligence as a core capacity to notice distinctions among others - in particular, their moods, temperaments, motivations, and intentions. This skill appears highly useful to leaders, salespeople, and marketers among others. The biological rationale for the development of interpersonal intelligence is two-fold: the "prolonged childhood of primates" and the "importance of social interaction in the survival of groups" (p. 16). Intrapersonal intelligence is "knowledge of the internal aspects of a person such as their access to their own feelings, emotions, and capacity to discriminate among these, label them, and draw on them are essential to understanding

and guiding one's behavior" (p. 17). In sum, both interpersonal and intrapersonal pass the tests of intelligence. Furthermore, these two intelligences "may be the exclusive purview of human beings" (p. 81). In his conclusion about the implications of multiple intelligence theory, Gardner (1999) states the following:

Multiple intelligence theory can help individuals, teams, and organizations use human capital more effectively in an ever more complex environment. To begin with, different jobs call for different intellectual strengths, intelligence profiles, and intellectual relations to coworkers. This (understanding) is crucial both for the individual worker and the (leader) in charge of an enterprise (p. 231).

I would add that the entrepreneur is a unique individual who is both the worker and the leader of the firm; especially during the startup phase.

Theories of Emotional Intelligence

Although Goleman (1995) gave credit to Caruso and Salovey as the fathers of the research behind the concept of emotional intelligence, other EI models do exist beyond the Caruso/Salovey and Goleman models. However, this study focused particularly on these two models since they are the original and popularized versions of the concept. Furthermore, the emotional intelligence instrument used for this study was created by Mayer, Salovey, and Caruso and has been standardized based on 5,000 users.

In the introduction to their book, Caruso and Salovey (2004) laid out the framework for a four-part model of EI, which is a condensed version of an earlier five-branch model. The four branches are to perceive, use, understand, and manage emotions. The *perceive emotions* or "reading people" branch recognizes that emotions contain data and are signals to us about important events going on in the world, whether internally or

externally; thus, we need to identify emotions in others and be aware of our own emotions to communicate effectively. *Using emotions* or “getting in the mood” accepts emotions as influencing our thinking and requires us to match the emotion to the task. Emotions direct our attention, ready us for action, and guide our thought processes as we solve problems. The *understand emotions* branch, also known as “predicting the emotional future,” suggests that emotions are not random events and that they can be understood. Our emotional vocabulary reflects our knowledge of emotions, and our ability to conduct emotional “what-if” analyses is an indication of our emotional maturity. *Managing emotions* allow us to “do it with feeling.” We need to incorporate emotions intelligently into our reasoning, problem solving, judging, and behaving. This requires us to stay open to emotions, whether they are welcome or not, and to choose strategies that include the wisdom of our feelings.

Goleman (1995) also simplified the original five-part model of EI into just four dimensions. These were self-awareness, self-mastery, empathy, and social competence, as described in his book *Emotional Intelligence*. Later, Goleman developed an inventory called the Emotional Competence Inventory, in which the four elements of EI were self-awareness, self-control, social awareness, and relationship management. For Goleman, self-awareness is the “keystone” (p. 46) of EI. Self-awareness is the accurate recognition of feelings as they occur. Goleman (1995) deferred to Mayer with his definition that self-awareness is being “aware of both mood and our thoughts about our mood as they occur” (p. 47). Furthermore, self-awareness is an emotionally neutral state of reflection and recognition. Self-mastery, or impulse control, is the “master aptitude” (p. 78), according to Goleman (1995). He also referred to impulse control as a “fundamental psychological”

aptitude that is at the root of emotional self-control. Strong self-mastery provides for impulse control, delayed gratification, mood regulation, and motivating one's own actions. Goleman used stories about Olympic athletes and the concept of flow to show the positive psychological benefits of self-mastery. Specifically, Goleman noted that one defining characteristic of masters in athletics and other endeavors is the ability to motivate themselves.

Empathy is an emotional attunement to another human being, similar to the bond between a parent and a child. It is through empathy that we are able to care for another, read non-verbal cues, and experience compassion. According to Goleman (1995),

[a] life without empathy would result in the mind of a child molester or the morals of a sociopath. Specifically, the lack of empathy is a common psychological characteristic of rapists, child molesters, and other violent criminals. Sociopaths are completely without remorse for their actions (p. 107).

Social skills are the outward expression/application of possessing EI, which aligns with Gardner's (1999) definition of interpersonal intelligence as the ability to organize groups, negotiate solutions, and connect on a personal level. Together, Goleman (1995) claimed that these social skills are the "stuff of interpersonal polish, the necessary ingredients for charm, social success, and even charisma" (p. 119). Having explored the origin, definition, and theories of emotional intelligence, let us now examine emotional intelligence in practice where we will address positive outcomes of emotional intelligence as well as how to develop and assess emotional intelligence levels.

Emotional Intelligence in Practice

Outcomes

Research has demonstrated the benefits of EI, both individually and organizationally, and a significant number of key studies have cited these many benefits. Cherniss and Adler (2000) compiled the following studies showing positive outcomes of using emotional intelligence. Goleman (1998) reviewed competence models from 188 companies and found that emotional intelligence factors accounted for nearly 90% of the difference between star performers and average performers (p. 84). Furthermore, the Center for Creative Leadership studied executives who had derailed their career and found that career derailment was usually linked to poor relationships and rigidity (Leslie & Van Velsor, 1996, p. 8). A study by the Department of Labor and American Society of Training and Development (as cited in Cherniss & Adler, 2000) showed that the most important skills for entry level employees were personal management (self-esteem, goal setting, motivation, and personal and career development), interpersonal skills such as negotiation and teamwork, and organizational effectiveness and leadership (Carnevale, Gainer, & Meltzer, 1988). Ehringer (1995) found in a sample of 60 entrepreneurs that “awareness of mind” was required for effective entrepreneur decision making (p. 2).

Cherniss and Adler (2000) profiled several model programs in their book *Promoting Emotional Intelligence in Organizations* and highlighted the bottom line impact or results of EI intervention. Organizationally, a study of superior leaders in the U.S. Navy found that the greatest difference between them and the average leader was their emotional style. Specifically, the most effective leaders were more positive and

outgoing, more emotionally expressive and dramatic, and warmer and more sociable. In fact, Bachman (1988) writes that “nice guys finish first” (p. 133).

Miron and McClelland (1979) found that achievement motivation training programs targeted at small business owners increased monthly sales, monthly profits, personal income, and the number of employees. Overall, EI studies—which show improvements in attendance, rapport, stress management, and measures of stress symptoms—have been conducted on a variety of populations, such as workers in healthcare, financial institutions, and non-profits, as well as students, steel workers, managers, and salespeople, and only a handful of entrepreneurs.

Developing Emotional Intelligence

Goleman (1995) suggested the following ways to increase EI: self-awareness, distraction, reframing, acknowledging, challenging, relaxation, shifting focus, and exercise. Caruso and Salovey (2004) in *The Emotionally Intelligent Manager* offer a blueprint for improving individual emotional competence (see Table 4). This four-part model can be used as a developmental model (p. 28).

Table 4 Improving Individual Emotional Competence

Step	Goal	Action
Perceive Emotions	Get complete and accurate data.	Listen, ask questions, and paraphrase to ensure you understand how the team feels.
Use Emotions	Use feelings to help guide your thinking.	Determine how these feelings influence your thinking and that of the team.
Understand Emotions	Evaluate possible emotional scenarios.	Examine the causes of these feelings and what may happen next.
Manage Emotions	Determine underlying root cause and take action to solve the problem.	Include the rational, logical information available with the emotional data you just gathered to make an optimal decision.

Caruso and Salovey (2004)

Assessing Emotional Intelligence

Cherniss and Adler (2000) provided a summary of the various instruments for assessing EI. Several available EI assessment instruments were considered for the study. One instrument is the 33-item *Assessing Emotions Scale* (Schutte et al., 2001), which has an internal reliability of between .87 and .90. This instrument was applied to seven populations in an attempt to relate EI to various factors of positive relationships. Salovey developed another instrument for assessing EI, the *Trait Meta Mood Scale* (TMMS), which has a reliability alpha of .82 (Palmer, Walls, Burgess, & Stough, 2001). A third instrument is the *Mayer-Salovey-Caruso Four Ability Model of Emotional Intelligence* (MSCEIT) from the pioneers who first defined EI. Because this is the only ability measure of EI to minimize the limitations of self-reported scores, this is the test that will be used for this study. In addition, the MSCEIT has been used and validated with

thousands of individuals and over many studies. Finally, the MSCEIT is the test developed by the original creators of the EI construct: Mayer, Salovey, and Caruso. Below are sample questions (EI Skills Group, 2005-2012) (Used with permission. Copyright MHS, Inc.).

Example Items

EXAMPLE MSCEIT ITEMS

Perceiving Emotions

Indicate how much of each emotion is present in this picture. (Picture deleted)

Emotion	Not				Very
	Much				
Happiness	1	2	3	4	5
Fear	1	2	3	4	5
Sadness	1	2	3	4	5
Surprise	1	2	3	4	5

Using Emotions

What mood(s) might be helpful to feel when meeting in-laws for the very first time?

Mood	Not				Useful
	Useful				
Tension	1	2	3	4	5
Surprise	1	2	3	4	5
Joy	1	2	3	4	5

Understanding Emotions

Tom felt anxious, and became a bit stressed when he thought about all the work he needed to do. When his supervisor brought him an additional project, he felt ____.

(Select the best choice.)

- a) Overwhelmed
- b) Depressed
- c) Ashamed
- d) Self Conscious
- e) Jittery

Managing Emotions

Debbie just came back from vacation. She was feeling peaceful and content. How well would each action preserve her mood?

Action 1: She started to make a list of things at home that she needed to do.

Very Ineffective..1.....2.....3.....4.....5..Very Effective

Action 2: She began thinking about where and when she would go on her next vacation.

Very Ineffective..1.....2.....3.....4.....5..Very Effective

Action 3: She decided it was best to ignore the feeling since it wouldn't last anyway.

Very Ineffective..1.....2.....3.....4.....5..Very Effective

Criticisms of Emotional Intelligence

The concept of EI and the testing thereof are not without detractors. Most concerns are related to validity. Three types of validity that are questioned in the literature are construct, discriminate, and predictive. A common criticism has been that the multiple qualities encompassed by the concept make for a definition that is too broad to actually measure. In addition, too many unsubstantiated claims have been attributed to the concept. Many EI instruments are self-report measures. Without a strict definition, the construct validity may be lacking (Romanelli, Cain, & Smith, 2006). Because of the broad and various definitions of emotional intelligence, it is difficult to operationalize and differentiate what we are measuring, and thus brings into question the whole construct of EI. Ashkanasy, Ashton-James, and Jordan (2004) noted that EI advocates present a wide range of claims to which EI contributes, including work and life success, career progression, altruism, better leaders, and being more self-motivated. The authors looked at empirical support, theoretical justification, and the availability of outside research supporting or refuting the EI construct, concluding that many of the performance-enhancing claims are unfounded. Ashkanasy et al. (2004) concluded that additional research needs to be done in practical work environments using the Mayer-Salovey model because it is less contaminated by personality constructs than other EI tests.

Some researchers (myself included) question whether or not emotional intelligence can be called an actual intelligence; however, Romanelli et al. (2006) have claimed that EI meets three standards necessary to satisfy the criteria of intelligence, as follows: it should reflect mental performance, it should vary with experience and age, and it should meet prescribed correlational criteria. The developers, Mayer, Salovey, and Caruso (2004), defended the MSCEIT as meeting three basic criteria of intelligence. In addition, the MSCEIT has been operationalized so that there are objectively correct answers.

Another concern is that many emotional intelligence instruments correlate too closely with personality or cognitive measures. Per Romanelli et al. (2006), some of the EI instruments correlate to personality measures and intelligence measures, and thus do not have discriminate validity. Conte (2005) reviewed multiple EI instruments and offered suggestions for future research. The Emotional Competence Inventory (ECI) was shown to overlap with the Big Five personality assessment (openness, conscientiousness, extraversion, agreeableness, and neuroticism), and both discriminate and predictive validity seem to be lacking.

