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A social cognitive perspective on opportunity evaluation.

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A SOCIAL COGNITIVE PERSPECTIVE ON OPPORTUNITY EVALUATION

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ABSTRACT

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Very few topics in entrepreneurship have received as much attention as the entrepreneurial process. It consists of the discovery, evaluation and exploitation of opportunities to create future goods and services. Evaluation is at the center of this process because it follows discovery and is the main precursor of the decision to exploit an opportunity. However, we know very little of the factors informing evaluation decisions. Furthermore, research on the topic is limited in that it mostly examines either opportunity-based or individual-based factors in simple models of evaluation. Of course, evaluation decisions are more sophisticated and include a plethora of other factors.

This dissertation uses social cognitive theory as a basis to develop an integrative model of opportunity evaluation. Building on social cognitive theory's assertions that the environment, the individual and his/her focal behavior will interact to explain individual actions, I propose a multilevel, integrative research model. The model seeks to examine the complex contingent relationships between social capital relatedness, entrepreneurial experience, regulatory focus, entrepreneurial passion and resource attributes in the context of opportunity evaluation decisions. The theoretical model posits that resource

attributes, social capital relatedness, regulatory focus and entrepreneurial passion will have a direct effect whereas entrepreneurial passion and entrepreneurial experience will have a moderating effect on evaluation decisions. I empirically test this model using a conjoint experiment and hierarchical linear modeling on data from a sample of entrepreneurs.

The findings support social cognitive theory's assertions that the environment, the individual and his/her focal behavior will interact to explain individual actions. Results indicate that experience and age will have an impact on how entrepreneurs perceive resources, which could be an explanation for the high failure rate of new businesses. Further, entrepreneurs will find opportunities that relate to entrepreneurs' social capital more attractive. Additionally, there is evidence that entrepreneurs who are motivated by the need for security will rate opportunities as less attractive. Finally, data indicates that being highly passionate in all passion identity dimensions, and not just one, could be a spark for entrepreneurial action. Thus, this dissertation offers new insights for the opportunity evaluation literature and strengthens our understanding of the importance of studying the joint effects of environmental, individual and behavioral factors playing a role on opportunity evaluation.

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CHAPTER 1: INTRODUCTION

"Business opportunities are like buses, there's always another one coming."

- Sir Richard Branson, founder of Virgin Enterprises

Indeed, in an increasingly complex environment in which technological innovation is at its historical peak, it is rational to assume that business opportunities are abundant (Brown & Eisenhardt, 1997; Eisenhardt & Schoonhoven, 1996). If charismatic, serial entrepreneur Sir Richard Branson is right, however, the challenge becomes properly evaluating these business opportunities. Should the new venture focus on bringing a new product or service to market based on an unmet need or inefficiency? Or perhaps the entrepreneur should pick an opportunity from one market and introduce it to another? Or maybe the start-up should count on an already successful idea proven to work and select franchising?

This dissertation aims to tackle issues relating to how entrepreneurs evaluate the attractiveness of business opportunities in terms of identifying suitable opportunities. In doing so, it extends work on entrepreneurial opportunity evaluation (Haynie, Shepherd, & McMullen, 2009; Keh, Foo, & Lim, 2002) by developing an integrative model consisting of environmental, individual and behavioral factors that play a role in entrepreneurs' judgments on the attractiveness of opportunities. In this research, an *entrepreneur* is an enterprising individual who establishes a new organization (Gartner, 1988). An *entrepreneurial opportunity* (for brevity, opportunity) can be defined as a situation that

has the potential to lead to new goods or services being sold for greater than their cost of production (Shane & Venkataraman, 2000, p. 220). *Environmental factors* are physically external to the entrepreneur and provide opportunities (Glanz, Rimer, & Lewis, 2002). *Individual factors* inform the knowledge and skills of the entrepreneur (Glanz, Rimer, & Lewis, 2002). *Behavioral factors* inform the perception of the environment (Glanz, Rimer, & Lewis, 2002). In the following subsections of the introduction I discuss in more detail the gaps in what is known about opportunity evaluation, the purpose of this dissertation, its contributions in addressing the previously identified gaps and its structure.

Gaps in What We Know about the Entrepreneurial Process

Entrepreneurship is one of the fastest growing and more popular fields in management (Kuratko, 2005). The field is relatively young and yet, in a business environment that has for at least 30 years been defined by technological progress, globalization and recessions, which in turn has led to high levels of uncertainty and disequilibrium, its importance to social and economic development is as high as ever. There is general agreement among scholars that the entrepreneurship discipline at its core studies the nexus between the entrepreneurial opportunity and the entrepreneur (Sarason, Dean, & Dillard, 2006; Shane & Eckhardt, 2005; Shane & Venkataraman, 2000). More specifically, the field focuses on how lucrative opportunities are discovered, evaluated and exploited by enterprising individuals. Thus, these three activities – discovery, evaluation, and exploitation – are connected and at the core of the entrepreneurial process (Shane & Venkataraman, 2000).

The entrepreneurial process starts with the discovery of opportunities. The ultimate goal of the discovery stage of the process is to identify a lucrative opportunity. Some issues relating to discovery are isolating the sources of opportunities and identifying the cognitive processes that play a part in the discovery of opportunities (Alvarez & Barney, 2007; Baron, 2008; Fiet, 2007; Gaglio & Katz, 2001; Sarasvathy, 2001). The second part of the process, following the discovery of an opportunity, is evaluation. In this part of the process, entrepreneurs rate the attractiveness of an opportunity and determine whether it is one that they could exploit (Haynie, Shepherd, & McMullen, 2009; McMullen & Shepherd, 2006; Keh, Foo, & Lim, 2002). It is this part of the process that is the focus of this dissertation. The last part of the process is exploitation. Once the opportunity has been discovered and deemed attractive, entrepreneurs determine the process of exploiting the opportunity. Some issues relating to exploitation are deciding on the form of the new organization as well as examining decision making following the identification of an opportunity as attractive (Choi & Shepherd, 2004; Madhok, 1997).

In order to study entrepreneurship as a process we need to have an understanding of all three parts comprising it (Shane & Venkataraman, 2000; Choi & Shepherd, 2004). There has been, however, a preoccupation with examining discovery and exploitation. A popular research topic in the literature on discovery has been isolating the sources of opportunities (Alvarez & Barney, 2007; Fiet, 2007; Gaglio & Katz, 2001; Sarasvathy, 2001). Some of the antecedents to opportunity discovery that have been identified in the literature include prior knowledge (Shane, 2000), organizational learning (Lumpkin & Lichtenstein, 2005), affect (Baron, 2008) and cognitive processes such as mental

simulation and counterfactual thinking (Gaglio, 2004). There have also been a number of different views on how opportunities are discovered (Alvarez & Barney, 2007; Baron, 2004; Fiet, 2007; Kirzner, 1973; McMullen & Shepherd, 2006; Sarasvathy, 2001; Schumpeter, 1934). For example, Alvarez and Barney argue that opportunities do not exist in the environment just waiting to be identified (2007). Instead, it is entrepreneurs who create opportunities (Alvarez & Barney, 2007). Kirzner asserts that entrepreneurs discover opportunities by being "alert" (1973). Fiet (2007) argues that entrepreneurs discover opportunities by systematically searching for them. Sarasvathy contends that entrepreneurs use their prior knowledge and experience to tackle each new obstacle they face in their entrepreneurial journey (2001). While it has not received as much attention as discovery, opportunity exploitation has also been well studied in extant literature (Choi & Shepherd, 2004; Madhok, 1997; McMullen & Shepherd, 2006). Some of the key factors that play role on exploitation are uncertainty (McMullen & Shepherd, 2006), modes of exploitation (Madhok, 1997) and the decision heuristics used in exploitation decisions (Choi & Shepherd, 2004).

In contrast to the other parts of the entrepreneurial process, opportunity evaluation has received scarce attention by scholars. To the best of my knowledge, there are only two studies that explicitly deal with the topic. The first study is by Keh, Foo, and Lim (2002). It examines the cognitive processes that influence opportunity evaluation. More specifically, the researchers look at how risk perceptions mediate the effect of overconfidence, planning fallacy, illusion of control, and belief in the law of small numbers on opportunity evaluation. Keh et al (2002) find that illusion of control and belief in the law of small numbers inform how entrepreneurs evaluate opportunities.

More specifically, this implies that entrepreneurs may be susceptible to cognitive biases such that they consider a few cases to be representative of a larger population even if this is not the case. Because of such tendencies, entrepreneurs should perform a systematic research of the industry prior to identifying opportunities. The second study by Haynie, Shepherd, and McMullen (2009) uses the resource-based view (Barney, 1991; Wernerfelt, 1984) to develop a model of opportunity evaluation. The authors explore how entrepreneurs' existing resources as well as their expectations about future resources inform their evaluation decisions. The focus is on the cognitive processes that play a part in the evaluation decision. More specifically, Haynie et al (2009) study the relatedness of opportunities to the entrepreneurs' stock of human capital. The findings suggest that entrepreneurs are drawn to opportunities requiring resources that are related to their existing knowledge, skills, and abilities.

Perhaps one reason for the lack of research that specifically deals with opportunity evaluation is that, in research terms, the academic conversation on the topic is fairly recent, only surfacing with the introduction of the entrepreneurial process (Shane & Venkataraman, 2000). Prior to Shane & Venkataraman's work (2000), entrepreneurship researchers have lacked a specific framework to guide research contributing to a fragmentation in entrepreneurship research (Short, Ketchen Jr., Shook, & Ireland, 2010). Further, researchers interested in entrepreneurship were often "transplants" from other disciplines who were interested in topics that are on the boundary between their main discipline and entrepreneurship with the majority of these researchers being from economics. Perhaps as a result of early entrepreneurship research being done by economists, the issues that have seen the most research prior to Shane &

Venkataraman's work were related to the economic benefits of entrepreneurship, the economic reasons for individuals going into entrepreneurship, the sources of entrepreneurial opportunities, and the individual characteristics of entrepreneurs (Baumol, 1968; Evans & Jovanovic, 1989; Gartner, 1988; Kirzner, 1979; Schumpeter, 1934). These issues lay on the intersection between economics and entrepreneurship and are now considered mostly a part of opportunity discovery. In the late 80s and early 90s, a considerable number of strategy researchers contributed to entrepreneurship with their research focused more on issues that we now consider part of the exploitation process such as mode of exploitation, organizational form choice, and strategic issues in the early stages of a business (Choi & Shepherd, 2004; Madhok, 1997).

In order to explore the entrepreneurial process in detail and advance what we know about it and entrepreneurship in general, we need to study opportunity evaluation in more detail. After all, how does one make the transition from discovery to exploitation without a clear conceptualization of the opportunity evaluation phenomenon? Exploitation cannot occur without evaluation and evaluation cannot occur without discovery. Being the middle part of the entrepreneurial process makes understanding evaluation essential in order to have a clear conceptualization of opportunity discovery and exploitation.

While extant research on opportunity evaluation certainly advances our knowledge of the phenomenon, there are still major gaps in what we know about the phenomenon. Evaluation occurs following discovery and involves entrepreneurs making a judgment on the attractiveness of the opportunity to them. If the opportunity is deemed attractive, then entrepreneurs can proceed with exploitation. The gaps in our knowledge

of evaluation lay in the transition from discovery to evaluation and then from evaluation to exploitation. Studying these transitions is essential in examining entrepreneurial decision making in an opportunity evaluation context. It allows researchers to study the factors that influence a specific entrepreneur's judgment on the attractiveness of opportunities – an issue we currently know little about. For example, entrepreneurs often rely on their knowledge about a certain industry or use their social connections to accomplish entrepreneurial tasks. Further, social relationships and entrepreneurial experience have been found to be important precursors to entrepreneurial action (Aldrich & Zimmer, 1986; DeCarolis & Saparito, 2006; Haynie, Shepherd, & McMullen, 2009). Yet, we know little of how their knowledge or their stock of social connections influences how entrepreneurs evaluate opportunities. Additionally, cognitive processes have been posited as important phenomena influencing all aspects of the entrepreneurial process (Baron, 2004; Baron, 2008; Cardon, Wincent, Singh, & Drnovsek, 2009). However, we have limited knowledge of how they influence opportunity evaluation.

Additionally, current research is limited in terms of it examining mostly either opportunity-based or individual-based factors in simple models of evaluation. Of course, evaluation decisions are more sophisticated and are made amidst a number of other factors. Indeed, the evaluation part of the entrepreneurial process is "a function of the joint characteristics of the opportunity and the nature of the individual" (Shane & Venkataraman, 2000, p. 222; Venkataraman, 1997). This implies that we also need to study how the joint effects of entrepreneurs' cognitive processes and environmental factors affect decision making in the context of opportunity evaluation. For example, resources are not set in stone and can be altered by multiple individual factors (Choi &

Shepherd, 2004). Further, perceptions of the environment can be altered by multiple personal biases and heuristics (Busenitz & Barney, 1997). Additionally, cognitive processes affecting decision making in an entrepreneurial context have been identified as a key issue that will advance our knowledge of all parts of the entrepreneurial process (Baron, 2004). Without knowledge of the joint effects of environmental factors and cognitive processes in a model of opportunity evaluation, our knowledge of the issue will be incomplete.

Purpose of the Dissertation and Research Questions

Very few topics in entrepreneurship have received as much attention as the entrepreneurial process (Gregoire, Noel, Dery, & Bechard, 2006). It consists of the discovery, evaluation and exploitation of opportunities to create future goods and services (Shane & Venkataraman, 2000). Evaluation is at the center of the entrepreneurial process and is the main precursor of the decision to exploit an opportunity. We know little, however, about how entrepreneurs evaluate opportunities.

Haynie, Shepherd, and McMullen (2009) lay the groundwork for examining these issues by presenting a framework to study opportunity evaluation. The authors examine evaluation through a framework based around the current and future resources entrepreneurs have at their disposal. A resource is a tangible or an intangible asset that is used in the process of building, operating and/or harvesting a business (Mosakowski, 1998). Entrepreneurial resources could include having a network of contacts that could be called upon to contribute knowledge, expertise, or financial support, having sources of financing through a financier, or having personal knowledge, experience, or expertise in

running the venture (Aldrich & Zimmer, 1986; Barney, 1991; Mosakowski, 1998). A framework based around resources offers a suitable lens through which to examine evaluation because resources play a key role in all aspects of the entrepreneurial process and could provide a link for studying entrepreneurship as a process. Further, resources are a key consideration for entrepreneurs when evaluating opportunities.

Resources are not the only factor that goes into the evaluation decision, however, and, as discussed earlier, research needs to transition to developing more complex models of evaluation that incorporate multiple factors. Specifically, on the one hand, a resource-based view framework is effective at explaining phenomena associated with an opportunity when it comes to individual differences (Haynie, Shepherd, & McMullen, 2009). On the other hand, however, in the context of the evaluation decision such a framework is not sufficient because it cannot account for heterogeneity among individuals. In other words, a resource framework could only partially explain *why some people and not others are able to discover and exploit particular entrepreneurial opportunities* (Shane & Venkataraman, 2000).

To get a better understanding of this issue, posited by Shane & Venkataraman (2000), we need to incorporate a theoretical framework that is more effective at explaining differences between entrepreneurs. Throughout the years, entrepreneurship research has established a multidisciplinary tradition with theories from economics, psychology, and strategy being brought in an attempt to explain entrepreneurship phenomena (Gregoire, Noel, Dery, & Bechard, 2006). Theories of cognition have shown the most promise in understanding individual differences among entrepreneurs (Mitchell, Busenitz, Lant, McDougall, Morse, & Smith, 2002). Further, according to extant

research, theories of cognition are specifically likely to affect the entrepreneurial process and, more specifically, opportunity evaluation (Mitchell, Busenitz, Lant, McDougall, Morse, & Smith, 2002; Keh, Foo, & Lim, 2002).