The Baron EQ-I demonstrates adequate reliability and some validity evidence, but it has few studies showing discriminate validity compared to the Big Five and established cognitive ability measures. Only the MSCEIT is an ability measure with objective answers by which it overcomes the issues of self-report measures (Conte, 2005). In addition, the MSCEIT does show internal reliability, though some researchers have questioned the scientific standards of the consensus and expert scoring methods (p. 26).

Furthermore, the predictive value of emotional intelligence has been questioned by Conte and others, including the original developers themselves. "...[I]t is unlikely that there will be validity in incrementally predicting performance over and above the personality measures" (Conte, 2005, p. 26). In addition, Landy (2005) reiterates that the construct of EI adds little to explaining or predicting outcomes in work or educational settings. Landy (2005) notes that "validity evidence is lagging behind the reliability evidence in support of EI measures" (p. 29). However, ability measures such as the MSCEIT seem the most promising for future research. Finally, multiple authors have concluded that it is important not to use EI to over-predict a successful performance outcome because human activity is complex.

Summary of Literature Review

The high level of entrepreneurial activity, programs, and research make the topic of entrepreneurial EI worthy of study, and the high failure rate of startup businesses makes it important to find some differentiating factors between successful and non-successful entrepreneurs. Caruso and Salovey (2004) list six core functions of a leader: building effective teams, planning and deciding effectively, motivating people, communicating a vision, promoting change, and creating effective interpersonal relationships. Caruso and Salovey (2004) and Goleman (1995) believe that people can increase each of these capacities through the identification, understanding, use, and managing of emotions. "Entrepreneurship is not a job title, but a way of life" (Mangia, 2001, p. 2). Goleman also suggests that EI underpins all human achievements and the lack of EI is a contributing factor in many of our failures.

This literature review demonstrates that few studies to date have sought to determine the predictive value of EI on new venture creation or on measures of entrepreneurial business outcomes such as business longevity, success rate at starting new businesses, and business profitability. This gap in the published literature was filled by this study and the methods used to carry out this study are detailed in the following chapter.

CHAPTER III

METHODS

Entrepreneurship has positive individual and societal outcomes, even though new ventures fail at a high rate; but whether emotional intelligence is predictive of new venture creation and entrepreneurial outcomes is unknown. The magnitude of entrepreneurial activity, education, and training programs is vast. Fundamentally, it is an individual expression of innovation and creativity. The successful entrepreneur creates something from nothing, advances his own economic interests, and positively impacts the community and economy at large. The majority of existing businesses employ fewer than five people, but successful entrepreneurs are responsible for a disproportionate amount of job growth (Drucker, 1986; Litan, 2005; Schramm, 2006; Van Praag & Versloot, 2008).

Despite the individual and societal benefits of entrepreneurial activity, new ventures fail at an alarming rate. Determining the factors that predict successful entrepreneurs from non-successful entrepreneurs will benefit all. The entrepreneur can be described as possessing several factors that enhance the chance of success. One competency that may affect the success of entrepreneurs is emotional intelligence. While research has identified several factors and is beginning to identify social and affective factors related to entrepreneurial activity, we do not currently know if emotional intelligence is predictive of entrepreneurs who succeed versus those that do not.

Parallel themes can be found in the literature for both leadership and entrepreneurship. Originally, leadership literature focused on the charisma, traits, or characteristics of the individual leader. Next, it examined the specific behaviors and skills that a leader portrays and attempted to instruct future leaders based on these skills. Third,

leadership was examined in a more contextual manner, taking into account the environment and situational variables that come into play between a leader, followers, and other stakeholders. As noted earlier, a review of the entrepreneurial literature revealed a primary focus on the individual attributes, motivations, and characteristics of the person, with a secondary focus on training entrepreneurs in the specific skill sets needed to start and manage a venture.

Only recently have researchers and practitioners developed models that consider the social context and multi-variable environments in which entrepreneurial activities occur. Furthermore, both the leadership and entrepreneurship literature recognized personal networks, social support, and interpersonal skills as integral to individual and team success. Since 1995, EI concepts have been researched and applied to leaders and leadership, and Cross and Travaglione (2003) go as far as to say that EI may be the “missing link” in entrepreneurial success.

Research Focus

Entrepreneurship has positive individual and societal outcomes, but whether EI predicts entrepreneurial outcomes is unclear. Overall, this study is being conducted to determine if EI scores are predictive of entrepreneurship or success in starting new businesses, business longevity, or business profitability. The four branch scores of the MSCEIT measure the following four specific tasks of EI: perceiving, using, understanding, and managing. Four hypotheses were tested with a sample (n=52) of entrepreneurs and non-entrepreneur clients of the Duquesne University SBDC. The four specific hypotheses and sub-hypotheses are listed below.

Hypothesis 1: EI in new venture creation

Emotional intelligence (EI) scores are significantly predictive of new venture creation.

Hypothesis 1a

Emotional intelligence (EI) perceiving scores are significantly predictive of new venture creation.

Hypothesis 1b

Emotional intelligence (EI) using scores are significantly predictive of new venture creation.

Hypothesis 1c

Emotional intelligence (EI) understanding scores are significantly predictive of new venture creation.

Hypothesis 1d

Emotional intelligence (EI) managing scores are significantly predictive of new venture creation.

Hypothesis 2: EI and business longevity

Emotional intelligence (EI) scores are significantly predictive of business longevity in entrepreneurs. Longevity is also known as survival rate or number of years in business.

Hypothesis 2a

Emotional intelligence (EI) perceiving scores are significantly predictive of business longevity in entrepreneurs.

Hypothesis 2b

Emotional intelligence (EI) using scores are significantly predictive of business longevity in entrepreneurs.

Hypothesis 2c

Emotional intelligence (EI) understanding scores are significantly predictive of business longevity in entrepreneurs.

Hypothesis 2d

Emotional intelligence (EI) managing scores are significantly predictive of business longevity in entrepreneurs.

Hypothesis 3: EI and success rate in starting new businesses

Emotional intelligence (EI) scores are significantly predictive of success rate in starting new businesses in entrepreneurs. Success rate is determined by the quotient of current number of active businesses and the total number of businesses started.

Hypothesis 3a

Emotional intelligence (EI) perceiving scores are significantly predictive of success rate in starting new businesses in entrepreneurs.

Hypothesis 3b

Emotional intelligence (EI) using scores are significantly predictive of success rate in starting new businesses in entrepreneurs.

Hypothesis 3c

Emotional intelligence (EI) understanding scores are significantly predictive of success rate in starting new businesses in entrepreneurs.

Hypothesis 3d

Emotional intelligence (EI) managing scores are significantly predictive of success rate in starting new businesses in entrepreneurs.

Hypothesis 4: EI and business profitability

Emotional intelligence (EI) scores are significantly predictive of business profitability (gross sales and net profit) in entrepreneurs.

Hypothesis 4a

Emotional intelligence (EI) perceiving scores are significantly predictive of business profitability in entrepreneurs.

Hypothesis 4b

Emotional intelligence (EI) using scores are significantly predictive of business profitability in entrepreneurs.

Hypothesis 4c

Emotional intelligence (EI) understanding scores are significantly predictive of business profitability in entrepreneurs.

Hypothesis 4d

Emotional intelligence (EI) managing scores are significantly predictive of business profitability in entrepreneurs.

Significance of Study

The benefits of entrepreneurship make this an important study. Luke, Verreyne, and Kearins (2007) lay out a framework for explaining the multi-level benefits that accrue from entrepreneurial activity, including individual, organizational, and societal. Entrepreneurship is the key to economic growth and prosperity (Casson, 1982; Drucker,

1986; Schramm, 2006). In addition, according to Van Praag and Versloot (2008), entrepreneurs accrue positive financial benefits personally.

Educational Significance

For various reasons, this research is germane to the field of educational leadership. For one, the primary construct of emotional intelligence has, at its foundation, the work on multiple intelligence theory by Howard Gardner (1993). Furthermore, the entire framework of the literature review (see Figure 1) was from the perspective of educational learning theories grounded in educational psychology concepts with a focus on human capital. This lens resulted in an understanding of factors related to entrepreneurship (Table 3) from affective, behavioral, and cognitive frames of reference.

The population studied herein was clientele of a non-profit educational organization whose mission is to provide management and technical assistance to startup and growing businesses. With the focus on human capital and the chosen population, this study takes place at the nexus of business and education.

The results of this study have implications for the selection and training of entrepreneurs as well as the design and delivery of entrepreneur training programs. Applications of this research through training and curriculum design could ultimately enhance future entrepreneurial outcomes. Finally, the results of this study may inform future models of entrepreneurship.

Procedures

The remainder of the chapter will cover the specific methodology used in carrying out this study. First, the participants and instrumentation are described, and then specific procedures are delineated. The procedures described herein include recruitment, data

acquisition, data management, and design and analysis. Finally, data presentation and compliance consideration will be addressed.

Sample

A sample was taken from clients of the last five years of the Duquesne University Small Business Development Center. These clients who have sought training and consulting assistance to start a business were the target population for this research. Past experience has shown a 10% response rate from surveying SBDC clients.

The SBDC maintains a complete list of consulting and training clients over the past six years. The Duquesne SBDC consults and trains with approximately 1,000 participants per year. Clients are numbered in the master database. Clients were contacted via email and provided with a unique code and link to take the survey of business outcomes via Qualtrics.com. After this short survey of 11 questions, a link was provided to the MSCEIT instrument hosted through the MHS, Inc. portal.

Tests of power revealed that, assuming a medium-sized effect (Cohen, 1992) and a 95% confidence interval, statistical significance would be conferred 80% of the time (Power = .80) with as few as 67 participants for simple comparisons. Further, Wilson, Van Voorhis, and Morgan (2007) suggest the rule of thumb of 50 for regression (Table 3, p. 47). Therefore, the present study has adequate power with an actual sample size of 52.

Demographics

In 2011, the Duquesne University Small Business Development Center provided 8,661 hours of consulting services to 569 clients. Approximately half of these clients were in business, and the other half were nascent entrepreneurs (also referred to as “in the

startup phase”). Of the approximately 1,000 clients (training and consulting) served by the Duquesne SBDC annually, 38% are women and 25% are minorities.

These clients sought educational assistance in the form of training and/or consulting regarding their intended new or nascent ventures. The clients are from Western Pennsylvania and are often solo entrepreneurs. They have diverse educational backgrounds, socio-economic levels, experience, and ethnic origins. There is no charge for the consulting services.

The Duquesne SBDC is a member of a state-wide network of small business development centers which served 12,000 entrepreneurs, providing over 117,000 hours of consulting services, and held 757 workshops with 13,876 attendees for the calendar year 2011 (Pennsylvania SBDC, 2012). In addition, the Pennsylvania state network is a member of a nationwide network of 1,000 SBDCs across the U.S.

The demographic profile of the United States as of 2011 was included for comparison purposes (U.S. Department of Commerce [USDoC], 2012). As of 2011, men and women are each about 50% of the population. Sixty-three percent (63%) of the population is Caucasian, 13% are black, and 16% are Hispanic. About 5% of the U.S. population is Asian, and 2% report multiple racial makeup. Educational achievement levels indicate 28% persons over the age of 25 have a bachelor’s degree or higher, and 85% have at least graduated from high school.

EI scores are available for general population, but not for the entrepreneur population. This was one of the first studies to examine a population of entrepreneurs seeking assistance with the MSCEIT emotional intelligence instrument. Results of the study can be generalized to the clients of the Commonwealth of Pennsylvania SBDC

network which serves the entire state. Furthermore, these results may apply to nascent entrepreneurs in general across the nation but will require additional studies to validate the findings.