This research, therefore, focuses on *how* entrepreneurs evaluate opportunities and asserts that evaluation could differentiate those entrepreneurs who successfully discover and exploit opportunities from those who do not (Shane & Venkataraman, 2000). More specifically, I use social cognitive theory to develop a model of opportunity evaluation which examines the complex relationships between resource attributes, social capital relatedness, entrepreneurial experience, regulatory focus and entrepreneurial passion in the context of opportunity evaluation decisions. Social cognitive theory has significant potential for influencing entrepreneurial activity and offers a useful lens through which to examine evaluation (Mitchell, Busenitz, Lant, McDougall, Morse, & Smith, 2002). The theory posits that 1) the person and his/her internal cognitions, 2) the focal behavior and 3) the environment reciprocally interact to explain individual actions. According to social cognitive theory, the basis for an actor's actions comes from how the actor interacts with people and situations. Indeed, "social psychologists agree that individual behavior is strongly influenced by the environment, especially the social environment; the person does not function in an individualistic vacuum, but in a social context that influences thought, feeling, and action" (Taylor, 1998, p. 3). Therefore, it is not possible to separate the actor from the environment as inputs from the environment play an important role in the actor's reasoning. The opportunity evaluation decision presents a suitable context to apply the predictions of social cognitive theory as the evaluation decision is made in lieu

of the interacting environmental, behavioral and individual forces (Bandura, 1989; Holland & Shepherd, 2012).

In this dissertation, therefore, I argue that the opportunity evaluation decision is complex and is influenced by a plethora of factors as predicted by social cognitive theory – some are a result of environmental forces (e.g. characteristics of resources associated with the opportunity) and others are a result of entrepreneurs' behavioral processes and individual characteristics (e.g. social capital relatedness, entrepreneurial experience, regulatory focus and entrepreneurial passion). By building an integrative model of opportunity evaluation, I offer a robust, testable framework addressing notable limitations of the current literature on the entrepreneurial process such as the lack of understanding of key factors determining opportunity evaluation as well as the cognitive processes of entrepreneurs that aid decision-making in an evaluation context. Further, the field of entrepreneurship gains a framework for studying opportunity evaluation, which addresses the need to tie the three stages of the entrepreneurial process together so that entrepreneurship can be studied as a process.

The model posited in this dissertation allows for examining the importance of each of the included factors. Resources play a key role in all aspects of the entrepreneurial process and often inform the *environmental* context for many entrepreneurs (Choi & Shepherd, 2004; Fiet, 1996; Haynie, Shepherd, & McMullen, 2009). For example, many entrepreneurs are resource-constrained contributing to a "hostile" environment in which to start a business. I am consistent with Haynie et al (2009) in assuming that opportunity evaluation is influenced by entrepreneurs' perception of the potential of the existing and future resources (that will be generated if an

opportunity is exploited) to generate a competitive advantage for the future firm. These existing and future resources have characteristics that can be broken down into four decision attributes: 1) resource rarity, 2) resource value, 3) resource imitability and 4) resource potential to limit competitive response (Haynie, Shepherd, & McMullen, 2009). That is, entrepreneurs make a judgment on the wealth-generating potential of the opportunity based on the characteristics (e.g. rare, valuable, inimitable, limits competitive response) of the current and future resources they expect to acquire (Haynie, Shepherd, & McMullen, 2009). Consistent with the prescriptions of the resource-based view (Barney, 1991), I hypothesize that the more resources that are valuable, rare, inimitable or limit competitive response an opportunity promises, the more attractive it will be to the entrepreneur.

Environmental factors are often considered in concert with factors related to the *individual*. While Haynie, Shepherd, and McMullen consider the relatedness of the opportunity characteristics to the knowledge, skills and experience of entrepreneurs solely from a resource-based view standpoint, I introduce a social cognitive theory perspective to instead study the relatedness of the opportunity to entrepreneurs' social capital. This issue is important because there is a consensus that social capital plays a key role in the entrepreneurial process and yet we have little empirical evidence that it does so (Aldrich & Zimmer, 1986; Birley, 1985; DeCarolis & Saparito, 2006). I focus on the relatedness of the opportunity to the resources stemming from the social capital of the entrepreneur (Aldrich & Zimmer, 1986; Cooper, Folta, & Woo, 1995). I define social capital relatedness in an entrepreneurial context as the relatedness of an opportunity to the resources embedded within entrepreneurs' network of relationships that are available

to the entrepreneurs in their entrepreneurial endeavors (Haynie, Shepherd, & McMullen, 2009; Nahapiet & Ghoshal, 1998). Consistent with Aldrich & Zimmer (1986) and Mosakowski (1998), I treat the existence of social capital in the form of a network of contacts that could be called upon to contribute knowledge, expertise, or financial support as an entrepreneurial resource. In this way, consistent with Haynie et al (2009), I view the content of opportunity evaluation decision schemas as defined by considerations of resources; both (1) the existing resources which may be employed to exploit the opportunity under evaluation, as well as (2) an assessment of the future, wealth generating resources that would be utilized in order to exploit the opportunity under evaluation. The main argument I posit is that entrepreneurs are likely to evaluate more favorably opportunities that are related to their social networks. There is much uncertainty in entrepreneurship (Knight, 2006) and the relatedness of an opportunity to the social capital of entrepreneurs is a way to reduce uncertainty and therefore will influence the perception of entrepreneurs in judging the attractiveness of opportunities.

I incorporate one key human capital variable, entrepreneurial experience, as another *individual* factor and examine whether it influences the effect of social capital relatedness on evaluation. Haynie, Shepherd, and McMullen (2009, p. 356) assert that future research should examine entrepreneurial experience in more detail. I fill this gap in knowledge by exploring how entrepreneurial experience affects the relationship between social capital and opportunity evaluation. My main argument is that entrepreneurial experts will have developed skills that would make them less likely to rely on the expertise of other people. Coupled with the fact that entrepreneurs tend to be overconfident (Bazerman, 1990; Forbes, 2005), I posit that the more experience

entrepreneurs have, the less likely they will be to rely on their social networks when judging the attractiveness of an opportunity.

The *behavioral* factors I incorporate into the model are entrepreneurs' regulatory focus and entrepreneurial passion. Regulatory focus theory offers a suitable lens through which to examine cognitive phenomena associated with the entrepreneurial process (Baron, 2002; Baron, 2004; Brockner, Higgins, & Low, 2004; Hmieleski & Baron, 2008). According to the theory some individuals pursue their goals and motivations by relentlessly chasing pleasure in an attempt to fulfill their need for achievement. Such individuals are motivated by success and are more likely to strive to maximize their gains. Individuals who subscribe to such an orientation are said to have a promotion focus (Higgins, 1997). The other set of individuals depicted by the theory are ones who accomplish their goals and motivations as a way to avoid failure and fulfill their need for safety. Individuals with such an orientation aim to minimize their pitfalls and are said to have a prevention focus (Higgins, 1997). I argue that entrepreneurs with a promotion focus will be predisposed to view entrepreneurial opportunities as more attractive than they may be because they view such opportunities as possible venues that will fulfill their need for achievement. On the other hand, I argue that entrepreneurs with a prevention focus will be predisposed to view entrepreneurial opportunities as less attractive than they may be because they view such opportunities as possible threats to their need for security. Examining the effects of entrepreneurs' regulatory focus is important because it allows us to understand in more detail the cognitive processes that play a role in entrepreneurial decision-making. Further, while we have theoretical evidence that regulatory focus plays a role in all aspect of the entrepreneurial process, we lack empirical evidence to back that

claim (Baron, 2002; Baron, 2004; Brockner, Higgins, & Low, 2004; Hmieleski & Baron, 2008). This dissertation aims to provide such empirical evidence.

Finally, I incorporate a second *behavioral* factor. I study how individuals' entrepreneurial passion affects how they judge opportunities and how it affects entrepreneurs' perception of resources in an opportunity evaluation context. These issues are important because passion has been theorized to be at "the heart of entrepreneurship" playing an important role in all aspects of the entrepreneurial process (Cardon, Zietsma, Saparito, Matherne, & Davis, 2005). Entrepreneurial passion is defined as the "intense positive feelings" entrepreneurs experience when faced with activities that are central and meaningful to their self-identity (Cardon, Wincent, Singh, & Drnovsek, 2009). Cardon, Wincent, Singh, and Drnovsek (2009) assert that there are three domains of entrepreneurial passion. Passion for inventing is exhibited by entrepreneurs who like to identify potential market needs and develop new products or services that meet those needs. Passion for founding reflects entrepreneurs' positive feelings toward undertaking all the activities that lead up to the launch of a new company. Passion for developing is exhibited by entrepreneurs who enjoy the process of taking an already existing opportunity and growing it into a viable business. I argue that each domain has a different effect on how entrepreneurs judge opportunities. Further, I argue that entrepreneurs who are highly passionate in all domains will evaluate opportunities differently. Additionally, I argue that each domain has a different effect on how entrepreneurs perceive the characteristics of resources, which indirectly influences opportunity evaluation. Overall, this dissertation addresses the following research questions:

1. *What environmental, individual and behavioral factors inform opportunity evaluation?*
2. *How do resource attributes affect opportunity evaluation?*

3. How does social capital relatedness affect opportunity evaluation?

4. Does social capital relatedness affect opportunity evaluation differently for entrepreneurial experts as opposed to entrepreneurial novices?

5. How does regulatory focus influence opportunity evaluation?

6. How does entrepreneurial passion affect opportunity evaluation and do the different domains of entrepreneurial passion matter in an opportunity evaluation context?

The evaluation decision is examined using a metric conjoint experimental design (Green & Wind, 1975). Such a design is particularly effective in studying decisions because it allows for the decomposition of decision policies into their underlying attributes (Shepherd & Zacharakis, 1997). Respondents are presented with hypothetical scenarios based on five decision attributes (value, rarity, inimitability, limits on competition and social relatedness). Each of the attributes varies across two levels (high and low) resulting in 32 possible combination profiles. The number of profiles is reduced to 16 based on the orthogonal fractional factorial design outlined in Hahn and Shapiro (1966). I test response reliability by replicating five of the 16 scenarios. Further, I test internal validity by analyzing the responses of three of the scenarios outside of the 16 main choice sets included in the factorial design. Additionally, I include a warm-up scenario that does not feature in the analysis. This results in a total of 25 scenarios that

have to be rated by each respondent. The sample for the dissertation is 120 entrepreneurs. More specifically, the sample includes entrepreneurs that have founded a firm in the past ten years. Additionally, I focus on entrepreneurs that have firms with less than 250 employees. Due to the nested nature of the analysis (multiple opportunity evaluation decisions nested within individuals), a total of 1,920 observations (16 decisions per entrepreneur) are used to estimate the model using hierarchical linear modeling (Raudenbush & Bryk, 2002).

Contributions

This dissertation makes several contributions to theory. First, it sheds new light on opportunity evaluation by presenting an integrative model of opportunity evaluation. By integrating social cognitive theory with predictions from the resource-based view, regulatory focus theory and the literature on entrepreneurial passion and entrepreneurial experts, I offer a robust, testable framework through which we can investigate the influences of idiosyncratic behavior, motivations and environmental context on opportunity evaluation. This framework addresses notable gaps and limitations of the current literature on the entrepreneurial process such as the general lack of research on opportunity evaluation and the lack of consideration of resources and entrepreneurs' cognitive processes in entrepreneurial decision making. The framework takes into account the effects of environmental, individual and behavioral factors on opportunity evaluation decisions setting the groundwork for examining important questions outlined in extant research.

Second, based on prior research on opportunity evaluation we know that the relatedness of the opportunity to the entrepreneurs' human capital (e.g. skills, knowledge, and experience) has a positive effect on opportunity evaluation (Haynie, Shepherd, & McMullen, 2009). Building on this line of research, this dissertation emphasizes the positive effect that social capital relatedness has on opportunity evaluation. Prior research has identified the relationship between social capital and cognitive biases as an explanation for why some people exploit specific opportunities whereas others do not (DeCarolis & Saparito, 2006). Yet, we have limited knowledge of whether social capital plays a role in the evaluation process or whether it is strictly related to exploitation. This dissertation aims to further our understanding of social capital's role in the evaluation process by arguing that how related an opportunity is to the existing social capital of the entrepreneur will have a positive effect on the entrepreneur's perception of the attractiveness of the opportunity.

Third, this dissertation aims to shed a new light on the academic conversation on serial entrepreneurship by examining how being an expert affects the relationship between social capital relatedness and entrepreneurs' judgment on the attractiveness of opportunities. I posit that expert entrepreneurs will put less emphasis on their social networks when choosing an opportunity to exploit. I aim to contribute to this literature by building on recent findings that theories developed in an expert–novice context in cognitive psychology can potentially illuminate important aspects of the entrepreneurial process including how experienced entrepreneurs acquire and use useful cognitive frameworks (Mitchell, Smith, Seawright, & Morse, 2000; Ensley & Baron, 2006).

Fourth, scholars have suggested that regulatory focus theory offers a suitable lens through which to examine phenomena associated with the entrepreneurial process such as opportunity discovery, evaluation, and exploitation (Baron, 2002; Baron, 2004; Brockner, Higgins, & Low, 2004; Hmieleski & Baron, 2008). Further, Brockner, Higgins, and Low (2004) argue that in discovery activities, such as idea generation, greater promotion focus is necessary. In evaluation and exploitation activities, such as screening ideas, greater prevention focus is necessary. The work of Brockner et al (2004) does not provide any empirical evidence on the role of regulatory focus in the entrepreneurial process, however. Further, while the theory has been used in empirically explaining discovery and exploitation phenomena (Baron, 2002; Hmieleski & Baron, 2008), it has not been used to examine whether it plays part in the opportunity evaluation process. Integrating regulatory focus theory (Higgins, 1997) with RBV (Barney, 1991), I theorize that entrepreneurs' dispositional regulatory focus orientations will interact with the resource considerations entrepreneurs place in their evaluation of the attractiveness of opportunities.

Finally, affect and emotions have been theorized to play an important role in entrepreneurship (Baron, 2008). This dissertation contributes to this view by studying the effect of entrepreneurial passion on the entrepreneurs' perceptions of their current and future resources and their influence on opportunity attractiveness. Further, this dissertation contributes to the entrepreneurial passion literature. So far very little progress has been made in finding empirical evidence for the effects of entrepreneurial passion on the entrepreneurial process (Cardon, 2008; Cardon, Wincent, Singh, & Drnovsek, 2009). Most of the empirical work up to this point has used measures developed within different

fields such as organizational behavior and psychology which measure general passion (Cardon, Gregoire, Stevens, & Patel, 2013). This dissertation is one of the first studies to incorporate an instrument specifically designed to measure entrepreneurial passion. Further, this dissertation contributes theoretically to the passion literature by examining how the three passion identity domains affect opportunity evaluation. I find evidence that entrepreneurs who are highly passionate in all three domains will evaluate opportunities differently.

Structure of the Dissertation

The balance of the dissertation proceeds as follows. In chapter 2, I present an overview of the literature on entrepreneurship and the entrepreneurial process in an attempt to give the reader a clear context of where we stand today within the domain of entrepreneurship and help outline the boundary conditions for this dissertation. Chapter 3 details the theoretical background behind the model while also offering several hypotheses regarding the proposed relationships. First, I use social cognitive theory to examine the role resource attributes and entrepreneurs' social capital relatedness plays in evaluation decisions. Then, I examine whether the social capital relatedness – opportunity attractiveness relationship is moderated by entrepreneurial expertise. Next, I incorporate regulatory focus theory into the model to study how entrepreneurs with either regulatory focus orientation evaluate opportunities. Finally, I introduce entrepreneurial passion into the model. I explore how entrepreneurs' passion identity affects decision-making in an evaluation context before studying how the three passion identities interact with the resource attributes in the theoretical model. In chapter 4, I discuss the methods that were

used for data collection and hypothesis testing. In chapter 5, I broadly summarize the findings of this dissertation. In chapter 6, I discuss the findings, the implications of these findings, the contributions of this dissertation as well as some of its limitations. I also offer some guidance for future research on opportunity evaluation.