Instrumentation

MSCEIT

Emotional Intelligence was measured with the *Mayer-Salovey-Caruso Four Ability Model of Emotional Intelligence* (MSCEIT) (Mayer, Salovey, & Caruso, 2000b; 2002a; Mayer, Salovey, Caruso, & Sitarenios, 2003). The MSCEIT is an ability-based measure of emotional intelligence that uses a variety of tasks to measure a person's capacity to reason with emotional information. This test was chosen for the study because it is the only ability measure of EI to minimize the limitations of self-reported scores. The key branch areas measured with the MSCEIT are: perceiving, using, understanding and managing emotions. The MSCEIT is available online and in software-based formats. The normative data for the MSCEIT comprises 5,000 respondents that forms a representative sample in terms of gender, age, ethnicity, and level of education. The test has 141 items that can be completed in 30 to 45 minutes. The instrument is written at an eighth-grade reading level. The MSCEIT test is an objective measure with two scoring methods available: consensus scoring and expert scoring. The consensus scoring method accepts an answer as correct if the majority of respondents selected the same answer. Consensus scoring is effective because of the evolutionary basis of emotions (Mayer, Salovey, & Caruso, 2005). Expert scoring uses a panel of 21 members from the International Society for Research on Emotions. Both scoring methods yield similar results. The general

scoring system was used in the current study. There are no significant differences between the reliability and validity of the two methods of scoring.

Reliability. The MSCEIT test was selected over other measures of emotional intelligence because of its reliability and validity. Reliability scores above .70 indicate adequate internal reliability for survey research (Nunnally, 1978). The reliability of the MSCEIT exceeds .70 for both internal scoring and for test-retest consistency. Reliability for the expert testing method is between .77 and .91 (Caruso & Salovey, 2004). Brackett and Mayer (2003) found a test-retest reliability of .86 based on a sample of 62 participants. In addition, internal factor consistency was assessed and found to be adequate (Brackett & Salovey, 2004; Mayer et al., 2003).

Validity. The MSCEIT shows good discriminant validity (Brackett & Salovey, 2004). While reliability is concerned with the consistency of the instrument, validity is concerned with accuracy. There are different types of validity including face, content, factor, and discriminant validity. Content validity assesses whether the test measures what it says it measures. As an ability measure, the MSCEIT operationalizes the four-branch model of emotional intelligence and tests abilities. Factor structure was also examined with a sample of 1,985 test takers and found to be valid for the four-branch model. Finally, discriminant validity is important, as one of the criticisms of emotional intelligence is that it overlaps too much with personality or other intelligence measures.

Qualtrics

In addition, Qualtrics (an online survey tool) was used to gather business outcome data. The sample survey is in APPENDIX C. In addition, data on whether the business started, longevity of the business venture, and current profitability status was obtained.

The results for both the MSCEIT and the demographic data were reported and available to the researcher immediately after the participants completed the instruments. Responses were automatically collected in spreadsheet form. Only the researcher had password protected accesses to both portals.

Procedures

Recruitment

This study was conducted online with the clients of the Duquesne University SBDC. Current and past clients were emailed an invitation to participate (APPENDIX A) after permission to contact clients was obtained from the SBDC Director. No cash or gift incentive was provided to participate. Clients were made aware that this study was outside the scope of the SBDC operations and not a requirement of any kind. However, all participants will receive a copy of the abstract from the completed study. The study included clients from the past 5.5 years at the Duquesne SBDC and excluded clients who have asked not to be contacted or surveyed. No attempt was made to include or exclude participants based on demographic factors such as age, race, ethnicity, or gender. Clients of the center without an email address were unable to participate.

Data Acquisition

The SBDC Manager queried the center's database for a list of clients from January 1, 2008 through June 30, 2013. This resulted in a list of 2,104 clients which is our target population of Western PA entrepreneurs seeking assistance from a Small Business Development Center. After adjusting for records without email addresses or on a "do not contact" list, the final list was 1,736 clients. The names of the clients were

removed from the list, and an ID number was assigned to each client from 1000 to 2735. This list of emails and ID numbers was provided to the researcher. An email invitation was sent to the 1,736 clients on three occasions.

The researcher set up a Microsoft mail merge process using the invitation text as a Word document and the list of client emails and ID numbers in an Excel spreadsheet. The director sent out the invitation to take the survey after it was tested several times by the researcher. After seven days, a second invitation was sent and after five additional days, a third and final invitation was sent.

Participants received an e-mail (see APPENDIX A). The e-mail included a link to the Qualtrics survey instrument (see Appendix C). First, the participant was shown an informed consent form (see Appendix B) and asked to agree to participate in the study. If the individual selected “no,” then the survey ended. Next, business outcome and demographic data questions were asked; these questions took less than 4 minutes to answer. At the conclusion of the business outcome survey, the participant was provided with a link to access the MSCEIT emotional instrument, which took much longer than the advertised 30 to 45 minutes to complete.

Data Management

The researcher kept the results of the study in electronic format on the university server in a password-protected file. In addition, hard copies were kept under mechanical security, accessible only to the principal investigator. The investigator protected the identity of individual participants through the use of numerical identification and separation of duties. Furthermore, even the unique ID was removed once the data was entered into SPSS to protect the identity of the participant. After a waiting period of three

years, the individual results will be destroyed. The actual data used to conduct analysis is in Appendix D.

Variables

The independent (predictive) variables were the four branch (task) scores. The dependent (outcome) variable was business outcomes such as new venture creation. Also, profitability, survival rate in terms of years in business and new business success rate were used as dependent variables. Profitability was measured in terms of gross income and as a self-reported Likert scale. Success rate was measured in terms of the percentage of business starts that were still active. In addition, demographic data such as age, education, and gender was obtained and included as covariates. See Table 5 for a detailed Analysis Plan showing the independent (predictor) variables and the dependent (outcome) variables as well as the covariates and statistical method used.

Design and Analysis

Design

This study employed a cross-sectional design using a sample drawn from a population of Western Pennsylvania entrepreneurs and nascent entrepreneurs seeking assistance from the Duquesne University SBDC. The emotional intelligence scores of entrepreneurs were acquired to determine whether EI was significantly predictive of new venture creation, as well as measures of entrepreneurial outcomes, including business longevity, success rate in starting new businesses, and business profitability.

Analysis

Hypothesis 1 was tested using logistic regression, with new venture creation as the binary dependent variable, and the four branches of emotional intelligence (perceiving, using, understanding, and managing emotional information) as the independent (predictor) variables, and with age, gender, and level of education as the covariates. Logistic regression was the appropriate statistic because the outcome (dependent) variable was binary and because the goal of the analysis was to determine the predictive value of the four branches of IE on new venture creation, after accounting for age, gender, and level of education.

Table 5 Analysis Plan

Research Question	Hypothesis	Independent Variable	Dependent Variable	Covariates	Statistic
Does EI predict New Venture Creation?	H1	Perceiving Using Understanding Managing	New Venture Creation (Business Starts)	Age Gender Education	Logistic Regression
Does EI predict Business Longevity?	H2	Perceiving Using Understanding Managing	Business Longevity	Age Gender Education	Linear Regression
Does EI predict New Business Success Rate?	H3	Perceiving Using Understanding Managing	Success Rate in starting new businesses	Age Gender Education	Linear Regression
Does EI predict Business Profitability?	H4	Perceiving Using Understanding Managing	Business Profitability	Age Gender Education	Linear Regression

Hypothesis 2 was tested using linear regression, with business longevity as the dependent variable, with the four branches of emotional intelligence (perceiving, using,

understanding, and managing emotional information) as the independent (predictor) variables, and with age, gender, and level of education as the covariates. Linear regression was the appropriate statistic because the outcome (dependent) variable was a linear variable (years of business longevity) and because the goal of the analysis was to determine the predictive value of the four branches of emotional intelligence on business longevity, after accounting for age, gender, and level of education. Hypothesis 3 and Hypothesis 4 were tested using linear regression in analyses parallel to the analysis plan for Hypothesis 2, except that the dependent variable was the success rate in starting new businesses (Hypothesis 3) or business profitability (Hypothesis 4).

Data Presentation

Descriptive data of the demographic variables for participants was collected and is presented in chapter 4, including the range, minimum, maximum, mean, standard deviation, and percentage, as appropriate, in tables and in text. MSCEIT EI scores for the four branches (perception, use, understanding, and managing of emotional information) were presented in similar descriptive form in chapter 4.

Hypothesis 1 results presentation include a model summary of logistic regression, the Cox & Snell pseudo- R^2 , and the p-value for the overall model. The coefficients table was included to determine whether individual EI branch scores (perceiving, using, understanding, and managing emotional information) were significantly predictive of new venture creation.

Results for Hypothesis 2, Hypothesis 3, and Hypothesis 4 included a model summary for the linear regression analyses, the model R^2 , and the p-value for the overall model. The coefficients table was included to determine whether individual EI branches

(perceiving, using, understanding, and managing emotional information) were significantly predictive of years of business longevity (Hypothesis 2), new businesses (Hypothesis 3), or business profitability (Hypothesis 4).

Compliance with Ethical Guidelines

The principal investigator, in order to comply with all research standards for human subject studies through the Internal Review Board process, had completed the required training through the National Institute of Health. No data was collected prior to IRB approval. The study was completely voluntary, and no harm came to subjects based on their participation or non-participation in this study. The participants signed the informed consent form and had the right to withdraw without penalty. Moreover, data was kept secure and confidential through password protected files and portals as well as under mechanical security.

Conclusion

Entrepreneurship has a measurable economic impact on both the individual and the national economy. Fundamentally, it is an individual expression of innovation and creativity. The successful entrepreneur creates something from nothing, advances his own economic interests, and positively impacts the community and economy at large.

Researchers have not fully studied the psychological aspects and personal attributes of those who become entrepreneurs. In addition, some research has been conducted on the process of entrepreneurship and the antecedents of venture creation. Because EI is the basis for social competency and positive relationships, this construct should also be related to entrepreneurial outcomes. EI has been examined in leaders,

students, and managers. The next logical step was to analyze the EI of entrepreneurs to test whether EI might be the missing link for predicting entrepreneurial outcomes.

A review of the literature demonstrated that the uniqueness, relevance, and timeliness of this project made it a worthy study. Results of this study may contribute to the selection, training, and achievement of future entrepreneurs. Results of the study follow in chapter 4 with discussion, implications, and conclusion in chapter 5.

CHAPTER IV

RESULTS

Clients of the Duquesne University SBDC were surveyed to determine if emotional intelligence levels predict new venture creation and entrepreneurial outcomes.

Specifically, does the identifying, using, understanding, and managing of emotional information (Mayer, Salovey, & Caruso, 2002a; 2002b) predict new venture creation by entrepreneurs? Additional research questions were asked regarding the new venture in terms of longevity, success rate, and profitability.

This chapter presents the data collected in summary form as well as the statistical results of the findings. Two survey instruments were used for this study. A summary of both the business outcome survey conducted through Qualtrics.com and the MSCEIT emotional intelligence instrument conducted via MHS.com portal are described below. After the presentation of the survey data, a specific statistical analysis is displayed for each of the following main research questions:

Does EI predict new venture creation?

Does EI predict business longevity?

Does EI predict new business success rate?

Does EI predict profitability?

Exploratory analysis was conducted and is presented on the variables of age, gender, and education level as well as business plan completion rates, serial entrepreneurship, and business growth.

Presentation of Data

A sample of 52 clients of the Duquesne SBDC from 2008 through June 2013 took both the business outcomes survey (see Appendix C) and the MSCEIT emotional intelligence instrument. This section shows the descriptive information about the return rates of the sample and the demographic characteristics of participants. Table 6 shows the percentage of returns. Notice that almost half the sample did not complete both surveys. Also, while 1,736 invitations were sent out, this table shows the net deliverable emails and percentages based on this net amount (1,279) of contacts.

Table 6 Summary of Survey Returns

	Raw Numbers	Percent
Net Contacted	1,279	100
Started Qualtrics Survey	103	8.1
Completed Qualtrics	89	7.0
Completed both Qualtrics & MSCEIT Surveys	52	4.1

Sample Characteristics

The data for the survey was downloaded from Qualtrics.com and the MSCEIT scores were downloaded from MHS Systems, Inc. Qualtrics provided summary statistics of the responses. The respondents showed the following characteristics. Almost three-quarters of respondents (74%) had started at least one business in their lifetime. Half of the group had written a business plan prior to starting while the other half did not write a plan prior to starting the business. College graduates comprised 33% of the respondents,

and 49% had started or completed graduate studies. Interestingly, only half the group reported being somewhat or very profitable on a net basis. Approximately 40% of the respondents were women, and 15% were black Americans. This is a good representation of the general U.S. population in terms of age distribution, gender, and ethnicity.