CHAPTER 2: OVERVIEW OF ENTREPRENEURSHIP RESEARCH

This dissertation starts with a historical overview of the development of entrepreneurship research and where the body of work stands today. The aim is to establish the boundary conditions for the theoretical model which I will develop in the next chapter.

Historical Overview

We can trace the emergence of the term "entrepreneur" in its current connotation back to the 18th century and the work of French businessman Richard Cantillon (1755). He introduces the entrepreneur into economic models and assigns him the role of an arbitrageur. In this role, the entrepreneur serves as an intermediary between landowners (capitalists) and hirelings (wage workers). According to Cantillon the main value an entrepreneur adds to an economy is as a risk-bearer in the exchange between landowners and hirelings (Hebert & Link, 2006). Following Cantillon's work, the majority of the academic conversation on entrepreneurs had focused on the role they play in the market process and had been done by economists. This trend continued up until the middle of the 20th century. Over time the entrepreneur was assigned a number of roles within the market process almost to an extent that made the entrepreneur look ubiquitous in the economy (see Hebert & Link (2009) for a summary of these roles). For instance, Jean-Baptiste Say introduces the entrepreneur as an industrial leader and a manager (1803).

Ronald Coase considers the entrepreneur to be an organizer and coordinator of economic resources (1937). Jeremy Bentham views the entrepreneur as a contractor (1952). Ludwig von Mises classifies the entrepreneur as the person who supplies financial capital (1949). Joseph Schumpeter sees the entrepreneur as an innovator (1934).

It is indeed Schumpeter's work that has greatly influenced modern entrepreneurship research. Schumpeter's entrepreneurs upset the conventional way of conducting business and as such act as change agents. They are the source of creative destruction in the market. Creative destruction refers to entrepreneurs introducing new knowledge which renders established norms obsolete. Schumpeter's entrepreneurs destroy equilibrium by doing one or more of the following (1) introduce a new good or service (2) create a new market (3) discover a new method of production, or (4) find new resources. When successful, Schumpeterian entrepreneurs become pioneers eliciting extensive imitation. Schumpeter's work has been the catalyst behind an increasing interest in entrepreneurship since the middle of the 20th century.

Prior to Schumpeter's work, entrepreneurship research was done mostly by economists studying the market process. Following Schumpeter, researchers from various disciplines, such as psychology, sociology, strategy, and finance, became interested in entrepreneurship. Much of the research was focused on examining the primary motivations for going into entrepreneurship. Some of the more popular contributions studied the role of managerial ability (Lucas, 1978), risk propensity (Kihlstrom & Laffont, 1979), and wealth (Evans & Jovanovic, 1989). In the 1980s entrepreneurship research moved towards examining the personality traits that distinguish individuals who become entrepreneurs from those who do not (Gregoire, Noel, Dery, & Bechard, 2006).

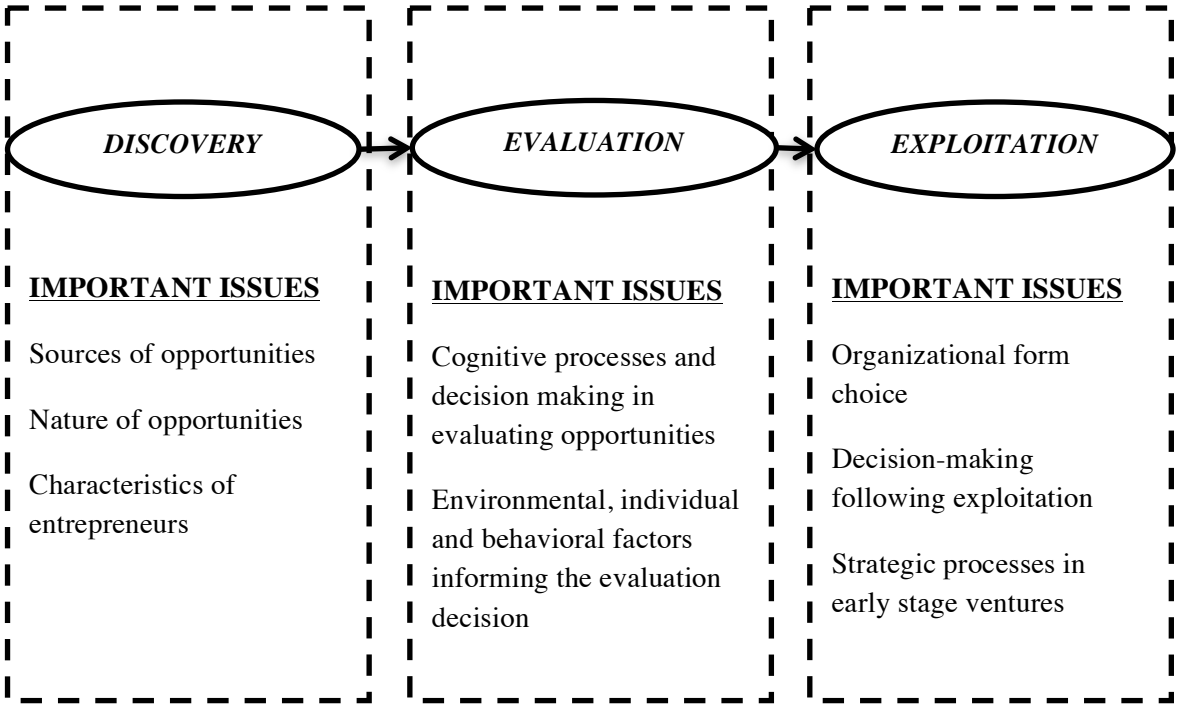
Studies did not show enough evidence that personal characteristics play a significant role in becoming an entrepreneur which led to research on the topic slowly halting (Brockhaus & Horowitz, 1986). In the early nineties, research in entrepreneurship began to expand significantly past exploring motivations for going into entrepreneurship with several streams of research surfacing. One stream of research examined the funding of entrepreneurial ventures and the role of venture capitalists (MacMillan, Siegel, & Subba Narasimha, 1985; Tyebjee & Bruno, 1984). Another stream of research studied the role of environmental forces and social factors on entrepreneurship (Aldrich & Auster, 1986; Aldrich & Zimmer, 1986). In the late 1980s and early 1990s with the emergence of the resource-based view (Barney, 1991), strategy-based research in entrepreneurship became predominant (Gregoire, Noel, Dery, & Bechard, 2006). Much of the research at the time focused on industry structure, start-up firm strategy, and new venture performance (Covin & Slevin, 1990; Sandberg & Hofer, 1987). Generally strategy research focuses on the firm level of analysis whereas entrepreneurship up to that point had mostly been associated with the individual entrepreneur. Yet, many opportunities and innovation happens in larger organizations so with the influence of strategy researchers a plethora of research began surfacing about entrepreneurship within an established firm. Furthermore, the first construct unique to entrepreneurship surfaced as a result – entrepreneurial orientation (EO) (Miller, 1983). EO refers to the strategic practices firms use to identify and launch new businesses (Lumpkin & Dess, 1996).

The Entrepreneurial Process

Based on the above discussion, we can see that through the years the entrepreneurship literature had become mostly a collection of contributions by scholars from various fields who see the world through differing paradigms. In other words, despite surfacing in literature as early as the 18th century, in research terms entrepreneurship as a field is in its infancy compared to more established fields (Kuratko, 2005; Shane & Venkataraman, 2000). At the beginning of the 21st century, it was commonly noted by scholars that the field largely lacks a domain and many researchers do not consider it a distinct field of scholarship. Entrepreneurship was perceived more as a "hodge-podge" (Shane & Venkataraman, 2000) or "potpourri" (Low, 2001) of research that is not directly related to one another. The major step towards convergence of research within the field was taken through the work of Shane & Venkataraman (2000). The authors outlined the domain of entrepreneurship and posited that entrepreneurship should study the nexus between opportunities and enterprising individuals. More specifically, the field should focus on the entrepreneurial process which is comprised of three primary activities – the discovery, evaluation, and exploitation of entrepreneurial opportunities. What the authors do well is illustrate the distinctness of entrepreneurship from other academic disciplines. No other field solely focuses on studying the nexus between opportunities and individuals. Since its publication the article by Shane & Venkataraman (2000) has become the most cited work in the Academy of Management Review. Largely as a result of Shane & Venkataraman's (2000) work, the majority of research in entrepreneurship in the past decade has been focused on studying the

entrepreneurial process. Refer to Figure 1 for a graphical overview of the entrepreneurial process and the underlying academic conversations. Next, I discuss each part of the process.

FIGURE 1 – The Entrepreneurial Process



Opportunity Discovery

In seeking to understand the entrepreneurial process, there has been a focus on studying the discovery of opportunities. As the entrepreneurial process focuses on the nexus between entrepreneurs and opportunities (Shane & Venkataraman, 2000), the key issues relating to opportunity discovery have revolved around these two phenomena. The issues most central to understanding opportunity discovery have been isolating the

sources and nature of opportunities and identifying the cognitive processes that play a part in the discovery of opportunities (Alvarez & Barney, 2007; Baron, 2008; Fiet, 2007; Gaglio & Katz, 2001; Sarasvathy, 2001).

An early perspective on opportunity discovery comes from neoclassical economics (Cournot, 1960). The view is based on optimization models designed to illuminate real world problems. The role of the entrepreneur is minimal in such a paradigm. Market processes are equilibrium based and a "shadowy entity without clearly defined form and function", such as an entrepreneur, has no role in it (Baumol, 1968, p. 1). Several other schools of thought have evolved over the years. One perspective is satisficing (Simon, 1976). It refers to a decision making process that takes the shortcut of what is acceptable and settles for the first alternative that meets these minimum requirements. Arguably the most dominant view over the years has been the Austrian perspective. According to its proponents entrepreneurs are in a constant state of "alertness" for opportunities (Kirzner, 1973). It is a process of scanning the environment for available opportunities (Kirzner, 1979). According to Kirzner, alertness leads entrepreneurs to discover potentially lucrative market imperfections which they subsequently exploit in order to profit from buying low and selling high. A number of studies have surfaced over the past decades that seek to bring more understanding to the antecedents and consequences of alertness in an attempt to identify why some individuals are alert and others are not (Cooper, Folta, & Woo, 1995). Further, alertness has been examined at a more global level in order to understand how to increase the number of individuals that are "alert" (Gaglio & Katz, 2001). Despite its influence on entrepreneurship research, the concept of alertness has seen plenty of criticism (Demsetz,

1983; Fiet, 2007). Most of it is as a result of the fact that alertness is a trait-like construct – an individual either has it or not. Further, its critics have rightfully pointed out its subjectivity whereas concluding that it is based on luck and hence of limited pedagogical value (Demsetz, 1983; Fiet, 2007).

A more recent view on how opportunities are discovered is constrained, systematic search (Fiet, 2007). Fiet posits that opportunities are discovered based on a combination of entrepreneurs' prior experience and specific knowledge. Specific knowledge is used to create information channels and consideration sets. Over time information channels are updated based on entrepreneurs' socio-cognitive attributes (Fiet, 2007). Constrained, systematic search is in stark contrast with alertness in that the latter is a subjective phenomenon whereas the prior is an objective phenomenon. The subjectivity vs. objectivity conversation has persisted throughout the past few decades and forms the basis of the current academic conversation on whether opportunities are discovered or created (Alvarez & Barney, 2007).

More broadly, modern views on how entrepreneurial opportunities are discovered can be divided into two categories. Some opportunities arise as a result of the innovative activity of entrepreneurs. These opportunities are said to be created. Such opportunities generally offer a large market-changing innovation and are in line with the creative destruction posited by Schumpeter (1934). Other opportunities arise because of people identifying a potential opportunity as a result of a market imperfection. These opportunities could be as simple as buying something cheaply in one location and selling it for more elsewhere or perhaps as complex as buying inputs, combining them in a new manufacturing process, and selling a new product for a profit. These opportunities are

said to be discovered and are more in line with Kirzner's view on entrepreneurship (1979).

Most of the views I explored so far are consistent with the claim that opportunities are discovered. However, some other important contributions have been made that view opportunities as created. Perhaps the most established of the views is that entrepreneurs effectuate. Effectuation occurs in situations of uncertainty and assumes that entrepreneurs could predict future outcomes based on their prior knowledge and experience (Sarasvathy, 2001).

Another view that warrants mentioning is presented by McMullen and Shepherd (2006). The authors examine entrepreneurial action and conceptualize opportunities as first-person and third-person ones. On the one hand, a first-person opportunity is one which is attractive to the entrepreneur and is consistent with his/her knowledge, skills, and abilities (Haynie, Shepherd, & McMullen, 2009; McMullen & Shepherd, 2006). On the other hand, a third-person opportunity seems like it could have value to someone other than the entrepreneur; perhaps someone who has the knowledge, skills, and abilities to exploit it (Haynie, Shepherd, & McMullen, 2009). This dissertation focuses on and contributes to this view.

Based on the discussion so far, it can be inferred that research on opportunity recognition is fragmented. Scholars have not been able to build cumulative knowledge due to the variety of different explanations posited. The different perspectives offered draw insights from a plethora of academic disciplines such as economics, psychology, sociology, and organizational behavior. Scholars within each of these disciplines have

different paradigms on how the world functions and rely on different assumptions which leads to a variety of opinions and little consensus.

Opportunity Evaluation

Although fragmented, research on the opportunity discovery part of the entrepreneurial process is much more developed than research on the other two parts of the process. This is not surprising since the evaluation and exploitation of opportunities have become a more popular topic of academic study as a result of the delineation of the entrepreneurial domain while the sources of opportunities and the motivations for going into entrepreneurship have been the main focus of entrepreneurship research throughout history (Hebert & Link, 2009; Shane & Venkataraman, 2000).

Following the discovery of an opportunity, entrepreneurs need to decide whether the opportunity is attractive to them or better suited for someone else. In the evaluation part of the entrepreneurial process, therefore, entrepreneurs rate the attractiveness of an opportunity and determine whether it is one that they could exploit (McMullen & Shepherd, 2006). This part of the process is centered on entrepreneurs more so than on opportunities highlighting the cognitive processes entrepreneurs use in the evaluation process. The opportunity evaluation part of the entrepreneurial process has received very scarce attention by scholars. In fact, to the best of my knowledge there are only two studies that explicitly focus on the opportunity evaluation phenomenon. The first study is by Keh, Foo, and Lim (2002). It examines the cognitive processes that influence opportunity evaluation. More specifically, the researchers look at how risk perceptions mediate the effect of overconfidence, planning fallacy, illusion of control, and belief in

the law of small numbers on opportunity evaluation. Keh et al find that illusion of control and belief in the law of small numbers inform how entrepreneurs evaluate opportunities (2002). More specifically, this implies that entrepreneurs may be susceptible to cognitive biases such that they consider a few cases to be representative of a larger population even if this is not the case. The second study by Haynie, Shepherd, and McMullen (2009) explores how entrepreneurs' existing resources inform their evaluation decisions. The findings suggest that entrepreneurs are drawn to opportunities that are related to their knowledge, skills, and abilities. This dissertation focuses on the evaluation part of the entrepreneurial process and builds on the study by Haynie et al (2009) by examining how social capital relatedness along with other individual, environmental and behavioral factors, such as resource considerations, entrepreneurs' dispositional regulatory focus and entrepreneurial passion, influences entrepreneurs' decision making when faced with attractive opportunities.

Opportunity Exploitation

The last part of the entrepreneurial process is exploitation. Once the opportunity has been discovered and deemed attractive, entrepreneurs determine the process of exploiting the opportunity. The key issues relating to exploitation have been deciding on the form of the organization as well as examining decision making following identifying an opportunity as attractive (Choi & Shepherd, 2004; Madhok, 1997). There has been little research on exploitation in the past decade. One study examines what the optimal timing of opportunity exploitation is (Choi, Levesque, & Shepherd, 2008). Further, Hmieleski and Baron use regulatory focus theory to examine opportunity exploitation in

dynamic and static industry environments (2008). Another study uses the RBV to explore the decision heuristics used by entrepreneurs in their opportunity exploitation decisions (Choi & Shepherd, 2004). Additionally, Corbett examines how the different modes of experiential learning affect decision-making within the context of opportunity exploitation (2005). Another study uses transaction cost economics to study the varying modes of entry available to entrepreneurs looking to exploit a lucrative opportunity (Madhok, 1997). Finally, DeCarolis and Saparito explore the relationship between social capital and cognitive biases and use it as an explanation for why some people exploit opportunities whereas others do not (2006).

Overall, we can conclude that there has been good progress in research on the entrepreneurial process. However, there are still a number of issues that researchers need to examine in order to further our understanding of the entrepreneurial process. In the next section, I present the theoretical model along with the underlying theoretical lenses used in its development. Further, I make several hypotheses based on the relationships posited in the model.

CHAPTER 3: THEORETICAL BACKGROUND AND HYPOTHESES

This dissertation develops an integrative model of opportunity evaluation grounded in social cognitive theory. Studying opportunity evaluation is essential as it represents the middle part of the entrepreneurial process and without knowledge of evaluation we cannot study entrepreneurship as a process (McMullen & Shepherd, 2006). Opportunity evaluation represents a suitable context for the application of social cognitive theory in entrepreneurship as multiple forces play a role in entrepreneurs' determination of the attractiveness of an opportunity.

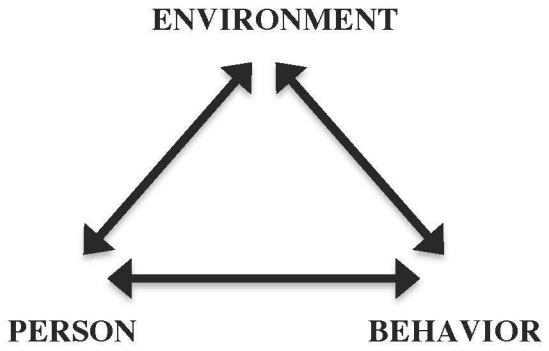
This chapter provides the theoretical foundation I use to develop the model and posit testable hypotheses. I start out with an overview of the model and a discussion of the dependent variable, opportunity evaluation. Then, I present social cognitive theory as the underlying theory. Next, I integrate resources as the environmental factor in the model. Then, I incorporate the two individual factors, social capital relatedness and entrepreneurial expertise into the model. I examine how social capital relatedness affects opportunity evaluation. Additionally, I study entrepreneurial expertise and examine whether it has a moderating effect on the social capital relatedness and evaluation relationship. Finally, I incorporate two behavioral factors into the model. I examine how entrepreneurs' dispositional regulatory focus influences evaluation. Further, I draw on the entrepreneurial passion literature to examine its effects on opportunity evaluation

decisions. Throughout the chapter I introduce several hypotheses to specify the proposed relationships.

Social Cognitive Theory and Evaluation

Very few topics in entrepreneurship have received as much attention as the entrepreneurial process (Gregoire, Noel, Dery, & Bechard, 2006). It focuses on the nexus between the entrepreneur and the opportunity. More specifically, the entrepreneurial process consists of the discovery, evaluation and exploitation of opportunities to create future goods and services (Shane & Venkataraman, 2000). Despite growing interest in studying the entrepreneurial process, however, more needs to be known about the specific factors that influence entrepreneurs' judgment on the attractiveness of opportunities specifically in the evaluation phase of the entrepreneurial process. Social cognitive theory has significant potential for influencing entrepreneurial activity and offers a useful lens through which to examine the evaluation process (Mitchell, Busenitz, Lant, McDougall, Morse, & Smith, 2002). The theory posits that 1) the person and his/her internal cognitions, 2) the focal behavior and 3) the environment reciprocally interact to explain individual actions. Figure 2 depicts this relationship.

FIGURE 2 – Social Cognition (Bandura, 1986)



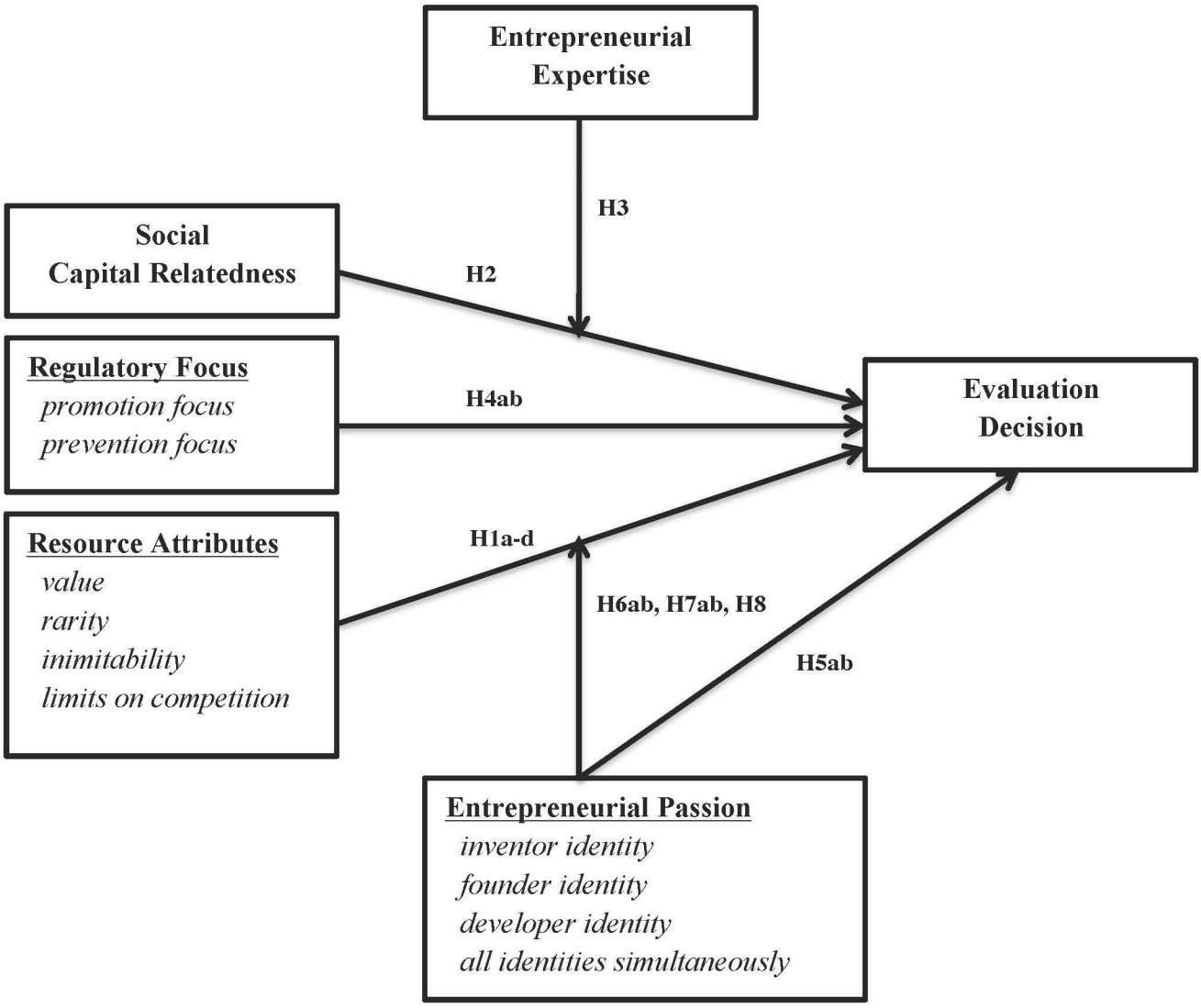
According to social cognitive theory, the basis for an actor's actions comes from how the actor interacts with people and situations. Indeed, "social psychologists agree that individual behavior is strongly influenced by the environment, especially the social environment; the person does not function in an individualistic vacuum, but in a social context that influences thought, feeling, and action" (Taylor, 1998, p. 3). Therefore, in order to understand cognition in an entrepreneurial context, it is essential to understand the goals, emotions, and motivations of the individual actor within the context of the interaction between situation and people. It is not possible to separate the actor from the environment as inputs from the environment play an important role in the actor's reasoning. The opportunity evaluation decision presents a suitable context to apply the predictions of social cognitive theory as the evaluation decision is made in lieu of the interacting environmental, behavioral and individual forces (Bandura, 1989; Holland & Shepherd, 2012). In this respect, entrepreneurs are often constrained by lack of resources or their own mental and behavioral processes. As a result, they may not experience or take advantage of otherwise lucrative opportunities.

An Integrative Model of Opportunity Evaluation

In this dissertation, therefore, I focus on developing an integrative model of opportunity evaluation that takes into account the environmental, individual and behavioral factors as described by social cognition theory. The dependent variable in the model is opportunity evaluation measured as entrepreneurs' judgment of the attractiveness of an opportunity. Within the boundary conditions of the entrepreneurial process, the model starts immediately after the discovery stage is over. An entrepreneur

has identified a potential opportunity and now needs to establish whether the opportunity is suitable for him/her. Ultimately, if the evaluation phase results in a judgment that is sufficiently motivating, the entrepreneur will decide to exploit the opportunity and the exploitation stage will commence. The decision to exploit an opportunity often involves entrepreneurs having to make a trade-off between the environmental, behavioral and individual factors influencing decision-making. In typical entrepreneurial situations where resources are limited, the relative difference and trade-off between the expectancies about the future value of resources is the driving motivational force behind the decisions. The model posited in this dissertation allows for examining these trade-offs and studying the importance of each of the different factors included in it. I consider individual and behavioral factors in the context of the environment as represented by resources. The individual factors I incorporate in the model are the relatedness of the opportunity to entrepreneurs' social capital and the entrepreneurs' experience. The behavioral factors I consider are entrepreneurs' regulatory focus orientation and entrepreneurial passion. Figure 3 depicts the theoretical model developed in this dissertation.

FIGURE 3 – Conceptual Model



Notes: ***environmental factor:*** *resource attributes;* ***individual factors:*** *entrepreneurial expertise and social capital relatedness;* ***behavioral factors:*** *regulatory focus and entrepreneurial passion* ***measured variables:*** *entrepreneurial expertise, regulatory focus, entrepreneurial passion;* ***manipulated variables:*** *resources attributes and social capital relatedness;* ***control variables:*** *age, gender, education, race, firm size, firm age (not shown in concept model, for clarity)*

Resources as the Environmental Factor

Haynie et al (2009) emphasized the use of resources in the evaluation of entrepreneurial opportunities as a framework to develop a model of opportunity evaluation. A resource is a tangible or an intangible asset that is used in the process of building, operating, and/or harvesting a business (Mosakowski, 1998). Entrepreneurial resources could include having a network of contacts that could be called upon to contribute knowledge, expertise, or financial support, having sources of financing through a financier, or having personal knowledge, experience, or expertise in running the venture (Aldrich & Zimmer, 1986; Barney, 1991; Mosakowski, 1998). Resources play a key role in all aspects of the entrepreneurial process and often inform the environmental context for many entrepreneurs (Choi & Shepherd, 2004; Fiet, 1996; Haynie, Shepherd, & McMullen, 2009). For example, many entrepreneurs are resource-constrained contributing to a "hostile" environment in which to start a business.

The framework most widely associated with the use of resources in an entrepreneurial context is the resource-based view (Barney, 1991). While surfacing within the field of management strategy with the aim of explaining sources of competitive advantage, the resource-based view has been used to explain a plethora of phenomena in various other fields like human resource management, economics, marketing, and international business (Barney, Ketchen Jr., & Wright, 2011). Due to its beginnings in the field of strategy, the RBV is generally considered a firm-level theory. The underlying level of analysis of the theory, however, is the individual resource, which in fact is one of the unique characteristics of the theory (Foss & Knudsen, 2003). As a result, the RBV has been used in studies where the level of analysis is the individual (e.g.

Choi & Shepherd, 2004). Indeed, the emergence of the resource-based view emphasizes the important role resources play for companies in the various stages of the firm life cycle (Barney, 1991), but also for entrepreneurs. The domain of entrepreneurship explores issues relating to the nexus between the individual and the opportunity and studies within entrepreneurship utilizing the RBV would be just as likely to focus on the start-up firm as well as the individual entrepreneur. Thus, not surprisingly, there is growing interest in RBV as part of the entrepreneurial process. Resources play a key role in decisions related to discovery, evaluation, and exploitation of opportunities (Haynie, Shepherd, & McMullen, 2009). On the positive side, the availability of resources could affect the ability to find opportunities by giving entrepreneurs access to more information channels and consideration sets (Fiet, 1996). On the negative side, access to resources could limit opportunity choice. Resources also play an important role in the exploitation of opportunities. For example, the presence of resources makes it more likely an entrepreneur would exploit an opportunity (Choi & Shepherd, 2004).

This dissertation makes several assumptions consistent with Haynie, Shepherd, and McMullen (2009). First, Haynie et al (2009) emphasize the importance of considering both the structure and the content of the decision schema applied to opportunity evaluation decisions (Haynie, Shepherd, & McMullen, 2009, p. 340). I consider structure by viewing evaluation decisions as future-oriented phenomena (Haynie, Shepherd, & McMullen, 2009; Kassin & Pryor, 1985). More specifically, evaluation is largely a result of the expectations for the current resources available to entrepreneurs as well as future resources they might expect to acquire (Haynie, Shepherd, & McMullen, 2009). I assume that entrepreneurs make opportunity evaluation judgments

with view of the future while considering the potential of their current and future resources to provide a competitive advantage (Haynie, Shepherd, & McMullen, 2009). That is, entrepreneurs make the evaluation decision with regards to the future gains they expect from the opportunity (Haynie, Shepherd, & McMullen, 2009). I consider content by examining entrepreneurs' consideration of the potential of existing and future opportunities to generate a competitive advantage for the firm. Opportunity evaluation is, therefore, influenced by entrepreneurs' perception of the characteristics of the resources an opportunity could provide for them. These characteristics can be broken down into four decision attributes: 1) resource rarity, 2) resource value, 3) resource imitability and 4) resource potential to limit competitive response (Haynie, Shepherd, & McMullen, 2009). That is, entrepreneurs make a judgment on the wealth-generating potential of the opportunity based on the characteristics (e.g. rare, valuable, inimitable, limits competitive response) of the current and future resources they expect to acquire (Haynie, Shepherd, & McMullen, 2009).

Second, consistent with Haynie et al (2009), I view decision schemas on opportunity evaluation as defined by the considerations of resources. I consider both existing resources that are already under the control of the entrepreneur as well as future resources that would be acquired in order to exploit the opportunity under evaluation. Third, in order to explore opportunity evaluation in detail, one first needs to have a clear conceptualization of opportunity discovery because evaluation cannot occur without the identification of an opportunity. For the purpose of this dissertation I am consistent with McMullen and Shepherd's (2006) view on opportunity discovery which characterizes opportunities as either third-person or first-person ones. Opportunities that somebody, not

necessarily the entrepreneur, recognizes and can subsequently exploit are third-person opportunities. In other words, these are opportunities that the entrepreneur has identified as being suitable for somebody other than him/her. Opportunities that, following discovery, a potential entrepreneur may choose to exploit are first-person opportunities. In other words, these are opportunities that the entrepreneur thinks are suitable for him/her. This view on opportunity discovery ties in well with studying opportunity evaluation. Compared to other views, it sheds more light on the phenomenon by focusing on how entrepreneurs perceive the opportunity allowing for a deeper examination of the issue. Evaluation happens following the identification of an opportunity. Entrepreneurs evaluate the opportunity and determine whether it is one that is suitable for them or for a third party. Therefore, in the evaluation part of the entrepreneurial process, entrepreneurs make a judgment on the attractiveness of the opportunity they have discovered and decide whether it is an opportunity *for them* to exploit.