Compared to the U.S. population in general, our sample is more educated (higher level), has a greater proportion of men, and a similar percentage of minorities. Obviously, with 74% having started a business, this is a much higher rate than the general population where only 7.3% (non-employee establishments/total US population) has a business (USDoC, 2012).

The total sample (n=52) was 62% men and 39% women; this ratio held true for the group that started a business as well as the group that did not. See Table 7 for the count and percentage of men to women in the sample.

Table 7 Gender of Sample

		Men	Women	Total
Started a Business	Count	26	16	42
	%	61.9%	38.1%	100%
Did Not Start	Count	6	4	10
	%	60.0%	40.0%	100%
Total Sample	Count	32	20	52
	%	61.5%	38.5%	100%

The range of ages for the sample (n=50) was 22 to 70 with a mean of 49.66 (s.d. 11.4). See Table 8 for a description of ages by group and overall.

Table 8 Age of Sample

Group	Mean	n	s.d.	Minimum	Maximum
Started	50.05	41	10.91	24	70
Did Not Start	47.89	9	13.83	22	67
Total	49.66	50	11.36	22	70

Table 9 shows the level of education completed by our sample (n=52). Over 80% of our sample attained a college degree or higher level of education, compared to the national average of 28% who have a bachelor’s degree or higher as of 2012 (USDaC, 2012) showing that our sample client base was higher educated than the general population.

Table 9 Level of Education of Sample

Group	Level of Education Completed						Total
		<i>High School</i>	<i>Some College</i>	<i>Completed College</i>	<i>Some Grad School</i>	<i>Completed Grad School</i>	
Started	#	1	4	13	4	20	42
	%	2.4%	9.5%	31.0%	9.5%	47.6%	100%
Did Not Start	#	0	4	3	0	3	10
	%	0.0%	40.0%	30.0%	0.0%	30.0%	100%
Total	#	1	8	16	4	23	52
	%	1.9%	15.4%	30.8%	7.7%	44.2%	100%

Summary of Emotional Intelligence Scores

The MSCEIT scoring datasheet provided demographic data such as age, gender, ethnicity, and occupation group. The MSCEIT summary of scores datasheet provided item-by-item as well as the branch scores, area scores, and total MSCEIT scores. These scores were provided in raw, unadjusted form as percentiles and as standardized scores. One thing to note was that the emotional intelligence scores (both main and branch) for our sample, were within one standard deviation (+/- 15) of the population norm which indicates that on this variable at least, the sample was similar to the general population. The sub scores were highly correlated with each other. All data used for analysis is in Appendix D.

Table 10 displays mean emotional intelligence scores for the entire sample. The four branches of emotional intelligence are perceiving, using, understanding, and managing emotions. As the table displays, the mean scores are all around the standard score of 100 for the MSCEIT.

Table 10 Mean Emotional Intelligence Scores of Sample

Group		Perceive	Use	Understand	Manage	Total EI
Started a Business	Mean	99.01	98.89	98.76	100.37	99.63
	N	42	42	42	42	42
	Std. Deviation	16.32	12.42	10.22	7.62	11.47
	Minimum	58.20	73.82	80.72	79.88	80.46
	Maximum	132.28	120.68	119.16	113.11	126.90
	Std. Error of Mean	2.52	1.92	1.58	1.18	1.77
	Did Not Start Business	Mean	98.37	100.18	102.01	98.39
N		10	10	10	10	10
Std. Deviation		18.61	17.68	8.95	12.30	18.19
Minimum		58.33	56.94	90.96	73.66	61.37
Maximum		129.91	119.48	118.26	117.31	133.15
Std. Error of Mean		5.88	5.59	2.83	3.89	5.75
Total		Mean	98.88	99.14	99.38	99.99
	N	52	52	52	52	52
	Std. Deviation	16.60	13.39	9.99	8.60	12.83
	Minimum	58.20	56.94	80.72	73.66	61.37
	Maximum	132.28	120.68	119.16	117.31	133.15
	Std. Error of Mean	2.301	1.86	1.39	1.19	1.78

Statistical Analysis of Hypothesis

Four research questions were asked: (1) Does emotional intelligence (identifying, using, understanding, and managing emotional information (Mayer, Salovey, & Caruso 2002a; 2002b) predict new venture creation? Among entrepreneurs, does EI predict business longevity (2), new business success rate (3), or business profitability (4)?

Table 11 Research Questions

Research Question	Hypothesis	Independent Variable	Dependent Variable	Covariates	Statistic
Does EI predict New Venture Creation?	H1	Perceiving Using Understanding Managing	New Venture Creation (Business Starts)	Age Gender Education	Logistic Regression
Does EI predict Business Longevity?	H2	Perceiving Using Understanding Managing	Business Longevity (Years In Business)	Age Gender Education	Linear Regression
Does EI predict New Business Success Rate?	H3	Perceiving Using Understanding Managing	Success Rate starting new businesses	Age Gender Education	Linear Regression
Does EI predict Business Profitability?	H4	Perceiving Using Understanding Managing	Business Profitability	Age Gender Education	Linear Regression

Hypothesis 1

Hypothesis 1 was that emotional intelligence scores are predictive of entrepreneur new venture creation (business starts). Hypothesis 1 was tested using logistic regression. For this analysis, the dependent variable was business started (yes or no); the independent variables were emotional intelligence scores from the MSCEIT (perceiving, using, understanding, and managing of emotional information), and the covariates were education level, sex, and age.

Logistic regression revealed the combination of EI scales and demographic variables provided no significant prediction of new venture creation (Cox & Snell R2 = .09; Nagelkerke R2 = .15, $p = .67$).

The regression coefficients table (Table 12) shows that each of the EI scores (perceiving, using, understanding, and managing of emotional information) was not statistically significant predictors of new venture creation (each $p > .05$, Table 12). Participant demographics of education level, gender, and age were not statistically significant ($p > .05$) (Table 12).

Because EI perceiving, using, understanding, and managing of emotional information scores were not significant predictors of new venture creation, null hypothesis 1 was not rejected.

Table 12 Logistic Regression for Hypothesis 1

Variable	B	S.E.	Wald	df	p-value	Exp(B)
Perceiving	-.00	.03	.00	1	.97	1.0
Using	.05	.04	1.25	1	.26	1.1
Understanding	.02	.04	.11	1	.74	1.0
Managing	-.06	.07	.72	1	.40	.94
Education	-.56	.37	2.30	1	.13	.57
Sex	-.59	.94	.39	1	.53	.55
Age	-.02	.03	.30	1	.58	.98
Constant	2.38	8.23	.08	1	.77	10.84

Hypothesis 2

Hypothesis 2 was that emotional intelligence scores are predictive of business longevity. Hypothesis 2 was tested using linear regression. For this analysis, the dependent variable was the number of years in business, while the independent variables were emotional intelligence scores from the MSCEIT (perceiving, using, understanding, and managing of emotional information), and the covariates were educational level, gender, and age.

Linear regression revealed that the combination of EI scales and demographic variables provided no significant prediction of business longevity. ($R^2 = .25$; $p = .75$). However, age was predictive of business longevity ($p = .048$). A beta of .26 indicates that one year of age equates to a quarter of business life. The regression coefficients (Table 13) shows that each of the EI scores (perceiving, using, understanding, and managing of emotional information) was not statistically significant predictors of business longevity (each $p > .05$, Table 13). Participant demographics of education level and gender were not statistically significant ($p > .05$) (Table 13).

Because EI perceiving, using, understanding, and managing of emotional information scores were not significant predictors of business longevity, null hypothesis 2 was not rejected.

Table 13 Linear Regression for Hypothesis 2

	B	S.E.	Beta	t	p-value
Perceiving	.00	.10	.00	-.00	1.00
Using	-.06	.12	-.09	-.52	.61
Understanding	.05	.15	.06	.35	.73
Managing	.09	.20	.08	.46	.65
Education	-1.07	1.14	-.15	-.93	.36
Sex	2.94	2.710	.18	1.08	.29
Age	.26	.13	.35	2.06	.05
(Constant)	-8.08	25.02		-.32	.75

Hypothesis 3

Hypothesis 3 was that emotional intelligence scores are predictive of business success rate. Hypothesis 3 was tested using linear regression. For this analysis, the dependent variable was the success rate of starting businesses. This was calculated by the quotient of the number of currently active businesses divided by the number of total number of businesses started. The independent variables were emotional intelligence scores from the MSCEIT (perceiving, using, understanding, and managing of emotional information). The covariates were educational level, gender, and age.

Linear regression revealed that the combination of EI scales and demographic variables provided no significant prediction of business longevity. ($R^2 = .10$; $p = .075$). The regression coefficients table (Table 14) shows that each of the EI scores (perceiving, using, understanding, and managing of emotional information) was not statistically significant predictors of business longevity (each $p > .05$, Table 14). Participant

demographics of education level and gender were also not statistically significant ($p > .05$) (Table 14).

Because EI perceiving, using, understanding, and managing of emotional information scores were not significant predictors of business success rates, null hypothesis 3 was not rejected.

Table 14 Linear Regression for Hypothesis 3

	B	S.E.	Beta	t	p-value
Perceiving	.00	.00	.08	.41	.68
Using	-.00	.01	-.04	-.22	.83
Understanding	-.00	.01	-.14	-.74	.47
Managing	-.01	.01	-.16	-.87	.39
Education	.02	.05	.09	.52	.61
Sex	.04	.11	.07	.40	.69
Age	-.01	.01	-.17	-.93	.36
(Constant)	1.87	1.01		1.84	.08

Hypothesis 4

Hypothesis 4 was that emotional intelligence scores are predictive of business profitability. Hypothesis 4 was tested with two different dependent variables: once with the dependent variable of perceived profitability and once with the dependent variable of gross sales. Hypothesis 4 was tested using linear regression. For this analysis (Table 15), the dependent variable was perceived profitability of the owner on a scale of 1 to 5, and the independent variable was emotional intelligence scores from the MSCEIT (perceiving, using, understanding, and managing of emotional information). The covariates were educational level, gender, and age.

Linear regression revealed that the combination of EI scales and demographic variables provided no significant prediction of business profitability. ($R^2 = .15$; $p = .074$). The regression coefficients table (Table 15) shows that each of the EI scales (perceiving, using, understanding, and managing of emotional information) was not a statistically significant predictor of business profitability (each $p > .05$, Table 15). Participant demographics of educational level, gender, and age were also not statistically significant ($p > .05$) (Table 15).

Because EI perceiving, using, understanding, and managing of emotional information scores were not significant predictors of business profitability, null hypothesis 4 was not rejected.

Table 15 Linear Regression for Hypothesis 4 Profit

	B	S.E.	Beta	t	p-value
Perceiving	-.02	.02	-.26	-1.33	.68
Using	.01	.02	.12	.61	.83
Understanding	.04	.03	.25	1.32	.47
Managing	-.02	.04	-.08	-.46	.39
Education	.19	.22	.15	.86	.61
Sex	.80	.51	.27	1.57	.69
Age	-.01	.02	-.10	-.54	.36
(Constant)	1.57	4.72		.33	.74

Hypothesis 4 was tested two ways, with two different dependent variables: once with the dependent variable of perceived profitability and once with the dependent variable of gross sales. Hypothesis 4 was that emotional intelligence scores are predictive of business profitability. Hypothesis 4 was tested using linear regression. For this analysis (Table 16), the dependent variable was perceived profitability of gross sales, and the

independent variables were emotional intelligence scores from the MSCEIT (perceiving, using, understanding, and managing of emotional information).

Linear regression revealed the combination of EI scales and demographic variables provided no significant prediction of business longevity. ($R^2 = .16$; $p = .51$). The regression coefficients table (Table 16) shows that each of the EI scales (perceiving, using, understanding, and managing of emotional information) was not statistically significant predictors of business profitability whether or not controlling for age, gender, and education. (each $p > .05$, Table 16).

Because EI perceiving, using, understanding, and managing of emotional information scores were not significant predictors of business profitability, null hypothesis 4 was not rejected.

Table 16 Linear Regression for Hypothesis 4 Gross Sales

	B	S.E.	Beta	t	p-value
Perceiving	-143505.69	140505.22	-.19	-1.02	.32
Using	-225131.85	172208.68	-.24	-1.31	.20
Understanding	-100751.31	207285.83	-.08	-.49	.63
Managing	281489.74	278913.41	.18	1.01	.32
(Constant)	20905883.08	31298253.60		.67	.51

Exploratory Analysis

After analyzing and answering the four original hypotheses, the researcher conducted three additional exploratory tests on the predictive effect of emotional intelligence on business plan completion, multiple business starts (serial

entrepreneurship), and size of business. The results of these analyses follow. These additional hypotheses were: EI scores are predictive of business plan completion (of those that started a business), EI scores are predictive of serial entrepreneurship (number of business starts), and EI scores are predictive of business size (number of employees).

Business Planning Findings

The first exploratory test was run to determine if emotional intelligence scores are predictive of business plan completion among participants that started a business. This hypothesis was tested using logistic regression. For this analysis the dependent variable was business plan completion (prior to starting a business); the independent variables were emotional intelligence scores from the MSCEIT (perceiving, using, understanding, and managing of emotional information); and the covariates were education level, sex, and age.

Logistic regression revealed the combination of EI scales and demographic variables provided no significant prediction of business plan completion (Cox & Snell $R^2 = .17$; Nagelkerke $R^2 = .22$, $p = .38$).

The regression coefficients table (Table 14) shows that each of the EI scores (perceiving, using, understanding, and managing of emotional information) was not statistically significant predictors of business plan completion among entrepreneurs ($p > .05$, Table 17). Participant demographics of education level, sex, and age were not statistically significant ($p > .05$, Table 17).

Because EI perceiving, using, understanding, and managing of emotional information scores were not significant predictors of business plan completion, this null hypothesis was not rejected.

Table 17 Logistic Regression for Business Planning

	B	S.E.	Wald	df	Sig.
Perceive	-.00	.03	.01	1	.92
Use	.05	.03	2.55	1	.11
Understand	-.00	.04	.01	1	.94
Manage	-.01	.06	.01	1	.93
Education	-.26	.32	.67	1	.41
Gender	-1.18	.77	2.35	1	.13
Age	.03	.03	.56	1	.45
Constant	-3.71	6.93	.29	1	.59

Number of Starts Findings

The second exploratory test was to determine if emotional intelligence scores are predictive of the number of business starts. This hypothesis was tested using linear regression. For this analysis, the dependent variable was the number of business starts by the owner; the independent variables were emotional intelligence scores from the MSCEIT (perceiving, using, understanding, and managing of emotional information); and the covariates were educational level, gender, and age.

Linear regression revealed the combination of EI scales and demographic variables provided no significant prediction of the number of business starts. ($R^2 = .16$; $p = .32$). The regression coefficients table (Table 18) shows that each of the EI scales (perceiving, using, understanding, and managing of emotional information) was not a statistically significant predictor of business starts (each $p > .05$, Table 18). Participant

demographics of education level, age, and gender were also not statistically significant ($p > .05$, Table 18).

Because EI perceiving, using, understanding, and managing of emotional information scores were not significant predictors of the number of business starts, this null hypothesis was not rejected.

Table 18 Linear Regression for Number of Business Starts

	B	Std. Error	Beta	t	p-value
Perceive	-.01	.01	-.14	-.73	.47
Use	.00	.02	.06	.30	.77
Understand	.01	.02	.06	.33	.75
Manage	-.02	.03	-.11	-.63	.54
Education	-.17	.14	-.21	-1.22	.23
Gender	.18	.33	.09	.53	.60
Age	.02	.02	.26	1.52	.14
Constant	3.04	3.03		1.01	.32

Size of Business Findings

Exploratory hypothesis 3 was that emotional intelligence scores are predictive of business size in terms of number of employees. This hypothesis was tested using linear regression. For this analysis, the dependent variable was the size of the business (number (#) of employees), and the independent variables were emotional intelligence scores from the MSCEIT (perceiving, using, understanding, and managing of emotional information). The covariates were education level, gender, and age.

Linear regression revealed the combination of EI scales and demographic variables provided no significant prediction of business size ($R^2 = .16$; $p = .87$). The

regression coefficients table (Table 19) shows that each of the EI scales (perceiving, using, understanding, and managing of emotional information) was not a statistically significant predictor of business size (each $p > .05$, Table 19). Participant demographics of education level, age, and gender were also not statistically significant ($p > .05$, Table 19).

Because EI perceiving, using, understanding, and managing of emotional information scores were not significant predictors of business size, null hypothesis was not rejected.

Table 19 Linear Regression for Business Size

	B	Std. Error	Beta	t	p-value
Perceive	-.03	.17	-.03	-.16	.87
Use	-.27	.22	-.23	-1.24	.23
Understand	.12	.27	.09	.45	.66
Manage	.17	.38	.08	.44	.66
Education	-2.36	2.11	-.19	-1.12	.27
Gender	-.21	4.96	-.01	-.04	.97
Age	.28	.23	.21	1.22	.23
Constant	7.73	46.10		.17	.87

Correlation Matrix

In addition to the three noted exploratory analyses related to business planning, serial entrepreneurship, and business size, a correlational matrix was used with all variables of the study to ascertain any significant relationships. A review of the correlation matrix supports the null findings of the regression analysis throughout the study. In particular, there were no significant positive relationships in emotional intelligence scores and the

variables of gender, age, or education. Furthermore, there was no positive significant relationship between business plan completion rates by age, gender, emotional intelligence levels, or business starts. Perhaps most importantly, there was no positive significant relationship between business plan completion and business starts, business longevity, or profitability. The correlation matrix is in Appendix E.

Chapter Summary

In summary, emotional intelligence scores of 52 SBDC clients were assessed via the MSCEIT emotional intelligence test. The independent variable of EI scores was analyzed with linear regression, logistic regression, and correlation to determine the predictive effect on EI scores on the dependent variable of business outcomes. The dependent variable (business outcomes) was measured as new venture creation, longevity, rate of success, and profitability. Emotional intelligence had no predictive effect on the measured business outcomes whether or not we controlled for age, gender, and education. Further exploratory analyses found no predictive value of emotional intelligence in business plan completion, serial entrepreneurship, or size of business. An additional review of correlations among variables supported the null findings of no significant positive relationship among the independent variable (predictor) of EI scores and the dependent variable of business outcomes.

CHAPTER V

DISCUSSION

The purpose of this study was to determine the predictive effect of emotional intelligence on new venture outcomes. Outcomes measured included business startups, the number of startups, sales, profitability, and longevity in years. The study was done to assess the Barron framework (2008) as well as the model of factors that may be related to entrepreneur outcomes as noted by the researcher in Table 3 as a result of the literature review. The results of regression analysis and correlation analysis were presented in chapter 4. Briefly, emotional intelligence scores as measured by the MSCEIT had no predictive effect on business outcomes of creation, longevity, or profitability when controlling for age, gender, and education. This chapter contains a discussion of each finding, as well as a general discussion about the findings as a whole, and the exploratory findings. Although no statistically significant findings were generated, three meaningful conclusions can be drawn as a result of this study. Implications and limitations of these findings are addressed in this chapter as well as recommendations.

Hypothesis 1 EI did not predict new venture creation.

Emotional intelligence as measured by the MSCEIT was not predictive of new venture creation. One obvious reason for this finding is that founding a new venture is a complex undertaking and it is understandable that one variable would not be predictive of whether or not such an endeavor is undertaken. Stevens (1999) agrees with this when he states that “human behavior is so complex” that predicting an outcome with one variable

has “limited predictive power” (248). It may be possible that our group of self-selected entrepreneurs and would-be entrepreneurs are too homogeneous to show a correlation. It is also possible that the range restricted nature of our data does not show a relationship that may indeed exist. However, the normed scores of this sample were within one standard deviation of the general population, so this further indicates that emotional intelligence does not distinguish entrepreneurs from non-entrepreneurs.

The Barron (2008) framework in which affective dispositions prime the mood for entrepreneur cognition and behavior should have resulted in an effect of emotional intelligence (as an affective disposition) on the entrepreneur process; however, this was not the case. Earlier, Barron and Markman (2000; 2003) claimed that personal networks and social skill build human capital which is a necessary ingredient for success. Tomer (2003) also agrees with the link between emotional and social factors and financial outcomes. Furthermore, Van Praag and Versloot (2008) suggest human capital to be one of the main drivers of venture success.

I obviously agree with these researchers, which motivated this study. However, based on the results of this study, emotional intelligence does not seem to be one of the affective, social or emotional factors related to entrepreneur performance. Multiple factors influence business startup decisions. For example Fairlie (2011) notes that home ownership, education, and net worth have much to do with business start rates, as do unemployment rates and local economic conditions.

Hypothesis 2 EI did not predict business longevity.

Emotional intelligence as measured by the MSCEIT was not predictive of business longevity. Given that macro trends such as technology, economics, and social

desires can influence the demand for products, one individual characteristic such as emotional intelligence does not alter the survival rate of an enterprise. In addition, individual decisions and life events can alter the course of a business. EI is only one variable in the buffet of human characteristics and does not predict business longevity. In addition, Shane (2012) points out that survival rate of a business may depend on what sector or industry the firm operates in.

Hypothesis 3 EI did not predict new business success rate.

Emotional intelligence does not predict the success rate of serial entrepreneurs. It follows that if EI does not predict the creation of one new venture in Hypothesis 1, it also does not have an effect in the founding and managing of multiple or serial enterprises. As noted above, several researchers (Tomer, 2003; Van Praag & Versloot, 2008) suggest the importance of human and social network factors related to new venture performance. Interestingly, emotional intelligence was even cited as having positive outcomes for managers of various entities such as the Navy (Cherniss & Adler, 2000); however, this does not appear to apply to managers of small enterprises. This leads me to believe that the entrepreneurial leader is a different leader than an executive manager at larger organizations. Some have written and made the case to differentiate between managers and entrepreneurs, like Cogliser and Brigham (2004) and Fernald, Soloman, and Tarabishy (2005).

Hypothesis 4 EI did not predict business profitability.

Emotional intelligence does not predict business profitability. Multiple authors have cited social capital, personal networks, and emotional competencies as contributing

factors to personal income or financial success as noted by Cross and Trvaglione (2003), whom in particular were commenting directly on small to mid-sized enterprises. Moreover, the skills of networking and social acumen have been cited as crucial (Tomer, 2003) to personal and business success. In addition, American Express sales managers were shown to have greater success in terms of financial results of their unit and employee satisfaction if the managers had greater emotional intelligence (as cited by Cherniss & Adler, 2000). However, it seems that personal and social skills are not as important to the entrepreneur's enterprise as previously believed, or emotional intelligence has little to do with these skills as claimed by Goleman (1995) and others (Aldrich & Zimmer, 2009; Tomer, 2003; Wright, Mosey, & Lockett, 2009).

Exploratory Findings

Emotional intelligence scores did not predict business plan completion, the number of business starts (serial entrepreneurship), or business size in terms of number of employees. Given that emotional intelligence was touted by Goleman (1995) as being the "master" impulse control, underlying your will power and ability to persist, I had anticipated that EI would be related to the completion of a business plan, the repetitive business starts, the growing of a business in employee size, or the simple survival rate of a new business as in the original Hypothesis 2 and business longevity. As with my other findings, there was no statistical significance here. While it could be that as a business grows, the owner can hire others to compensate for his/her deficits in human capital, it is more likely that other individual human factors such as goal achievement (Miron & McClelland, 1979), optimism (Schramm, 2006), opportunity recognition (Shane, 2003; Van Praag & Versloot, 2008), and risk taking tolerance (Van Praag & Versloot, 2008)

have much more to do with new venture outcomes than social-emotional elements such as emotional intelligence.