According to the RBV, a venture's success is a factor of its access to resources that are valuable, rare, inimitable and that restrict the competition (Barney, 1991; Peteraf, 1993). Resources that are valuable have the potential to increase the venture's worth due to improvements in efficiency and effectiveness in processes (Barney, 1991). Resources that are rare are only available to a very limited number of constituents with information about them scarce (Barney, 1991). Resources that are inimitable have certain characteristics that make them difficult to replicate and therefore allow entrepreneurs to retain exclusive access to them (Barney, 1991). Resources that put a limit on the competition have characteristics that make the market position resulting from exploitation of the opportunity defensible (Peteraf, 1993). It is access to resources that are valuable,

rare, inimitable and restrict the competition that differentiates successful companies from average or failing ones (Barney, 1991; Wernerfelt, 1984). Therefore, consistent with the prescriptions of RBV, I hypothesize that the more resources that are valuable, rare, inimitable or limit competitive response an opportunity promises, the more attractive it will be to the entrepreneur.

H1a: The more valuable resources an opportunity promises, the more attractive it will be to the entrepreneur.

H1b: The more rare resources an opportunity promises, the more attractive it will be to the entrepreneur.

H1c: The more inimitable resources an opportunity promises, the more attractive it will be to the entrepreneur.

H1d: The more resources that limit competitive response an opportunity promises, the more attractive it will be to the entrepreneur.

Social Capital Relatedness as an Individual Factor

Social cognitive theory is consistent with prior research in entrepreneurship in suggesting that the opportunity evaluation decision is based not only on factors related to the opportunity and the environment but also on individual factors (Shane, 2003). This view builds on the notion that evaluation is influenced by opportunity factors, such as financial and nonfinancial benefits (Gimeno, Folta, Cooper, & Woo, 1997) or individual characteristics and cognitive processes, such as the human capital of entrepreneurs and

their perception of risk (Haynie, Shepherd, & McMullen, 2009; Keh, Foo, & Lim, 2002). Factors pertaining to environmental forces such as opportunity characteristics alone are not enough to explain human behavior in its entirety, however (Bandura, 1986). Further, prior research in the domain of entrepreneurship suggests that individual factors alone are not sufficient in predicting entrepreneurial behavior (Shane, 2003). To better understand opportunity evaluation on a more than superficial level, individual factors should interact with environmental factors. Therefore, I incorporate two individual factors into the theorized model – social capital relatedness and entrepreneurial expertise. I first discuss social capital relatedness, which is a construct that can be associated with social capital theory.

Social capital theory is one of the more widely used theories in organizational studies research. Interest in the theory spiked in the early 90s and has continued to grow since then. In a way research on social capital is similar to research on entrepreneurship in that there is little agreement on the definition of the term leading to inconclusive and occasionally conflicting empirical results. For this dissertation I follow Adler & Kwon's view on the classification of definitions of social capital (2002). The authors identify three broad groups of definitions of social capital. The first group, bonding views, focuses primarily on the internal characteristics of the collective actors in a network and how these characteristics aid in the pursuit of collective goals. Key with these definitions is the fact that social capital is defined by its function inside of a network (Coleman, 1990). The second group, bridging views, focuses on social capital as a resource that is embedded in a social network connecting a single leading actor to outside actors located in the external connections of the leading actor. Baker defines this dimension of social

capital as a resource that actors derive from the social structure and subsequently use to pursue their own interests (1990). The third dimension is more neutral compared to the other two and does not focus on either internal or external issues. This group of definitions views social capital as "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit" (Nahapiet & Ghoshal, 1998, p. 243). It is this last group of definitions that I focus on in this dissertation. I simply study the resources entrepreneurs have access to through their social capital. Therefore, I define social capital in an entrepreneurial context as the resources embedded within an entrepreneur's network of relationships that are available to the entrepreneur in his entrepreneurial endeavors (Nahapiet & Ghoshal, 1998).

Based on extant research, social capital plays an important role in the entrepreneurial process. For example, it facilitates the discovery process by exposing entrepreneurs to new ideas and perspectives (Aldrich & Zimmer, 1986). Further, social capital aids resource acquisition and allocation as well as the diffusion of critical information which plays part in the exploitation process (Birley, 1985). Moreover, successful exploitation of an opportunity entails developing various organizational processes such as production and marketing. The influence of social capital on opportunity evaluation has not been explored in detail in extant literature. It is logical to assume that social capital plays an important role in evaluation decisions. When entrepreneurs evaluate opportunities they are likely to choose opportunities that relate to their human capital (Haynie, Shepherd, & McMullen, 2009). However, following a similar logic, I argue that entrepreneurs would also be likely to favor opportunities that

relate to resources within their networks. In terms of examining social capital using a resource perspective I focus on the judgment of entrepreneurs on the relatedness of the opportunity to their social networks. This integration is done in the context of the opportunity evaluation decision. This focus on relatedness is consistent with prior work on social capital and in entrepreneurship. Entrepreneurs require information, capital, skills, and labor to start business activities. They often hold some of these resources themselves, but in a lot of instances they complement their resources by accessing their contacts (Aldrich & Zimmer, 1986; Cooper, Folta, & Woo, 1995). These contacts are people that the entrepreneur knows, or who are known by others that the entrepreneur knows and represent his/her social capital. These relations may extend across professional networks, reaching friends, and colleagues from earlier professional commitments. Often, entrepreneurs are presented with opportunities that require skills or expertise different from entrepreneurs'. In such instances, entrepreneurs will rely on their network of relationships in order to exploit an opportunity. This illustrates the notion of social capital relatedness of entrepreneurial opportunities. I define it as the extent to which an opportunity is related to the entrepreneur's network of relationships. I incorporate social capital relatedness into the theorized model as a decision-level attribute similar to the four resource attributes posited by the resource-based view. Consistent with Aldrich & Zimmer (1986) and Mosakowski (1998), I treat the existence of social capital in the form of a network of contacts that could be called upon to contribute knowledge, expertise, or financial support as an entrepreneurial resource. In this way, consistent with Haynie et al (2009), I view the content of opportunity evaluation schemas as defined by considerations of resources; both (1) the existing resources which may be employed to

exploit the opportunity under evaluation, as well as (2) an assessment of the future, wealth generating resources that would be utilized in order to exploit the opportunity under evaluation.

Social Capital Relatedness and Resources

Incorporating RBV (Barney, 1991; Peteraf, 1993) with social capital theory, I suggest that in the context of the evaluation decision, entrepreneurs will be more likely to find opportunities relating to resources within their networks more attractive. Since social capital of entrepreneurs contains the resources embedded in their networks of social relationships, having more resources will allow entrepreneurs more strategic choices in exploiting opportunities. In an uncertain entrepreneurial environment, having more options could mean more flexibility (Knight, 2006). Further, having more options will be more likely to increase entrepreneurs' confidence level that they can successfully exploit an opportunity. Therefore, when assessing an opportunity and its chance of creating a sustainable competitive advantage, it is logical to assume that entrepreneurs will favor situations in which they have social capital that is related to the opportunity. In other words:

H2: The more related an opportunity is to an entrepreneur's social capital, the more attractive it will be to the entrepreneur.

The Moderating Effect of Entrepreneurial Expertise

The other individual factor I incorporate into the model is entrepreneurial expertise. Extant research on entrepreneurial cognition suggests that theories developed in expert–novice studies in cognitive psychology can potentially illuminate important aspects of the entrepreneurial process including how experienced entrepreneurs acquire and use useful cognitive frameworks (Mitchell, Smith, Seawright, & Morse, 2000; Ensley & Baron, 2006). Studying entrepreneurial expertise in more detail is also important because prior research posits that experts frame information differently compared to novices and therefore rely on cues and heuristics not available to novices that could affect entrepreneurial decision-making. Specifically, expertise is an important human capital variable that is likely to affect the evaluation of opportunities. In fact, Haynie, Shepherd, and McMullen (2009, p. 356) suggest that future research should examine with "more fine-grained" detail the effects of entrepreneurial expertise in evaluation decisions. The authors study how the relatedness of an opportunity to the skills, knowledge, and experience of an entrepreneur affects decision-making related to opportunity evaluation. They find that entrepreneurs will favor opportunities that relate to their stock of human capital (Haynie, Shepherd, & McMullen, 2009). Yet, we know little of whether this relationship persists in the face of other important factors that play a role in evaluation, such as the relatedness of the opportunity to the social capital of the entrepreneur. Indeed, studying entrepreneurial expertise is important because we know little of how human capital and social capital interact in decision making related to the entrepreneurial process.

Extant research suggests that one experience does not necessarily constitute sufficient stock of experience to impact outcomes (Reuber & Fischer, 1999). Instead, it is the accumulation of experience across multiple ventures that constitutes expertise. I argue that entrepreneurs who have started more ventures, as experts, will have formed a plethora of knowledge, skill, and confidence that will make them more likely, as opposed to less experienced entrepreneurs, to rely on themselves. Coupled with the fact that entrepreneurs tend to be overconfident (Bazerman, 1990; Forbes, 2005), increasing the likelihood that entrepreneurs will trust themselves, I posit that entrepreneurs who have more experience will be less likely to rely on their social networks when judging the attractiveness of an opportunity. In other words:

H3: The positive relationship between social capital relatedness and opportunity attractiveness is weakened for entrepreneurs who have more experience in starting business ventures.

Regulatory Focus as a Behavioral Factor

According to social cognitive theory environmental and individual factors interact with behavioral factors. Indeed, in an opportunity evaluation context all three sets of factors play an important role on the judgment on the attractiveness of an opportunity (Shane, 2003). Therefore, I incorporate two behavioral factors into the model. First, I look into the role of entrepreneurs' regulatory focus. Next, I study the effects of entrepreneurs' passion identity on the evaluation decision.

A behavioral phenomenon that is theorized to influence the entrepreneurial process is regulatory focus theory. It suggests that people pursue goals using different

decision making schemas (Higgins, 1997). To this extent, regulatory focus theory is a goal-pursuit theory based on the basic principle that people welcome pleasure and avoid pain. According to the theory some individuals pursue their goals and motivations by relentlessly chasing pleasure in an attempt to fulfill their need for achievement. Such individuals are motivated by success and are more likely to strive to maximize their gains. Individuals who subscribe to such an orientation are said to have a promotion focus (Higgins, 1997). The other set of individuals depicted by the theory are ones who accomplish their goals and motivations as a way to avoid failure and fulfill their need for safety. Individuals with such an orientation aim to minimize their pitfalls and are said to have a prevention focus (Higgins, 1997). For example, consider an entrepreneur whose venture has had a considerable growth in the past few years. To ensure the venture capitalizes on this growth in the future the entrepreneur requires venture capital funding. On the one hand, if the entrepreneur has promotion focus he/she would strive to secure the venture capital funding because this would maximize the value of the venture triggering the entrepreneur's achievement goals. On the other hand, if the entrepreneur has a prevention focus he/she may be hesitant to pursue venture funding due to the potential loss of control which would trigger the entrepreneur's security needs.

In this dissertation I am consistent with Higgins' (1997) definition of a regulatory focus orientation. The author defines it as a chronic behavioral characteristic (Higgins, 1997; Higgins, Shah, & Friedman, 1997; Higgins & Silberman, 1998). That is, a person's regulatory focus develops in early childhood and remains stable over time in adulthood (Higgins, 1998). This point is further clarified in Brockner & Higgins (2001) where the authors divide regulatory focus in two components, dispositional and situational.

Dispositional regulatory focus is more stable and is similar in a way to personality traits such as the Big Five (Goldberg, 1990) and locus of control (Rotter, 1954). Situational regulatory focus is different in that it is temporary and can be induced by situational factors. For example, on the one hand, if entrepreneurs are told by financiers that exceeding by 20% the previously agreed upon milestones in terms of firm performance would gain them an extra round of financing would be prompted to use promotion focus because the potential extra rewards from an extra round of financing would trigger their achievement needs. On the other hand, if entrepreneurs are told that meeting the performance milestones would prevent them from losing next round of financing, they would be induced to use situational prevention focus because the potential financial hit would trigger their safety needs. In both cases, after a period of time the promotion or prevention focus induced in the situation would diminish and each individual entrepreneur would revert back to their dispositional regulatory focus.

The focus of this dissertation is on dispositional regulatory focus. In the evaluation stage of the entrepreneurial process there are various opportunity and personal factors at play that provide mixed situational regulatory focus cues. Such a mix of situational promotion focus and prevention focus cues could influence the evaluation decision in different ways and therefore it would be difficult to isolate the situational focus. Further, the decision to start a business is a major one so dispositional regulatory focus tendencies would be more likely to provide influence on the entrepreneur's judgment of the attractiveness of the opportunities because they are not temporary and would therefore bear higher importance (Brockner & Higgins, 2001).

Entrepreneurial activities often come as a result of the entrepreneurs' affective state (Baron, 2008; Cardon, Wincent, Singh, & Drnovsek, 2009) and are thus likely to induce various emotional outcomes. As a result, researchers have suggested that regulatory focus theory is suitable for explaining phenomena associated with the entrepreneurial process (Baron, 2004; Brockner, Higgins, & Low, 2004; Hmieleski & Baron, 2008). Indeed, the theory has been used in a number of articles exploring its effect on the entrepreneurial process. For example, Baron applies a regulatory focus lens to examining the opportunity discovery process (2002). The author argues that, on the one hand, individuals with a dispositional promotion regulatory focus would be more likely to search for potential opportunities because of their inherent motivation to achieve gains. Conversely, Baron argues that individuals with a dispositional prevention regulatory focus would be more cautious and less likely to proactively search and identify opportunities due to their need for security prompting them to try to avoid making errors (2002). Hmieleski and Baron (2008) provide us with another study that applies regulatory focus theory to the entrepreneurial process. In their study the authors focus on the exploitation phase of the entrepreneurial process and argue that a promotion focus would have a positive influence on firm performance in dynamic industries whereas a prevention focus would have a negative influence on firm performance in dynamic industries. Further, the authors find that neither promotion nor prevention focus has any impact on new venture performance in stable industries. In another research that explores the entrepreneurial process through a regulatory focus lens, Brockner, Higgins, and Low (2004) discuss the impact of regulatory focus on all phases of the entrepreneurial process. In their theoretical work, the authors argue that a combination of both promotion and

prevention foci will increase the chance of entrepreneurial success. Further, the authors identify which of the two regulatory foci would be more advantageous in each phase. For example, in discovery activities, such as idea generation, greater promotion focus is necessary. In evaluation and exploitation activities, such as screening ideas, greater prevention focus is necessary. The work of Brockner et al (2004) does not provide any empirical evidence on the role of regulatory focus in the entrepreneurial process, however. Further, to the best of my knowledge there are no empirical studies examining the role of regulatory focus on the evaluation phase of the entrepreneurial process.

Regulatory Focus and Opportunity Evaluation

According to established theories of motivation individuals differ in their motivation needs (Herzberg, Mausner, & Snyderman, 1993; Maslow, Frager, & Fadiman, 1970). On the one hand, Herzberg studied individuals within an organizational context and found that certain factors, such as extra responsibility, recognition, and promotion, motivate one type of employees to work harder whereas other factors, such as having safe working conditions and a reasonable level of pay, motivate the other type of employees (Herzberg, Mausner, & Snyderman, 1993). On the other hand, Maslow studied individuals in general and found that the motivation needs of individuals could be structured into a hierarchy and only after a lower level of need has been met, would a worker be motivated by the opportunity of having the next motivation need up in the hierarchy satisfied (Maslow, Frager, & Fadiman, 1970). As an extension to these theories, regulatory focus theory is consistent in that it posits that one type of individuals would put a higher priority to their need for personal or career growth and achievement

whereas other type of individuals would put a higher priority to their need for security (Brockner & Higgins, 2001). Applying the theory to the context of the entrepreneurial opportunity evaluation decision, I posit that promotion-focused entrepreneurs will be more motivated by activities that could meet their achievement needs and will be more likely to pursue such activities. Entrepreneurship in its core involves a plethora of tasks that fulfill the entrepreneurs' need for achievement such as collecting resources, securing and negotiating financing, growing the start-up, etc. (Brockhaus & Horowitz, 1986; McClelland, 1965). Logically, entrepreneurs that have a dispositional promotion focus would be more likely to perceive entrepreneurial opportunities as more attractive than they might be because entrepreneurs view such opportunities as possible venues that would fulfill their need for achievement. In other words:

H4a: Entrepreneurs' dispositional promotion orientations are positively related to opportunity attractiveness.