Correlation Matrix Review

Further exploratory analysis was done through the examination of a correlation matrix (Appendix E). A matrix was prepared showing the relationships of all the aforementioned variables. While it was surprising to me that emotional intelligence levels had no effect on entrepreneur outcomes, it was even more astounding that business plan completion had no significant positive correlation with business starts, longevity, or profitability. Given that an entire industry exists to assist with business planning for new ventures, this was a very surprising and meaningful finding.

Summary of Theoretical Discussion

Contrary to assertions by Tomer (2003) and Cross and Traglione (2003) that emotional intelligence is the “missing link” for entrepreneurs or a contributing factor to personal economic success, this study shows otherwise. In addition, while Baron’s framework (2008) of affective dispositions, cognitive processes, and entrepreneur outcomes (see Table 2) may be valid, this research shows that emotional intelligence is not one of the affective dispositions predictive or related to entrepreneur achievement in terms of business starts, success rate, longevity, or profit.

Meaningful Findings

While this dissertation did not result in statistically significant findings, three meaningful findings that contribute to the research were discovered as a result of this study. Table 3 summarizes the factors related to entrepreneurship through the lens of

educational psychology and was the culmination of the literature review for this project. This represents a new framework for examining the phenomenon of entrepreneurship or other human endeavors and is meaningful as I and future researchers have a framework to test and modify going forward. This framework did not exist prior to this publication. Thanks to this research, the A-B-C Factors of Human Capital can be tested and further refined. Ultimately, I would like to continue to refine this framework into a predictive model of entrepreneurship which to my knowledge, does not currently exist.

Emotional Intelligence

An additional meaningful finding was that emotional intelligence can be removed from the table as a factor predictive of entrepreneurial outcomes, as is also the case with the variables of gender, education, and age, since each of these variables was unrelated to entrepreneur business outcomes. There are still individuals who point to emotional intelligence as important to entrepreneur success. For example, recent research by May and Carter (2012) shows social and emotional competencies as predictive of effective work teams in an academic environment and suggests that this could apply in a practical work setting as well. In addition, according to Gelard and EmamiSaleh (2011), emotional intelligence is one of the characteristics that relates to entrepreneur intention. Their study showed correlation of the two variables in a group of 300 university students.

Furthermore, in a *Psychology Today* article (Shigley, 2011), Ron Riggio makes a good case for studying emotional intelligence of business owners when he says that soft skills such as empathy and motivating others are important to leadership. He adds that good leadership also requires emotional maturity. In an article studying self-leadership of entrepreneurs, D'Intino, Goldsby, Houghton, and Neck (2007) also make the case for

emotional intelligence when they state that “such skills are critical for entrepreneurs in handling the pressures of running a business.” Furthermore, “persistence and maintaining a positive attitude can spell the difference between entrepreneur success and business failure” (p. 105). Finally, they conclude, “it is important for nascent and experienced entrepreneurs to focus on positive emotional states...in business interactions whenever possible” (p.113).

However, as discussed in the literature review, the construct of emotional intelligence has detractors and is not without criticism. Both the construct validity (Romanelli, Cain, and Smith, 2006) and discriminate validity (Ashkanasy et al., 2004; Conte, 2005) are questioned by researchers. Conte (2005) states that despite the validity and reliability of the MSCEIT, this “does not mean the EI is a separate construct from established personality constructs such as the Big Five” (p. 437). The big five personality traits are: neuroticism, conscientiousness, openness, and extraversion. Also, the instrument does not predict academic performance. I agree with Conte when he says that he “looks forward to additional investigations that validate EI measures in predicting job performance or other work outcomes above and beyond cognitive measures or personality measures” (p. 438). And finally, perhaps the emotional intelligence assessments are just measuring societal emotional norms or conventions (Conte, 2005). The test was normed with a Western population and thus is not globally diverse and may not be a universal construct. In the end, then, emotional intelligence is neither a predictor nor precursor to entrepreneur achievement. In fact, this study found neither predictive effect nor relationship between the MSCEIT emotional intelligence scores and business outcomes measured.

Business Plans

Additional exploratory research revealed that emotional intelligence was not predictive of business plan completion prior to starting. The correlation matrix showed no positive significant correlation between business plan completion and business starts, longevity, or profitability. Furthermore, the completion of a business plan did not differ with gender, age, or education. This exploratory finding is supported by research which is mixed on the relationship of business plans and business outcomes. Current research done by Louis Jourdan, Jr. (2012) summarizes the state of research on business planning with a strong literature review that provides views from both sides of the aisle. Some researchers show no significance of business planning for new ventures, while others claim substantial value of a business plan. Other authors (Ibrahim, Angelidis, & Parsa, 2004) provide a thorough literature review, making the case for and against business planning being correlated or predictive of business outcomes. Jourdan (2012) concludes that evidence of business planning improving firm performance is lacking. While the larger the organization, the more formal the planning process, planning itself is not predictive of business performance. The lack of definitive research in this area has implications for multiple stakeholders including researchers, training organizations, and educational institutions alike. In fact, this brings into question many of the current models of assistance that have the business plan as central to the educational offering.

Implications

Personal

This study has implications from a personal, practical, and policy standpoint. Implications from a personal perspective include the following. The foremost implication

for research is to discontinue using emotional intelligence as a predictor. Furthermore, it is important to do correlation research on variables before including them in a regression model. Additionally, this research helps to highlight for me some disadvantages of survey research using self-reported non-objective measures. The importance of using experimental designs with control groups is also now evident to me. While I will continue to search for a predictive model of entrepreneur outcomes, I suspect that a single variable may not provide the effect searched for, as the endeavor of new venture creation is a dynamic multi-variable process. Finally, I have developed a framework for studying entrepreneurship (see Table 3), and I will continue to refine and test this model of human capital in the search for a predictive model of entrepreneur achievement.

Practice

From a practical standpoint, the core findings of no predictive effect of emotional intelligence have implications for the selection and training of entrepreneurs. Contrary to Durand (1974) and Miron and McClelland (1979), who stated that soft skill training is as valuable as technical skills for entrepreneurs, this research suggested otherwise. In addition, many support organizations and other micro-enterprise training firms provide business planning as core training and consulting offering. This research asserts through the exploratory finding that the writing of a business plan prior to startup had no significant correlation to business starts, longevity, or profitability. This suggests that practitioners should take an evidenced-based approach to training and consulting current and future entrepreneurs. If entrepreneurs do not need assistance with business plans, then what type of technical assistance and management training do they need?

Researchers and practitioners alike will need to answer questions such as what content

will best prepare entrepreneurs for their adventure of business ownership. Perhaps one area of research could be the effectiveness of a shorter, action-oriented planning process versus a formal written business plan. Additionally it would be interesting to study learning preferences of entrepreneurs.

Policy

From a policy standpoint, resources could be targeted away from traditional business planning classes and toward more effective evidence-based training methodologies. DeRose (2006) suggests that women entrepreneurs learn best from peers; perhaps a collaborative peer-based learning model could be tested against the traditional business plan class to assess effectiveness. Also, some research shows that entrepreneur success can be attributed to industry membership (Shane, 2012) and the practices of innovation hubs of similar companies could be a useful policy to implement. This research is very timely, as the effectiveness of the SBA is often brought into question during budgeting battles and its very existence is threatened. Continued research on program effectiveness and pedagogical practices of SBA, SBDC, and other micro-enterprise centers should be carried out.

Educational Leadership

Finally, from the standpoint of educating future entrepreneurs, we must recognize that while the individual entrepreneur is “psychologically a rare breed” (Schumpeter, 1934; 2000), entrepreneur leadership is a complex human dynamic not traceable to any one variable (such as EI). Entrepreneur leadership must be studied and learned in a multi-variable dynamic environment with evidenced-based instructional practices at the core of pedagogical approaches.

Limitations

Limitations of this study related to the sample, instruments, and overall design will be addressed.

Sample

Given the sample size of 52 completed surveys (4.1% of the target population), the results of this study may be limited. For example, the sample may be too homogenous and not reveal the EI effects that may exist. First of all, the client base of the SBDC has self-selected to receive assistance for their business and this may bias the results. In addition, the sample was more educated than the general population which may skew the results of an emotional intelligence test as well. In addition, the sample was limited to Western Pennsylvania nascent entrepreneurs and small business owners, so the results may not be meaningful across the nation or internationally. Also, the study data was gathered in three weeks; more time may have allowed for a greater participation. Furthermore, the target population could have been expanded to all SBDCs to collect data on a statewide or nationwide scale. There were no incentives provided to take the two surveys which required a significant time investment of 30 to 45 minutes.

Measures

There were two measures used for this study, and both have some limitations. The first was an online survey done through qualtrics.com. An online survey requires a valid email address and internet access. In addition, it may be difficult to cut through the clutter of “junk email.” All of these factors could have limited participation, and therefore the results of the study. While text prompts were provided for most of the survey questions, there is always the risk of misinterpretation by the participant. For example, in the

question about sales revenue, the question prompts the participant to round their answer to the nearest thousand; this may have confused some clients. Without the benefit of in-person guidance or closed-ended questions for clarification, there may be the risk of confusion and misinterpretation by the participant.

The second measure was the MSCEIT emotional intelligence instrument. While this is an oft-used instrument for assessing emotional intelligence, this researcher found that the 141-question test is lengthy; some participants spent over 45 minutes taking this survey. The majority of participants took longer than 30 minutes to take the survey. As described in the literature review, there are justifiable critiques of the MSCEIT emotional intelligence instrument as well as the construct of emotional intelligence itself. Finally, the idea of an “intelligence” test may have even deterred some participants from being involved.

Design

Certain limitations are inherent in the design of any study. This study was a cross-sectional survey of a specific population of entrepreneurs that used two self-report measures to record business outcomes and assess emotional intelligence. There is no objective evidence to back up the self-reported claims of the participants. For example, we did not examine tax records or business records to evidence business outcomes. Without objective measures of the business outcomes, there may be some limitations to the findings. In addition, while the online survey method of research has advantages of potentially reaching a large audience, there may also be limitations as mentioned above related to access to technology, use of technology, and confirming the identity of the person involved in the study. While the invitations were sent out to specific client email

addresses, there is no way to know for sure if the intended recipient actually completed the survey as requested.

There was a significant drop out rate (50%) of participants between the first survey and the second survey. The use of two surveys may have contributed to the loss of half of the potential sample. Additionally, the length of the second survey and the requirement of password, login credentials, and a unique identifier could have limited participation due to technological constraints or complexity, and thus the reach and the results.

There are also limitations to the use of regression analysis. The inclusion or exclusion of variables under study is a subjective decision by the researcher. The successful outcome of entrepreneurship or of any human endeavor is a complex activity with multiple inputs potentially relevant to the outcomes. The business outcome measures, while based on common economic development metrics, could have been measured more objectively.

Other Limitations

There are extraneous variables that could limit the results of this study. For example, environmental factors of the participant were not controlled, and participants could have been uncomfortable or interrupted during the process. This could have contributed to the high dropout rate between surveys or the excessive time to complete the MSCEIT portion of the study.

Recommendations

A lot of time and effort went into this study and such a project builds on the findings and experiences of others. It has been invaluable to learn from other researchers

and I want to use this section to pass on suggestions for researchers that come after me and to expound about what I will do differently going forward. While an attempt has been made to be exhaustive here, primarily the most relevant and realistic recommendations are included for the consideration of prospective researchers. Recommendations are delineated below concerning minimizing limitations of future studies as well as possible research direction of future studies. Furthermore, suggestions are made for the theory, practice and education of future entrepreneur leaders.

Minimize Limitations

Based on my experience with this study, there are changes that I will make to future studies related to the sample, instrumentation, and overall design. In regards to the sample, the inclusion of multiple SBDCs or a national sample would produce more representative data and a larger sample size. Furthermore, it is advisable to have a control group of non-entrepreneurs from the general population to compare this group of nascent and growing business owners. Additionally, I would like to study high-performing entrepreneurs such as serial entrepreneurs or “star” performers and look at differences in those high performers versus failed entrepreneurs.