In contrast, entrepreneurs with high dispositional prevention focus orientations will be more motivated by tasks that are more consistent with their need for security. Entrepreneurship involves high amount of risk and uncertainty (Knight, 2006) which can be in conflict with entrepreneurs' security needs in that higher risk and uncertainty will make it more likely that unexpected factors might contribute to the downfall of the business. Logically, entrepreneurs that have dispositional prevention focus will be more likely to perceive entrepreneurial opportunities as less attractive than they might be because entrepreneurs view such opportunities as potential threats to their need for security. In other words:

H4b: Entrepreneurs' dispositional prevention orientations are negatively related to opportunity attractiveness.

Entrepreneurial Passion as a Behavioral Factor

Another behavioral factor that is likely to play a part in the evaluation process is entrepreneurial passion (Cardon, Zietsma, Saparito, Matherne, & Davis, 2005). It is defined as the "intense positive feelings" entrepreneurs experience when faced with activities that are central and meaningful to their self-identity (Cardon, Wincent, Singh, & Drnovsek, 2009). Entrepreneurial passion is not an inherent trait that predisposes entrepreneurs to positive feelings associated with it. Instead, passion is the result of entrepreneurs' engagement in something that that they identify with and is meaningful to them. Consistent with this notion and the further work of Cardon, Gregoire, Stevens, and Patel (2013) and Vallerand et al (2003), I assume entrepreneurial passion is an affective state as opposed to an inherent personality trait. That is, feelings and emotion determine behavior. As an affective state, passion is likely to influence evaluation decisions due to its influence on the cognitive processes of an entrepreneur (Baron, 2008). In other words, entrepreneurs' feelings and emotions affect decision making.

Due to this link to cognition, extant research theorizes entrepreneurial passion to be at "the heart of entrepreneurship" playing an important role in all aspects of the entrepreneurial process (Cardon, Zietsma, Saparito, Matherne, & Davis, 2005). Indeed, entrepreneurial passion can influence how entrepreneurs perceive opportunities and how they acquire resources (Baron, 2008). Further, it can affect how entrepreneurs recognize

complex patterns, which in turn can inform entrepreneurial behavior in lieu of potential opportunities (Baron & Ward, 2004). Entrepreneurial passion has also been linked to motivation and innovative behavior (Bierly, Kessler, & Christensen, 2000). Additionally, it is found to be a main driver for entrepreneurial persistence and optimism when faced with overwhelming odds (Bird, 1989). Finally, there is evidence that entrepreneurial passion has an effect on entrepreneurs' likelihood of raising funds from investors (Mitteness, Sudek, & Cardon, 2012).

Often entrepreneurial passion has been used to explain irrational behavior on the part of the entrepreneur (Cardon, Wincent, Singh, & Drnovsek, 2009). Indeed, entrepreneurship tales in the media and in the classroom are full of such stories. Take the story of Jeff Bezos at Amazon, for example. His company was posting losses for over six years before it finally became profitable. Or take the story of Howard Schultz as another example. Schultz struggled for over a year to get a job at a small coffeehouse in Seattle, named Starbucks. After finally getting his wish Schultz transformed the small coffeehouse into a global phenomenon with thousands of stores across the globe. Yet, despite the seemingly ubiquitous nature of passion in the entrepreneurial process, to the best of my knowledge no systematic research has looked at the role of passion on the process of evaluating opportunities. There is work investigating the effects of entrepreneurial passion on the discovery and exploitation of opportunities but not on evaluation (e.g. Baron, 2008). Examining what effects entrepreneurial passion has on how entrepreneurs assess opportunities is essential in understanding the entrepreneurial process as we need this knowledge to link phenomena associated with discovery and

exploitation and study entrepreneurship as a process (Haynie, Shepherd, & McMullen, 2009; Shane & Venkataraman, 2000).

Cardon, Wincent, Singh, and Drnovsek (2009) assert that there are three domains of entrepreneurial passion. Passion for inventing is exhibited by entrepreneurs who like to identify potential market needs and develop new products or services that meet those needs. Passion for founding reflects entrepreneurs' positive feelings toward undertaking all the activities that lead up to the launch of a new company. Passion for developing is exhibited by entrepreneurs who enjoy the process of taking an already existing opportunity and growing it into a viable business. The notion that self-identity plays an important role in inducing entrepreneurial passion allows for linking these domains to three common identities entrepreneurs fall under – an inventor identity, a founder identity and a developer identity. These identities stimulate entrepreneurs to engage in specific activities associated with the entrepreneurial process (Cardon, Wincent, Singh, & Drnovsek, 2009). For example, entrepreneurs with an inventor identity pursue entrepreneurial goals in line with the discovery part of the entrepreneurial process. Alternatively, entrepreneurs with a founder identity pursue goals consistent with evaluation whereas entrepreneurs with a developer identity pursue goals that deal with venture growth (post-exploitation stage). Further, when a single identity is dominant, entrepreneurs may disengage from activities associated with other identities. For example, when an entrepreneur has a dominant inventor identity, he/she may shy away from participating in activities associated with the other identities such as evaluating or exploiting opportunities. I would like to note that I am not saying that inventors will *always* avoid being a part of evaluating or exploiting opportunities or developers will

never engage in discovering opportunities and will prefer developing already existing businesses. In fact, it is not necessary that entrepreneurs will have one single identity that is truly dominant. Indeed, it is possible that entrepreneurs may have multiple identities with none clearly dominant (Cardon, Wincent, Singh, & Drnovsek, 2009). This notion of dominant passion identity illustrates the importance of identifying what role identity induces passion for entrepreneurs.

Entrepreneurial Passion and Evaluation

I explore the notion of dominant identity with the next set of hypotheses. First, I explore whether each passion identity affects how entrepreneurs perceive the attractiveness of opportunities. Extant research indicates that entrepreneurs with an inventor identity pursue entrepreneurial goals in line with the discovery part of the entrepreneurial process, entrepreneurs with a founder identity pursue goals consistent with evaluation and entrepreneurs with a developer identity pursue goals that deal with exploitation and venture growth (Cardon, Wincent, Singh, & Drnovsek, 2009). Therefore, it is consistent to expect that founders will be more enthusiastic in the evaluation stage and as a result will rate the attractiveness of opportunities higher. In other words:

> *H5a: In the context of the opportunity evaluation decision, founder passion identity is positively related to opportunity attractiveness.*

As I previously discussed, it is not necessary that entrepreneurs will have one single identity that is truly dominant. Indeed, it is possible that entrepreneurs may have multiple

identities with none clearly dominant (Cardon, Wincent, Singh, & Drnovsek, 2009). I argue that people who are highly passionate in all three dimensions of entrepreneurial passion will tend to find more opportunities attractive because to such people finding an opportunity means they can do what they are passionate about – be an entrepreneur. In other words:

> *H5b: In the context of the opportunity evaluation decision, simultaneous high passion for founding, inventing and developing is positively related to opportunity attractiveness.*

Entrepreneurial Passion and Resources

In this dissertation I also argue that entrepreneurs' passion identity will have a moderating effect on opportunity evaluation decisions through influencing entrepreneurs' perception of the current and future resources the opportunity is likely to produce. Resource considerations are an environmental factor so I argue that a behavioral factor, such as passion identity, will influence evaluation through an interaction with an environmental factor, such as resource considerations associated with an opportunity. In extant literature we have evidence that there is indeed an interaction between resources and passion identity (Baron, 2008). Yet, we do not know the nature of this interaction and whether it persists in the evaluation stage of the entrepreneurial process. For example, are entrepreneurs with different dominant identities likely to emphasize resources with different characteristics? In other words, could inventors be likely to favor acquiring resources that are inimitable as opposed to ones that are valuable or could founders be likely to favor acquiring resources that are rare?

According to the RBV, resources that are rare and valuable could only provide a company with a temporary competitive advantage (Barney, 2002). In an ever-changing environment fueled by technological change, it is indeed logical that it does not take long for value to be replicated and for rare to become common. In order for a company to attain a sustainable competitive advantage, it needs to acquire resources that, in addition to valuable and rare, are also inimitable and restrict competition (Barney, 2002; Peteraf, 1993). Entrepreneurs with high passion for developing experience positive affect when they engage in activities that revolve around making their company successful in the long-run (Cardon, Wincent, Singh, & Drnovsek, 2009). For example, such entrepreneurs will enjoy developing new markets and optimizing organizational processes. Entrepreneurs with high passion for developing will therefore have a long-term perspective on building a successful company when evaluating opportunities. By integrating RBV, I posit that, when evaluating opportunities, entrepreneurs with a developer identity will be more likely to favor resources that could provide their company with a sustainable competitive advantage and will therefore emphasize resources that are inimitable and put a limit on the competition because of the consistency with entrepreneurs' developer identity. In other words:

H6a: The higher the relative level of perceived inimitable resources an opportunity promises, the more attractive the opportunity will be for entrepreneurs with a developer identity.

H6b: The higher the relative level of perceived resources that limit competitive response an opportunity promises, the more attractive the opportunity will be for entrepreneurs with a developer identity.

Alternatively, entrepreneurs with high passion for founding experience positive affect when they engage in activities that revolve around starting a new firm (Cardon, Wincent, Singh, & Drnovsek, 2009). For example, such entrepreneurs will enjoy recruiting financiers and raising capital as well as choosing the organizational form of their business. They will enter into entrepreneurship with the clear vision of a quick exit en route to founding another profitable venture in the future. Since resources that are inimitable and put a limit on the competition are less common making them more costly to find and acquire, entrepreneurs with a founder identity will favor resources that are rare and valuable. Such resources will provide them with efficient means to attain a temporary competitive advantage which they can capitalize on in the short-run before moving on to another venture. In other words:

H7a: The higher the relative level of perceived valuable resources an opportunity promises, the more attractive the opportunity will be for entrepreneurs with a founder identity.

H7b: The higher the relative level of perceived rare resources an opportunity promises, the more attractive the opportunity will be for entrepreneurs with a founder identity.

In contrast, entrepreneurs with high passion for inventing experience positive affect when they engage in activities that allow them to come up with new ideas for products or services (Cardon, Wincent, Singh, & Drnovsek, 2009). For example, such entrepreneurs will enjoy discovering and developing new prototypes for products. Markman, Espina, and Phan (2004) find that resource inimitability is significantly related to new product introductions. This implies that inventors value inimitable resources.

Therefore, I argue that entrepreneurs with an inventor passion identity may give precedence to resources that are inimitable as such resources could be used in the development of prototypes that would allow for unique inventions consistent with entrepreneurs' passion identity. In other words:

H8: The higher the relative level of perceived inimitable resources an opportunity promises, the more attractive the opportunity will be for entrepreneurs with an inventor identity.

CHAPTER 4: RESEARCH METHODS

In this chapter I examine the research methods I use to test the proposed hypotheses developed in chapter 3. I proceed by first discussing the design and sample of the study followed by a detailed overview of the measures used in it and the data analysis used to test the hypotheses.

Conjoint Experiment Design

In this study I seek to explore the decision policies of entrepreneurs in the context of opportunity evaluation decisions. A conjoint experiment design provides an appropriate method in accomplishing this task (Shepherd & Zacharakis, 1997). It requires respondents to make a series of judgments that are based on sample scenarios developed by the researcher. These scenarios require respondents to make a series of trade-offs to isolate the relative importance of each of the attributes studied. What makes the method effective at studying decision-making is that it allows for the decomposition of decisions into individual attributes (Shepherd & Zacharakis, 1997). This, then, allows the researcher to study the direct and indirect effects of the decision attributes on potential constructs of interest, as well as possible two-way interactions among the decision attributes.

For example, consider an entrepreneur who has developed a way of manufacturing a new type of protein powder for fitness enthusiasts that promises better

performance and recovery time. The entrepreneur is planning on starting a company based around the product but first wants to conduct market research to identify additional features potential customers find most appealing. Based on competitors' offerings, the entrepreneur identifies the following potential features (levels in parentheses): price (low, medium, high), solubility (low, high), taste (unsatisfactory, good, exceptional) and flavor options (a few, many). Participants are asked to make a series of decisions based on hypothetical scenarios that combine specific levels of each attribute or feature. In each scenario, respondents are asked to evaluate whether they would purchase the product based on the attributes presented in the scenario. This forced choice exercise indirectly reveals the respondents' preferences on what features are most important. The outcome is that conjoint analysis provides information on the utility or part-worth of each attribute or feature. Data is then analyzed by isolating the number of times an attribute level has been chosen. This allows researchers to identify the relative importance of each feature in making a decision.

More recently conjoint analysis has been posited as an excellent tool to study entrepreneurial decision-making (Shepherd, 2011). Indeed, in the past decade a number of studies have used conjoint analysis to isolate the factors contributing to various decisions in the entrepreneurial process (Haynie, Shepherd, & McMullen, 2009; Holland & Shepherd, 2012; Shepherd & Zacharakis, 1997). For a review of the use of conjoint analysis in entrepreneurship research, refer to Lohrke, Holloway, & Woolley (2010). Whereas surfacing within marketing to study individuals' purchasing decisions (Green, 1984), the technique has seen use in other disciplines such as management (DeSarbo,

MacMillan, & Day, 1987). Further, it is a popular method to study decision making not only in the entrepreneurial context but also for various other contexts (Priem, 1994).

Experimental Design

In this dissertation I follow the design presented in Haynie, Shepherd, and McMullen (2009). These authors manipulate four resource-related attributes - rarity, value, inimitability, limits on competition - in addition to a fifth attribute, human capital relatedness. I manipulate the same four resource-related attributes in addition to social capital relatedness. Each of the five attributes varies at two levels, high and low. For a full factorial experimental design, I would need 32 profiles (2^5). In order to reduce the number of decisions to a manageable level, I use an orthogonal fractional factorial experimental design (Hahn & Shapiro, 1966). In such a design, inter-correlations between the variables are zero which makes multicollinearity a non-issue. By using an orthogonal fractional factorial design, I reduce the number of estimation profiles that entrepreneurs need to rate from 32 to 16.

Each entrepreneur in the sample is presented with a series of hypothetical scenarios which are designed to test the set of decision attributes used in the evaluation decision. Participants are first given a practice profile designed to familiarize them with the process of rating the scenarios. After the practice profile, respondents are presented with the scenarios based on the five decision attributes (value, rarity, inimitability, limits on competition and social relatedness). The profiles differ based on these five attributes. Each of them varies across two levels (high and low). Once presented with the profile, the entrepreneur is then asked to assess the attractiveness of the opportunity using a

single 9-point Likert scale. Figure 4 illustrates a sample profile. Table 1 illustrates the coding of the scenarios with 1 being "high" and 0 being "low".

FIGURE 4 – Sample Opportunity Profile

Opportunity **XYZ**

		Interpretation
Value	**HIGH**	This opportunity exhibits the potential for considerable increases in efficiency and effectiveness.
Limits on Competition	**HIGH**	The market position for the opportunity is highly defensible.
Rarity	**LOW**	Information about this opportunity is widely available to others.
Imitability/Substitutability	**LOW**	The potential for others to imitate (or develop substitutes for) the opportunity is minimal.
Social Relatedness	**HIGH**	You have a considerable amount of resources related to the opportunity embedded within your network.