Some modifications could be made to both survey instruments used in this study for future research. First of all, more objective measures can be used in the first survey with closed-ended questions and auto-generated responses to improve accuracy. Certainly, the use of dual surveys and complex sign-in credentials could be avoided in the future and would improve the dropout rate experienced in this study. One way to shorten the entire experience and to avoid using two instruments would be to parse the relevant

portion of the emotional intelligence instrument and include it in the body of the first and thus only survey.

The design of future studies of entrepreneurs can take many turns. A longitudinal study as opposed to a cross-sectional may be a better design. Also, a test /re-test design could be used, where the emotional intelligence levels of new clients of the SBDC are assessed prior to receiving any training or consulting and prior to opening a business and then again afterwards. Furthermore, as noted above, control groups could be used in an experimental setting and group comparisons made on the differences of emotional intelligence levels between high performing entrepreneurs, nascent entrepreneurs, and non-entrepreneurs. Of course, additional variables could be chosen to create a robust regression model that would aid in predicting entrepreneurial outcomes. The primary thing that I will do differently is to cast a wide net and do a correlation analysis prior to creating a regression model to test. This will ensure that each of the variables included in the model have some relationship with the outcome variable prior to conducting regression analysis. This is one of the suggested paths forward I intend to follow using the factors related to entrepreneurship identified in Table 3 as the basis for further research.

Theory

In addition to recommendations for modifications to the sample, instrumentation, and design, based on my newfound knowledge I have suggestions for future research in regard to the theory and practice of entrepreneurship. As mentioned above, additional variables such as those identified by Van Praag (2005) or Shane (2003) could be used to make a more robust and possibly predictive model. A more complete theory of

entrepreneurship may be developed from stakeholder research looking into highly successful or serial entrepreneurs. Stakeholders such as angel capital groups or venture capital companies could be used to examine elements of this model further. Future studies could use multiple measures of emotional intelligence to validate findings or a different measure of emotional intelligence all together.

Practice

From a practical standpoint of the Small Business Development center and its clients, there are an abundance of research opportunities. For one, clients could be assessed and screened for better selection of training needs as well as the likelihood of being an entrepreneur. A next step would be to build on the work of others who have created an entrepreneurial assessment and create a predictive model of entrepreneurship and related assessment. Factor analysis could be conducted on the items of these instruments to determine a new and more valid instrument.

Education

From a training and educational standpoint, pedagogical studies can be done regarding the best content (if not business planning) and approach to training entrepreneurs. Questions can be asked, such as: Do entrepreneurs learn better in teams? Are online learning options as effective for entrepreneurs as face-to-face methods? These questions may be helpful for micro-enterprise training centers and the entrepreneurs they support. Now we know from an educational standpoint not to include emotional intelligence content in training programs for entrepreneurs. Future studies could study the role that learning plays for the entrepreneurial leader. One study showed how women entrepreneurs prefer to learn (DeRose, 2006) in peer groups. Questions related to learning

style or learning preferences of entrepreneurs could be assessed to improve the educational environment and experience of future entrepreneurial leaders.

Conclusion

Despite the lack of statistically significant findings, this project developed new knowledge related to the study, practice, and education of entrepreneur leaders, and the human capital factors related to this endeavor. We learned that emotional intelligence has no predictive effect on business outcomes such as starts, longevity, or profitability. In addition, business planning is not correlated with business starts, longevity, or profitability. Table 3 summarized the relevant factors related to entrepreneurship and can be used as a framework for future studies. Moreover, we learned that individual micro factors must be studied in the context of macro trends to fully understand entrepreneurship. Finally, the biggest lesson for me was that popular beliefs (emotional intelligence) and commonplace practices (business planning) may not be as important to entrepreneurs and entrepreneurial outcomes as many researchers and practitioners believe.

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APPENDIX A

Invitation Email

As a current or prior client of the Duquesne University SBDC, you are invited to take a survey about your experience as a business owner. This survey is being conducted for research purposes by Eric Swift, a Doctoral student at Duquesne University as well as an employee of the Small Business Development Center. This study is being conducted to see if emotional intelligence levels can predict entrepreneur outcomes.

While your participation is encouraged, you are not required to take the survey. In addition, you can withdraw from the survey at any time without penalty. The survey includes an emotional intelligence survey that takes between 30 to 40 minutes to complete. There is no charge for you to participate in this research project.

Below you will find a link to the survey and a code to use in place of your name. If you decide to participate, you can click on the bolded link below to get started. There are two parts. Prior to the survey, you will have time to read and review a consent form that explains your rights regarding the study. If you agree to participate then you will answer eleven simple questions about yourself and your business. After the 11 questions you will receive a thank you and a LINK to the emotional intelligence instrument which will be a series of questions about understanding and using emotional information.

Here is your **PERSONAL ID #** _____. Please use this on BOTH surveys in place of your FIRST AND LAST name so that we can match up the results of the surveys AND keep your personal information private, confidential, and anonymous.

For the second part of the survey, you will need the following code and password to log into the MHS MSCEIT Emotional Intelligence Survey:

CODE: 22349-001-123 (all numbers)
PASSWORD: duquesne (lower case)

If you choose to participate, click below to get started. Thanks in advance for your participation.

[CLICK HERE TO TAKE THE SURVEY](#)

Remember to use your PERSONAL ID# in place of your name on both parts of the survey.

APPENDIX B

Consent Form



DUQUESNE UNIVERSITY

600 FORBES AVENUE ♦ PITTSBURGH, PA 15282

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

- TITLE:** Emotional Intelligence of Entrepreneurs
- INVESTIGATOR:** Eric Patrick Swift
ILEAD, School of Education
swifte@duq.edu
412-396-1635
- ADVISOR:** Dr. James Henderson, Professor
Department of Foundations and Leadership
412-396-4880
- SOURCE OF SUPPORT:** This study is being performed as partial fulfillment of the requirements for the doctoral degree in Instructional Leadership at Duquesne University.
- PURPOSE:** You are being asked to participate in a research project that seeks to investigate if emotional intelligence is predictive of entrepreneurship and entrepreneur outcomes. You will be asked to take an eleven question survey and an emotional intelligence survey that lasts between 30 to 40 minutes. These are the only requests that will be made of you.
- RISKS AND BENEFITS:** The risks are no greater than encountered in everyday life or of participating in other surveys you may have in the past. There is a significant time commitment of up to 45 minutes.
- COMPENSATION:** There is no compensation for participating in this study. Participation in the project will require no monetary cost to you.
- CONFIDENTIALITY:** You are using a code provided instead of your name to protect your privacy and confidentiality. The researcher will be unaware of who took the survey and only the researcher has access to individual scores. No identity will be made in the data analysis. All written materials will be stored in a

locked file in the researcher's office as well as on the University server with a password protected file. Your response(s) will only appear in statistical data summaries. All materials will be destroyed at the completion of the research after a reasonable period of time.

RIGHT TO WITHDRAW:

You are under no obligation to participate in this study. You are free to withdraw your consent to participate at any time.

VOLUNTARY CONSENT:

I have read the above statements and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw my consent at any time, for any reason. On these terms, I certify that I am willing to participate in this research project. Clicking YES below will evidence my consent and begin the study.

I understand that should I have any further questions about my participation in this study, I may call Eric Swift at 412-396-1635, Dr. Henderson at 412-396-4880 or Dr. Joseph Kush, Chair of the Duquesne University Institutional Review Board 412-396-1151).

APPENDIX C

Blank Survey

Entrepreneurs

Q1.1 Thanks for taking the survey. Before you begin, you will be asked to read and agree to the consent letter. Remember to use your PERSONAL ID# provided in the email in place of your name. Also, you will need the CODE and PASSWORD provided in the email for the second part of the survey.

Q1.2 CONSENT TO PARTICIPATE IN A RESEARCH STUDY
(Consent Letter Shown Here)

Q1.3 Did you read and fully agree to the consent letter?

- Yes (1)
- No (2)

Q2.1 What is your unique PERSONAL ID# provided in the email to you?(A number between 1000 and 3000)

Q2.2 What is the highest level of education attained?(Choose ONE)

- Did not graduate from high school (1)
- Some high school (2)
- Completed high school (3)
- Some college (4)
- Completed college (5)
- Attended graduate or professional school (6)
- Completed graduated or professional school (7)

Q2.3 Have you ever started a business?

- Yes (1)
- No (2)

Q3.1 Did you write a business plan prior to starting your business?

- Yes (1)
- No (2)

Q3.2 How many businesses have you started?(Answer must be a number)

Q3.3 How many of the businesses you started in the previous question are still active?

Q3.4 How long in YEARS did your most successful business last?

Q3.5 What was the highest annual gross sales / revenue achieved during your best year in business?(Round your answer to the nearest 1,000)

Q3.6 Including yourself, how many employees did you have during your best year?(Total of Full time and Part Time)

Q3.7 Rate the overall net profitability of your business in its best year.(Choose ONE)

- Very Unprofitable (1)
- Somewhat Unprofitable (2)
- Neither Profitable Nor Unprofitable (3)
- Somewhat Profitable (4)
- Very Profitable (5)

Q4.1 Thanks for taking the first part of this survey. Next, you will be given a link to take the second part of the survey. This is a link to an emotional intelligence instrument. You will need your CODE and PASSWORD provided in the email to log in. Also, please remember to use the PERSONAL ID# provided in place of your NAME (First and Last) on this survey. This will do two things. First, it will allow us to match the responses of both parts of the survey AND it will help to protect your privacy and confidentiality. Click the Right Arrow below to continue.

APPENDIX D

SPSS Data

ID	grp	SS_B1	SS_B2	SS_B3	SS_B4	SS_TOT	plan	starts	active	yrs bus	gross	employ	profit	ed	m1f0	age	rate
1	1	112.36	100.98	104.5	108.3	111.74	2	1	1	999	999	999	999	7	0	52	1.00
2	2	95.82	111.4	100.82	90.1	98.92	999	999	999	999	999	999	999	7	1	67	999
3	1	109.65	100.18	104.89	106.78	110.37	1	2	1	2	40000	1	2	7	1	50	0.50
4	1	88.16	85.6	93.49	90.53	86.47	2	1	1	3	125000	2	3	7	0	43	1.00
5	1	93.53	96.49	89.03	113.11	98.18	1	1	1	31	4000000	9	5	7	1	64	1.00
6	1	130.15	96.54	110.61	99.36	111.77	1	1	1	2	999	1	3	7	0	33	1.00
7	1	110.77	92.71	82.64	81.49	88.91	1	1	1	4	350000	3	1	7	1	56	1.00
8	1	95.16	93.06	98.12	105.18	98.87	1	1	0	8	500000	5	4	5	0	44	0.00
9	2	129.91	99.56	110.15	96.77	111.61	999	999	999	999	999	999	999	7	0	37	999
10	2	92.7	93.07	92.34	95.43	92.54	999	999	999	999	999	999	999	7	0	54	999
11	1	97	115.69	85.31	99.53	98.55	2	1	1	2	8000	1	4	7	0	51	1.00
12	1	91.11	76.27	90.5	92.08	84.43	2	2	2	6	60000	2	5	7	0	39	1.00
13	1	115.8	120.68	88.74	100.76	108.71	2	2	2	6	250000	2	4	5	1	37	1.00
14	1	86.5	98.23	94.97	97.4	92.54	1	2	1	3	12000	8	4	6	0	24	0.50
15	1	119.74	119.43	112.35	107.89	124.67	2	3	1	4	5000	1	1	7	0	47	0.33
16	1	102.41	120.23	93.72	94.73	103.83	2	3	1	3	9000	2	3	7	0	51	0.33
17	1	103.71	82.77	96.42	92.36	93.4	1	5	3	23	300000	8	1	5	1	58	0.60
18	2	97.18	105.23	109.98	102	107.42	999	999	999	999	999	999	999	5	0	56	999
19	2	119.04	119.48	118.26	117.31	133.15	999	999	999	999	999	999	999	4	0	56	999