How would you rate this opportunity's attractiveness?

TABLE 1: Scenario Profiles

Scenario	*Value*	*Limits*	*Rarity*	*Inimitable*	*Social*	*Scenario Code*	*Purpose*
warm up	1	1	0	0	1	Y	practice
1	0	0	0	0	0	A	estimation
2	0	0	0	1	1	B	estimation
3	0	0	1	0	1	C	estimation
4	0	0	1	1	0	D	estimation
5	0	1	0	0	1	E	estimation
6	0	1	0	1	0	F	estimation
7	0	1	1	0	0	G	estimation
8	0	1	1	1	1	H	estimation
9	1	0	0	0	1	I	estimation
10	1	0	0	1	0	J	estimation
11	1	0	1	0	0	K	estimation
12	1	0	1	1	1	L	estimation
13	1	1	0	0	0	M	estimation
14	1	1	0	1	1	N	estimation
15	1	1	1	0	1	O	estimation
16	1	1	1	1	0	P	estimation
17	0	1	0	1	0	F	reliability
18	0	0	0	1	1	B	reliability
19	1	0	0	0	1	I	reliability
20	1	0	1	1	1	L	reliability
21	1	1	1	0	1	O	reliability
22	0	0	1	0	0	X	validation
23	1	0	1	0	1	V	validation
24	1	1	1	1	1	W	validation

After the estimation choice sets, I test response reliability by replicating five of the 16 scenarios while also testing internal validity by including three scenarios outside of the factorial design choices outlines by Hahn & Shapiro (1966). The three scenarios incorporated to ensure internal validity aim to illustrate the predictive validity of the model. This brings the total number of scenarios that have to be rated by each respondent to 25. In order to test for reliability, I run Pearson R correlations between the participant's

responses of the original and replicated profiles. Only responses that have a reliability score over the chosen threshold of 0.60 are retained; this threshold is higher than Holland and Shepherd's (2011) threshold of 0.45. One hundred and eleven of the 120 retained responses had a threshold score higher than 0.75 and 88 of the 120 retained responses had a threshold score higher than 0.90. In order to test for internal validity, I run Pearson R correlations between the participant's responses of the original and the three validation scenarios outside of the factorial design. Correlation scores across validation scenarios varied between 0.82 and 0.91 indicating sufficient internal validity. Additionally, I test for order effects by creating two versions of the experiment in which I change the order of the decision attributes. Respondents are randomly assigned to each of the two versions of the experiment. To test for ordering effects, I first run a hierarchical linear model (HLM) model with dummy coded predictor variables indicating the version of the instrument that a subject received predicting the intercept (direct effects) and all five of the decision attribute slopes (moderation effects) on evaluation decisions. To assess the magnitude of any potential ordering effects, I run a regression with these same dummy coded ordering predictors on the dependent variable, the evaluation decision. The coefficients for the instrument version predictors were not significant on any of the slopes.

Data Analysis

Due to the nested nature of the data - decisions within individuals - I use HLM 7 (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2001) to examine the variation in decision-making within individuals and whether that variation is moderated by

individual-level moderators, such as entrepreneurial experience, entrepreneurial passion, and dispositional regulatory focus. HLM offers several benefits over regression: it partitions variance across different levels of analysis instead of assuming the variance is at one level; it allows for assessment of the variability between and within individuals and contexts; it produces more accurate type I error rates; it allows for the use of predictors at various levels to explain variance in the dependent variable; and it resolves aggregation bias issues (McCoach, 2010). Further, Testing the hypotheses using hierarchical linear modeling allows me to: (1) determine whether OLS regression's independence of responses assumption is violated to establish whether the use of a multi-level model is warranted, (2) examine the effect of controls prior to entering hypothesized variables, and (3) calculate the percent of variance explained by the controls, direct effects and moderators.

The general steps that I follow in the analysis include the following models: (1) an unconditional model (allows for the calculation of the intraclass correlation coefficient which shows whether a multilevel model is necessary); (2) a random coefficients model with level-1 predictors at the decision level (e.g. value, rarity, inimitability, limits on competition, social capital relatedness); (3) a model to test the statistically significance of controls; (4) a model with non-significant controls trimmed (at the .10 level); (5) the theorized model to test the hypotheses (includes level-1 predictors at the decision level, level-2 predictors at the individual level and trimmed controls). I enter predictors sequentially in the different models I run. The decision variables (level-1 predictors) are entered into the HLM software as uncentered because the centering took place in the coding of the dataset. Level-2 variables, including controls, were entered grand centered

into the data analysis software, HLM, as zero has no meaning with any of them. All models are run using full informational maximum likelihood as opposed to restricted maximum likelihood (REML). REML is used if the models compared have the same fixed parts and differ only in their random parts. Since this is not the case, I use full informational maximum likelihood. Figure 5 illustrates the HLM models I ran mathematically.

FIGURE 5 – HLM Model Equations

Level 1 Model

$$V_{ij} = \beta_{0j} + \sum_{K=1}^{5} \beta_{kj} * (X_{ij}) + r_{ij}$$

Level 2 Model

$$\beta_{0j} = \gamma_{00} + \sum_{K=1}^{13} \gamma_{01} * (Z_j) + u_{oj}$$

$$\beta_{1j} = \gamma_{10} + \sum_{K=1}^{13} \gamma_{11} * (Z_j) + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + \sum_{K=1}^{13} \gamma_{21} * (Z_j) + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + \sum_{K=1}^{13} \gamma_{31} * (Z_j) + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + \sum_{K=1}^{13} \gamma_{41} * (Z_j) + u_{4j}$$

$$\beta_{5j} = \gamma_{50} + \sum_{K=1}^{13} \gamma_{51} * (Z_j) + u_{5j}$$

Mixed Model

$$V_{ij} = \gamma_{00} + \sum_{K=1}^{13} \gamma_{01} * (Z_j) + \gamma_{10} * X_{ij} + \sum_{K=1}^{13} \gamma_{11} * (Z_j * X_{ij}) + \gamma_{20} * X_{ij} + \sum_{K=1}^{13} \gamma_{21} * (Z_j * X_{ij}) + \gamma_{30} * X_{ij} + \sum_{K=1}^{13} \gamma_{31} * (Z_j * X_{ij}) + \gamma_{40} * X_{ij} + \sum_{K=1}^{13} \gamma_{41} * (Z_j * X_{ij}) + \gamma_{50} * X_{ij} + \sum_{K=1}^{13} \gamma_{51} * (Z_j * X_{ij}) + u_{oj} + \sum_{K=1}^{5} u_{1j} * X_{ij} + r_{ij}$$

where:

j – set of all available decisions in a choice set

i – individual

V_{ij} – systematic utility of option j to respondent i

X_{ij} - level 1 variable (value, rarity, inimitability, limits on competition, social capital relatedness)

Z_j – level 2 variable (entrepreneurial experience, promotion regulatory focus, prevention regulatory focus, inventor passion identity, founder passion identity, developer passion identity, high in all passion identities, entrepreneur age, race, gender, education, firm size, firm age)

r_{ij} – within-unit error

u_{ij} – between-unit error

β, γ – parameters to be estimated

Instructions to Participants

I follow the respondent instructions presented in Haynie, Shepherd, and McMullen (2009). This is done in order to control for unobservable effects due to the context in which entrepreneurs are asked to make the opportunity evaluation assessment. Unobservable effects could surface in a conjoint experiment if the context from which the judgment is made is not common for all respondents (Shepherd & Zacharakis, 1997). A

common context will allow participants to relate the decisions made in the experimental setting to their everyday life. Upon starting the survey, entrepreneurs were presented with a short description of the study (shown in Figure 6). On the following screen of the survey, I outline the instructions and some of the assumptions that respondents are asked to make (shown in Figure 7). In general, the survey instrument, along with the accompanying instructions to the respondents, was designed to control for unobservable effects on the entrepreneurs' evaluation of each opportunity. The respondents were instructed that the purpose of this research is to better understand the decision process of entrepreneurs when assessing the potential of a given opportunity or set of opportunities. Each entrepreneur was told that they will be asked to evaluate a series of hypothetical opportunities, and that "opportunity" is defined as the potential to bring into existence future products and/or services, to be exploited in either existing markets or in new markets. The entrepreneurs were also told that when making these evaluations they were to assume the following: 1) that you are interested in exploiting new opportunities, 2) that you are assessing the opportunity in the context of your current business environment, 3) that the time horizon for exploitation of the opportunity is 2 years, 4) that there are no capital constraints (i.e. funding is available), 5) that exploitation of the opportunity can occur either within your existing company, or through the formation of a new venture, 6) and that these opportunities will/could be exploited in the present US economic environment. Finally, the entrepreneurs were also instructed to consider each opportunity as a separate situation, independent of all others. These instructions are consistent with similar work by Holland and Shepherd (2012) and Haynie et al (2009).

FIGURE 6 – Description of Study

This study is designed to understand entrepreneurial decision making.

Your participation in this study is voluntary and optional. By proceeding you are indicating your consent for us to use your responses in our study of entrepreneurial decision making. The survey does not inquire information that might reveal your identification; as such, we anticipate full confidentiality.

Please click the button below to your right to indicate your consent and proceed with the survey.

FIGURE 7 – Instructions to Participants

In this section, you will be presented with 25 hypothetical profiles of entrepreneurial opportunity characteristics. Please consider each profile as a *separate situation* - independent of all others. While considering each profile, please assume the following:

- you are interested in exploiting new opportunities.
- you are assessing the opportunity in the context of your current business environment.
- the time horizon for exploitation of the opportunity is two years.
- there are no capital constraints (e.g. funding is available).
- exploitation of the opportunity can occur either within your existing company or through the formation of a new venture.
- these opportunities will/could be exploited in the present US economic environment.

Sample

The main criterion for inclusion in the sampling frame is that an individual be an owner and active participant in the operation of a small business with less than 250 employees. Based on the definition of the small business association, a small business is one that has less than 500 employees. To be even more stringent and consider only small businesses, I lower this requirement to 250 employees. Additionally, I focus on entrepreneurs that have founded a firm in the past ten years as a way to ensure that respondents are actual entrepreneurs as opposed to small business owners. A third-party data collection company presented the conjoint experiment to 251 owner-managers. One

hundred and ninety nine of the 251 entrepreneurs completed the experiment, resulting in a response rate of 79.3% which is much higher than response rates for similar studies. For example, Haynie et al (2009) have a response rate of 44%. As specified earlier, I replicate each of the scenarios in order to measure test-retest reliability. Responses with a reliability score lower than 0.6 are excluded from the study. This threshold is very conservative as it is much higher than what has been used in prior research. For example, Holland & Shepherd (2012) use a reliability score of 0.45. One hundred and twenty of the 199 subjects have a reliability score over the chosen threshold with the average test-retest reliability being 86.3%. Due to the nested nature of the analysis (decisions nested within individuals), the proposed sample is sufficient (e.g. Haynie, Shepherd, & McMullen, 2009; Holland & Shepherd, 2012; Shepherd & Zacharakis, 1997). It results in 1,920 total observations (16 estimation choice set decisions per individual). Further, given a medium effect size of 0.3 combined with a sample size of n = 120 yields a statistical power of 0.86, which is above the conventional threshold of 0.8 (Cohen, 1988). On average, respondents took 22.2 minutes to complete the survey. No monetary incentive was offered to respondents.

Table 2 summarizes the characteristics of the respondents while table 3 summarizes the industry breakdown of the respondents. Approximately 57% of the respondents were men. The average age was 36.3 years. A little over 44% of the entrepreneurs are college graduates. 75% of the sample is White/Caucasian while 25% is of various races. In hypothesis 5b, I study entrepreneurs who have high scores in all three passion identities. 40 (33.3%) of the entrepreneurs in the sample fit this criterion. The mean size of the entrepreneurs' firms is 2.93 employees with the average firm being 6.76

years old. Of the 120 entrepreneurs in the sample, 56 own one company (46.7%), 32 own two companies (26.7%), 22 own three companies (18.3%), 10 own four or more companies (8.3%). The sample was heterogeneous representing various industries.

TABLE 2: Descriptive Statistics

Variable	Mean	SD
Age of the entrepreneur	36.3	9.12
Gender (% male)	56.7%	-
Education (% college graduate)	44.1%	-
Race (% white)	75.0%	-
High in all passion identities	33.3%	-
Firm size (# of Employees)	2.93	17.21
Firm age (years venture owned)	6.76	4.64

TABLE 3: Industries Represented

Industry	Number of Entrepreneurs	Percentage of Total
Agriculture/Forestry/Fishery	4	3.3
Biotech	1	0.8
Business/Professional Services	9	7.5
Computer Services	4	3.3
Construction	9	7.5
Consulting	10	8.3
Education	4	3.3
Engineering	1	0.8
Entertainment	4	3.3
Finance	1	0.8
Food Services	2	1.7
Government	1	0.8
Health Care	5	4.2
Internet	7	5.8
Legal	1	0.8
Manufacturing	5	4.2
Media	4	3.3
Professional Services – Other	6	5.0
Real Estate	3	2.5
Research/Science	1	0.8
Retail	16	13.3
Transportation	1	0.8
Whole Sale	1	0.8
Other	20	16.7

Measures

Since all measures were collected using the same survey instrument, there is the possibility of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To test for common method bias, I use the recommendations from Podsakoff et al (2003) and, more specifically, a Harman's one-factor test. An unrotated principal component analysis with single factor extraction was done to explore the presence of common method bias in the study, resulting in 17.90% of variance explained with all items loading into a single factor. Further, a components factor analysis of the questionnaire measures yielded six factors (eigenvalues > 1.0). Since several factors and not one single factor were identified and since the single factor extraction accounts for less than 50 % of the variance (17.90 %), a substantial amount of common method variance does not appear to be present (Podsakoff & Organ, 1986). I tested for collinearity among the variables by calculating the variance inflation factor (VIF) for each of the coefficients. The VIF ranged from a low of 1 to a high of 2.960, well below the cutoff of 10 recommended by Neter, Wasserman, & Kutner (1990). To assess convergent and discriminant validity, I ran confirmatory factor analysis. In support of convergent validity, the factor item loadings on each construct were statistically significant ($p < .001$) and averaged 0.83 (promotion regulatory focus = 0.88, prevention regulatory focus = 0.86, inventory passion identity = 0.81, founder passion identity = 0.82, developer passion identity = 0.78). To test discriminant validity I follow Fornell & Larcker's (1981) guidelines by comparing the average variance extracted (AVE) from each construct's indicator with the squared correlation of all pairs of constructs indicating discriminant validity. In all cases AVE exceeded its squared correlation with every other construct indicating discriminant

validity.

Dependent Variable: the opportunity evaluation decision

The dependent variable in this study is the evaluation of the attractiveness of the opportunity. It is measured using a single 9-point Likert scale anchored by (1) not at all attractive, (5) moderately attractive, and (9) very attractive. The respondents are presented with a set of decision attributes and are asked the question: "How would you rate this opportunity's attractiveness?" for each scenario (Haynie, Shepherd, & McMullen, 2009).

Decision Criteria: resource attributes and social relatedness

The conjoint study utilizes the four decision attributes that were theorized and evaluated by Haynie, Shepherd, and McMullen (2009) as decision attributes relevant to the entrepreneurial opportunity evaluation decision. The four attributes are rarity, value, limits on competition, and inimitability. These four attributes represent the resource considerations consistent with the theoretical development of RBV presented in chapter 3. These measures, including the formatting of how they are presented to subjects, are replicated from Haynie, Shepherd, and McMullen's (2009) previous work. In feedback from respondents prior to administering the survey, there were concerns that the naming of the inimitability variable might confuse respondents. In order to make the analysis more logical and alleviate this concern, the inimitability variable was called imitability for the purpose of presenting it to respondents. To reflect the change in the analysis, I reverse coded the variable. In addition, social capital relatedness is manipulated as one of the decision attributes. This is consistent with the work of Haynie et al (2009) who

manipulate human capital relatedness in the same way. Each of these five decision variables - rarity, value, inimitability, limits on competition and social relatedness - has two levels, high and low, that are centered on zero by coding them -.5 when it is low and +.5 when it is high (Judd & McClelland, 1989). For more detail on each of these variables refer to table 4.