ID	grp	SS_B1	SS_B2	SS_B3	SS_B4	SS_TOT	plan	starts	active	yrsbus	gross	employ	profit	ed	m1f0	age	rate
20	1	107.59	101.36	93.5	103.55	104.49	2	2	1	4	2000	1	2	4	1	53	0.50
21	1	132.28	116.6	107.49	92.93	112.92	2	2	1	27	192000	4	5	4	1	60	0.50
22	1	58.2	99.8	86.1	107.97	80.46	2	2	1	9	1000	1	1	7	0	54	0.50
23	1	109.71	105.07	91.04	99.2	103.74	1	2	1	7	1200000	9	1	7	0	57	0.50
24	1	94.45	100.04	112.04	95.43	101.61	1	1	1	3	55000	2	4	5	0	26	1.00
25	1	94.67	91.95	101.98	95.45	95.85	2	2	1	1	3000	1	4	6	0	63	0.50
26	1	89.24	89.95	92.76	96.06	89.63	1	2	1	3	15000	3	4	7	0	24	0.50
27	1	117.51	86.02	85.83	79.88	88.73	2	1	1	1	1200	7	2	7	0	999	1.00
28	1	97	106.17	80.72	109.09	97.83	1	2	1	2	3000	1	1	4	0	62	0.50
29	1	102.29	81.04	96.41	96.72	93.8	1	3	2	20	300000	4	3	7	1	53	0.67
30	2	96.51	108.18	90.96	95.68	97.83	999	999	999	999	999	999	999	5	1	50	999
31	2	94.57	90.36	97.18	96.59	94.45	999	999	999	999	999	999	999	4	0	54	999
32	1	79.3	92.01	92.31	86.76	83.04	1	3	1	7	350000	1	3	5	1	58	0.33
33	1	90.74	100.05	87.53	106.27	94.53	1	1	1	5	1100000	4	4	7	1	41	1.00
34	1	97.97	108.19	112.36	95.97	106.22	1	1	1	9	850000	6	5	5	1	46	1.00
35	1	87.67	94.32	89.51	105.25	92.1	2	3	2	27	1200000	30	1	3	0	65	0.67
36	1	77.48	82.38	87.84	104.16	83.05	1	3	1	7	67000000	7	5	4	1	65	0.33
37	1	79.8	73.82	107.68	105.34	86.88	2	1	1	1	15000	1	2	5	1	46	1.00
38	1	71.2	101.39	96.49	97.68	86.41	2	1	1	2	700000	4	5	7	0	50	1.00

ID	grp	SS_B1	SS_B2	SS_B3	SS_B4	SS_TOT	plan	starts	active	yrsbus	gross	employ	profit	ed	m1f0	age	rate
39	2	58.33	56.94	102.12	73.66	61.37	999	999	999	999	999	999	999	5	1	999	999
40	2	103.71	103.21	105	101.23	107.64	999	999	999	999	999	999	999	4	1	22	999
41	1	91.18	112.74	111.82	103.45	105.61	1	2	1	8	375000	4	5	7	0	52	0.50
42	1	106.19	85.6	93.21	99.53	97.23	1	2	1	6	35	8	4	7	0	70	0.50
43	1	112.45	119.59	119.16	110.32	126.9	2	4	0	15	999	1	3	5	0	50	0.00
44	1	113.16	100.89	113.81	97.59	111.42	1	1	1	3	125000	1	2	5	0	52	1.00
45	1	103.97	96.29	102.96	102.25	104.12	2	2	1	15	80000	1	1	5	0	48	0.50
46	1	82.67	100.04	103.09	105.34	94.93	1	1	1	999	999	1	1	6	0	46	1.00
47	1	103.5	108.75	112.3	104.99	112.52	2	2	1	14	24000	1	4	6	0	56	0.50
48	1	104.62	97.3	115.66	112.34	112.68	1	1	0	3	175000	5	5	7	1	40	0.00
49	1	70.57	84.52	100.08	103.61	84.37	1	4	2	25	33400000	78	5	5	1	58	0.50
50	1	131.98	98.59	107.03	99.96	111.65	2	1	1	2.5	179000	51	3	5	0	60	1.00
51	1	94.78	120.01	102.02	109.18	109.1	2	2	2	1	40000	3	4	5	1	48	1.00
52	2	95.88	114.33	93.21	115.12	107.83	999	999	999	999	999	999	999	4	0	35	999

APPENDIX E

Correlation Matrix

Correlations		grp	SS_B1	SS_B2	SS_B3	SS_B4	SS_TOT	plan	starts	active	yrs bus	gross	employ	profit	ed	m1f0	age	rate
group	Pearson Corr.	1	-.02	.04	.13	-.09	.05	.a	.a	.a	.a	.a	.a	.a	-.23	.02	-.07	.a
	Sig. (2-tailed)		.91	.79	.36	.52	.72	.00	.00	.00	.00	.00	.00	.00	.10	.91	.61	.00
	N	52	52	52	52	52	52	42	42	42	40	38	41	41	52	52	50	42
SS_B1	Pearson Corr.	-.02	1	.43	.35	.09	.77	.12	-.11	-.10	-.04	-.33	-.09	-.14	.04	-.12	-.04	.05
	Sig. (2-tailed)	.91		.00	.01	.53	.00	.43	.51	.52	.81	.04	.60	.37	.80	.37	.78	.77
	N	52	52	52	52	52	52	42	42	42	40	38	41	41	52	52	50	42
SS_B2	Pearson Corr.	.04	.43	1	.24	.47	.76	.27	-.01	-.22	-.08	-.27	-.21	.04	-.07	-.16	-.05	-.11
	Sig. (2-tailed)	.79	.00		.09	.00	.00	.08	.94	.16	.64	.01	.19	.82	.65	.26	.72	.48
	N	52	52	52	52	52	52	42	42	42	40	38	41	41	52	52	50	42
SS_B3	Pearson Corr.	.13	.35	.24	1	.25	.62	.03	-.03	-.29	.01	-.14	.00	.17	-.11	-.01	-.18	-.16
	Sig. (2-tailed)	.36	.01	.09		.08	.00	.87	.88	.06	.96	.4	.99	.28	.43	.5	.22	.31
	N	52	52	52	52	52	52	42	42	42	40	38	41	41	52	52	50	42
SS_B4	Pearson Corr.	-.09	.09	.47	.25	1	.56	.01	.03	-.22	.16	.14	.07	.06	-.18	-.13	-.01	-.27
	Sig. (2-tailed)	.52	.53	.00	.08		.00	.97	.86	.17	.31	.41	.67	.74	.20	.36	.97	.08
	N	52	52	52	52	52	52	42	42	42	40	38	41	41	52	52	50	42

(Table continues)

Corr.		grp	SS_B1	SS_B2	SS_B3	SS_B4	SS_TOT	plan	starts	active	yrs bus	gross	employ	profit	ed	m1f0	age	rate
SS_TOT	Pearson Corr.	.05	.77	.76	.62	.56	1	.16	-.02	-.30	-.02	-.32	-.14	-.02	-.1	-.19	-.1	-.19
	Sig. (2-tailed)	.72	.00	.00	.00	.00		.31	.92	.06	.92	.05	.37	.92	.50	.17	.51	.23
	N	52	52	52	52	52	52	42	42	42	40	38	41	41	52	52	50	42
plan	Pearson Corr.	.a	.12	.27	.03	.01	.16	1	-.01	.05	-.07	-.23	-.06	-.09	-.09	-.26	.10	.13
	Sig. (2-tailed)	.00	.43	.08	.87	.97	.31		.98	.73	.69	.17	.73	.56	.59	.10	.53	.40
	N	42	42	42	42	42	42	42	42	42	40	38	41	41	42	42	41	42
starts	Pearson Corr.	.a	-.11	-.01	-.03	.03	-.02	-.01	1	.47	.48	.33	.26	-.15	-.30	.18	.30	-.53
	Sig. (2-tailed)	.00	.51	.94	.88	.86	.92	.98		.00	.00	.04	.11	.36	.05	.26	.06	.00
	N	42	42	42	42	42	42	42	42	42	40	38	41	41	42	42	41	42
active	Pearson Corr.	.a	-.10	-.22	-.29	-.22	-.30	.05	.47	1	.35	.07	.28	-.11	-.17	.28	.13	.37
	Sig. (2-tailed)	.00	.52	.16	.06	.17	.06	.73	.00		.03	.67	.08	.48	.28	.07	.42	.02
	N	42	42	42	42	42	42	42	42	42	40	38	41	41	42	42	41	42
yrs bus	Pearson Corr.	.a	-.04	-.08	.01	.16	-.02	-.07	.48	.35	1	.16	.37	.06	-.30	.28	.41	-.16
	Sig. (2-tailed)	.00	.81	.64	.96	.31	.92	.69	.00	.03		.33	.02	.70	.06	.08	.01	.33
	N	40	40	40	40	40	40	40	40	40	40	38	40	40	40	40	39	40

(Table continues)

Corr.		grp	SS_B1	SS_B2	SS_B3	SS_B4	SS_TOT	plan	starts	active	yrsbus	gross	employ	profit	ed	m1f0	age	rate
gross	Pearson Corr.	.a	-.33	-.27	-.14	.14	-.32	-.23	.33	.07	.16	1	.36	.28	-.28	.27	.26	-.19
	Sig. (2-tailed)	.00	.04	.1	.40	.41	.05	.17	.04	.67	.33		.03	.09	.09	.10	.11	.24
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	37	38
employ	Pearson Corr.	.a	-.09	-.21	.00	.07	-.14	-.06	.26	.28	.37	.36	1	.13	-.25	.09	.26	.01
	Sig. (2-tailed)	.00	.60	.19	.99	.67	.37	.73	.11	.08	.02	.03		.41	.12	.57	.10	.94
	N	41	41	41	41	41	41	41	41	41	40	38	41	41	41	41	40	41
profit	Pearson Corr.	.a	-.14	.04	.17	.06	-.02	-.09	-.15	-.11	.06	.28	.13	1	.10	.19	-.16	-.00
	Sig. (2-tailed)	.00	.37	.82	.28	.74	.92	.56	.36	.48	.70	.09	.41		.55	.22	.31	.99
	N	41	41	41	41	41	41	41	41	41	40	38	41	41	41	41	40	41
ed	Pearson Corr.	-.23	.04	-.07	-.11	-.18	-.10	-.09	-.30	-.17	-.30	-.28	-.25	.10	1	-.18	-.09	.16
	Sig. (2-tailed)	.10	.80	.65	.43	.20	.50	.59	.05	.28	.06	.09	.12	.55		.22	.51	.32
	N	52	52	52	52	52	52	42	42	42	40	38	41	41	52	52	50	42
m1f0	Pearson Corr.	.02	-.13	-.16	-.1	-.13	-.19	-.26	.18	.28	.28	.27	.09	.19	-.18	1	.10	.03
	Sig. (2-tailed)	.91	.37	.26	.50	.36	.17	.10	.26	.07	.08	.10	.57	.22	.22		.47	.87
	N	52	52	52	52	52	52	42	42	42	40	38	41	41	52	52	50	42

(Table continues)

Corr.		grp	SS_B1	SS_B2	SS_B3	SS_B4	SS_TOT	plan	starts	active	yrsbus	gross	employ	profit	ed	m1f0	age	rate
age	Pearson Corr.	-.07	-.04	-.05	-.18	-.01	-.10	.10	.30	.13	.41	.26	.26	-.16	-.09	.10	1	-.16
	Sig. (2-tailed)	.61	.78	.72	.22	.97	.51	.53	.06	.42	.10	.11	.10	.31	.51	.47		.32
	N	50	50	50	50	50	50	41	41	41	39	37	40	40	50	50	50	41
rate	Pearson Corr.	.a	.05	-.11	-.16	-.27	-.19	.13	-.53	.37	-.16	-.19	.01	-.00	.16	.03	-.16	1
	Sig. (2-tailed)	.00	.77	.48	.31	.08	.23	.40	.00	.02	.33	.24	.94	.99	.32	.87	.32	
	N	42	42	42	42	42	42	42	42	42	40	38	41	41	42	42	41	42