TABLE 4: Conjoint Experiment Attributes

Variable	*Level*	*Definition*
Rarity	High	Information about this opportunity is not widely available to others
	Low	Information about this opportunity is widely available to others
Value	High	This opportunity exhibits the potential for considerable increases in efficiency and effectiveness
	Low	This opportunity exhibits the potential for minimal increases in efficiency and effectiveness
Limits on Competition	High	The market position for the opportunity is highly defensible
	Low	The market position for the opportunity is difficult to defend
Inimitability	High	The potential for others to imitate (or develop substitutes for) the opportunity is considerable
	Low	The potential for others to imitate (or develop substitutes for) the opportunity is minimal
Social Relatedness	High	The entrepreneur has a considerable amount of resources related to the opportunity embedded within his network
	Low	The entrepreneur has a minimal amount of resources related to the opportunity embedded within his network

Independent Variables: entrepreneurial experience, regulatory focus, and entrepreneurial passion

I measure entrepreneurial experience in a post-experiment questionnaire by asking respondents about the number of companies they have founded including their current venture. Subsequently, I measure the construct as a continuous variable.

I measure dispositional regulatory focus using the regulatory focus questionnaire (RFQ) by Higgins, Friedman, Harlow, Idson, Ayduk, and Taylor (2001). Some of the questions include: "How often did you obey rules and regulations that were established by your parents?", "How often have you accomplished things that got you "psyched" to work even harder?", and "Do you often do well at different things that you try?". The eleven-item scale is well-established and has been used in numerous studies with consistently high reliability. Cronbach's Alpha for this study is 0.91. It is measured using a 5-point Likert scale anchored by (1) never/seldom, (3) sometimes, and (5) very often (refer to Table 5).

TABLE 5: Regulatory Focus Questionnaire (Higgins et al., 2001)

	Item
1	Compared to most people, are you typically unable to get what you want out of life?
2	Growing up, would you ever "cross the line" by doing things that your parents would not tolerate?
3	How often have you accomplished things that got you "psyched" to work even harder?
4	Did you get on your parents' nerves often when you were growing up?
5	How often did you obey rules and regulations that were established by your parents?
6	Growing up, did you ever act in ways that your parents thought were objectionable?
7	Do you often do well at different things that you try?
8	Not being careful enough has gotten me into trouble at times.
9	When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to do.
10	I feel like I have made progress toward being successful in my life.
11	I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.

Entrepreneurial passion is measured using a scale developed by Cardon, Gregoire, Stevens, and Patel (2013) that measures the different domains of entrepreneurial passion. The inventor domain includes four measures for intense positive feelings and one for identity centrality. Respondents are asked to agree/disagree with statements such as "It is exciting to figure out new ways to solve unmet market needs that can be commercialized" and "Inventing new solutions to problems is an important part of who I am". The founder domain includes three measures for intense positive feelings and one for identity centrality. Respondents are asked to agree/disagree with statements such as "Establishing a new company excites me" and "Being the founder of a business is an important part of who I am". The developer domain includes three measures for intense positive feelings

and one for identity centrality. Respondents are asked to agree/disagree with statements such as "Pushing my employees and myself to make our company better motivates me" and "Nurturing and growing companies is an important part of who I am". Cronbach's Alpha is 0.87. The measures in all domains are assessed using a 5-point Likert scale (refer to Table 6). I follow Cardon et al's (2013) guidelines and use the multiplicative combination of the intense positive feelings and identity centrality constructs for each domain. To isolate the cases where an entrepreneur is high on all passion identity categories I create a variable that assigns a "1" to all cases where a respondent has scored a 20 or higher on the multiplicative combination between intense positive feelings and identity centrality for each passion identity. All other cases were assigned a "0". The number of respondents who have a high score on all passion identities is 40.

TABLE 6: Entrepreneurial Passion Scale (Cardon, Gregoire, Stevens, & Patel, 2013)

Domain and Item #	*Item*
IPF-inv$_1$	It is exciting to figure out new ways to solve unmet market needs that can be commercialized.
IPF-inv$_2$	Searching for new ideas for products/services to offer is enjoyable to me.
IPF-inv$_3$	I am motivated to figure out how to make existing products/services better.
IPF-inv$_4$	Scanning the environment for new opportunities really excites me.
IC-inv$_1$	Inventing new solutions to problems is an important part of who I am.
IPF-fnd$_1$	Establishing a new company excites me.
IPF-fnd$_2$	Owning my own company energizes me.
IPF-fnd$_3$	Nurturing a new business through its emerging success is enjoyable.
IC-fnd$_1$	Being the founder of a business is an important part of who I am.
IPF-dev$_1$	I really like finding the right people to market my product/service to.
IPF-dev$_2$	Assembling the right people to work for my business is exciting.
IPF-dev$_3$	Pushing my employees and myself to make our company better motivates me.
IC-dev$_1$	Nurturing and growing companies is an important part of who I am.

Note. IPF = Intense Positive Feelings; IC = Identity Centrality; inv = inventing; fnd = founding; dev = developing.

Controls

This study uses several individual level control variables that are consistent with previous studies (e.g. Haynie, Shepherd, & McMullen, 2009; Holland & Shepherd, 2012). I control for the number of years an entrepreneur has owned his or her venture as individuals who have owned their venture longer might be more likely to persist with their current venture and find new opportunities less attractive as a result (Holland & Shepherd, 2012). For the same reason I control for the number of employees in a firm.

Further, over sixty percent of entrepreneurs are Caucasian, have no college degree and are over 35 years of age (Kauffman, 2011). Therefore, I control for the race of entrepreneurs (Caucasian, other), their education level (college graduate or not), and their age as these are factors that could influence entrepreneurial behavior.

Summary

In this chapter I detailed the methods used in the design of the dissertation. I use a conjoint experiment to study opportunity evaluation. A sample of 120 entrepreneurs were presented with and had to make judgments about the attractiveness of 25 hypothetical scenarios. Further, the respondents had to participate in a post-experiment questionnaire designed to measure several individual factors related to entrepreneurs. These individual factors are also detailed in this chapter along with the data analysis tool I use to test the predicted hypotheses. Next, I present the results of the study.

CHAPTER 5: RESULTS

This chapter presents the results of the study. The direct effect of resource attributes is partially supported. The direct effect of social capital relatedness on evaluation is supported while the direct effect of regulatory focus orientation is partially supported. The moderating effect of entrepreneurial experience on the social capital relatedness and evaluation relationship is not supported. The direct and moderating effects of entrepreneurial passion identity are partially supported. Means, standard deviations and correlations of the variables are shown in table 7. Results are shown in table 8, which reports the fully saturated model as well as controls with all hypotheses highlighted.

TABLE 7: Means, Standard Deviations, and Correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Opportunity Attractiveness	4.79	2.31	1.00								
2. Entrepreneurial Experience	2.27	1.44	-.22	1.00							
3. Promotion Regulatory Focus	23.08	3.34	-.067**	.196**	1.00						
4. Prevention Regulatory Focus	16.03	4.35	-.169**	-.031	.086**	1.00					
5. Inventor Passion Identity	18.29	5.88	.094**	.167**	.306**	-.097**	1.00				
6. Founder Passion Identity	18.18	6.32	.047*	.162**	.321**	-.106**	.614**	1.00			
7. Developer Passion Identity	16.71	6.34	.062**	.218**	.294**	-.072**	.568**	.763**	1.00		
8. Firm Size	2.93	17.21	.104**	.206**	.105**	-.110**	.068**	.132**	.221**	1.00	
9. Firm Age	6.76	4.64	.002	.148**	-.124**	.137**	.138**	.156**	.225**	.082**	1.00

*n = 120; * p < .05, ** p < .01, *** p < .001*

TABLE 8: Results

		Attractiveness Intercept	Value	Limits on Competition	Rarity	Inimitability	Social Capital Relatedness
IVs	Value	1.654***	n/a	n/a	n/a	n/a	n/a
	Limits on Competition	1.206***	n/a	n/a	n/a	n/a	n/a
	Rarity	1.073***	n/a	n/a	n/a	n/a	n/a
	Inimitability	0.344	n/a	n/a	n/a	n/a	n/a
	Social Capital Relatedness	1.420***	n/a	n/a	n/a	n/a	n/a
Moderators	Entrepreneurial Experience	-0.126	0.2	-0.002	-0.062	0.265*	-0.065
	Inventor Passion	0.026	0.043	-0.004	-0.016	0.063*	-0.028
	Founder Passion	-0.005	-0.004	-0.003	0.022	-0.014	0.001
	Developer Passion	-0.007	-0.011	0.012	-0.021	-0.037	0.035
	Promotion Focus	-0.063*	0.065^{t}	0.019	-0.004	0.01	0.022
	Prevention Focus	-0.076***	-0.019	-0.002	-0.011	0.031	-0.015
Control	Race	0.289	0.079	-0.077	-0.068	0.233	-0.32
	Gender	-0.181	0.217	0.237	0.053	-0.34	-0.121
	Firm Size	0.120*	-0.028	0.036	0.07	-0.007	-0.037
	Firm Age	-0.008	-0.019	0.001	0.006	0.004	-0.032
	Entrepreneur Age	0.001	-0.032*	0.025*	0.011	0.014	0.018^{t}
	Education	0.213	0.124	-0.111	-0.068	0.089	-0.168

^{t} *p < .10, * p < .05, ** p < .01, *** p < .001*

The theorized model in this dissertation reflects both level-2 variables (individuals independent of decisions made) and level-1 variables (decisions independent of individuals). Due to this I utilize hierarchical linear modeling (HLM) to analyze the results instead of regression. The unconditional model results reported in table 9 confirms the need for HLM as regression's independence of responses assumption is violated. Indeed, 17.7 percent of the variability in evaluation decisions is accounted for between individuals as indicated by the inter-correlation coefficient reported in table 9.

TABLE 9: Random Effects, Standard Errors and Inter-correlation Coefficient

	Unconditional Model	**Random Coefficients Model**	**Fully Saturated Model**
	Variance *(SE)*	Variance *(SE)*	Variance *(SE)*
Within Person, σ^2	4.403 *(2.10)*	1.364 *(1.17)*	1.364 *(1.17)*
Intercept, τ_{00}	0.945 *(0.97)****	1.135 *(1.07)****	0.830 *(0.91)****
Value Slope, τ_{11}		1.307 *(1.14)****	1.129 *(1.06)****
Limits on Competition Slope, τ_{22}		*0.634 (0.80)****	*0.550 (0.74)****
Rarity Slope, τ_{33}		*0.397 (0.63)****	*0.353 (0.59)****
Inimitability Slope, τ_{44}		*1.408 (1.19)****	*1.120 (1.06)****
Social Capital Relatedness Slope, τ_{55}		*0.768 (0.88)****	*0.654 (0.81)****
Inter-correlation Coefficient	0.177		

*p<0.05, **p<0.01, ***p<0.001

Direct Effect of Resource Attributes on Evaluation

Hypothesis 1a predicts that resource value will be positively related to opportunity attractiveness. In other words, consistent with the prescriptions of RBV, opportunities that promise valuable resources will be more attractive to entrepreneurs. The coefficient for this hypothesis is significant (coefficient = 1.654, $p < 0.001$)

indicating support for the hypothesis. Hypothesis 1b predicts that resource rarity will be positively related to opportunity attractiveness. In other words, consistent with the prescriptions of RBV, opportunities that promise rare resources will be more attractive to entrepreneurs. The coefficient for this hypothesis is also significant (coefficient = 1.073, $p < 0.001$) indicating support for the hypothesis. Hypothesis 1c predicts that resource inimitability will be positively related to opportunity attractiveness. In other words, consistent with the prescriptions of RBV, opportunities that promise resources that are hard to replicate will be more attractive to entrepreneurs. In the random coefficients model, illustrated in table 10, this relationship is positive and significant (coefficient = 0.307, $p = 0.012$). However, when all factors are included into the model this hypothesis is not supported (coefficient = 0.344, $p = 0.235$). This is a surprising finding as it goes against what RBV suggests. In order to further test this hypothesis, I perform a post-hoc analysis. I explore whether the relationship persists in the face of entrepreneurial experience. Post-hoc analysis suggested that hypothesis 1c is supported for experienced entrepreneurs (coefficient = 0.302, $p = 0.008$). Hypothesis 1d predicts that resources that restrict competitive response will be positively related to opportunity attractiveness. In other words, consistent with the prescriptions of RBV, opportunities that promise such resources will be more attractive to entrepreneurs. The coefficient for this hypothesis is significant (coefficient = 1.206, $p < 0.001$) indicating support for the hypothesis.

I perform post-hoc analysis in order to explore the trade-offs entrepreneurs make when judging the attractiveness of opportunities. The post-hoc analysis provides several interesting findings. First, age moderates the relationship between valuable resources and evaluation (coefficient = -0.030, $p = 0.021$) indicating that young entrepreneurs will

emphasize valuable resources in their evaluation decisions. Second, age moderates the relationship between resources that limit competitive response and evaluation (coefficient = 0.025, p = 0.013) indicating that older entrepreneurs will emphasize resources that could limit competitive response. Finally, there is evidence that gender moderates the relationship between inimitable resources and evaluation (coefficient = 0.547, p = 0.023) indicating that male entrepreneurs will emphasize inimitable resources compared to female entrepreneurs.

TABLE 10: Random Coefficients Model

	Null Model		Random Coefficients Model	
Variable	**Coefficient**	***p***	**Coefficient**	***p***
Intercept	4.79	<0.001	4.79	<0.001
Value			1.77	<0.001
Limits			1.12	<0.001
Rarity			1.07	<0.001
Inimitability			0.31	0.012
Social Capital Relatedness			1.13	<0.001

Direct Effect of Social Capital Relatedness on Evaluation

Hypothesis 2 predicts that social capital relatedness will be positively related to opportunity attractiveness. The hypothesis is supported as indicated by the positive-significant coefficient on the social capital relatedness attribute. In other words, the participants in this conjoint experiment found opportunities that relate to their social network of connections more attractive after controlling for race, gender, age, education level, the number of years an entrepreneur has owned their venture, and the number of employees in the venture (coefficient = 1.420, p < 0.001).

Moderating Effect of Entrepreneurial Experience

Hypothesis 3 predicts that entrepreneurial experience will have a negative effect on the social capital relatedness and evaluation relationship. In other words, entrepreneurial experts will be less likely to rely on their social networks as opposed to relying on their knowledge, skills and experience. I found no support for this hypothesis (coefficient = -0.065, p = 0.444). This implies that both novices and experienced entrepreneurs may perceive social capital as essential when it comes to evaluating opportunities. In other words, having formed sufficient entrepreneurial knowledge, skills and expertise is not enough to substitute for the benefits of social capital.

Direct Effects of Regulatory Focus Orientation

Hypothesis 4a predicts that dispositional promotion regulatory focus will be positively related to opportunity attractiveness. In other words, entrepreneurs who are motivated by a need for achievement will tend to find opportunities as more attractive than they might be. The coefficient for this hypothesis is significant (coefficient = -0.063, p = 0.05). However, it is negative which is the opposite of the predicted direction indicating that the hypothesis is not supported. Entrepreneurship involves high uncertainty, which contributes to a high failure rate for new businesses. Failure directly contradicts what promotion-focused individuals strive for (e.g. high achievement) and potentially explains the surprising finding of H4a.

Hypothesis 4b predicted that dispositional prevention regulatory focus will be negatively related to opportunity attractiveness. In other words, entrepreneurs who are motivated by a need for security will tend to find opportunities as less attractive than they might be. The coefficient for this hypothesis is positive and significant indicating that there is support for this hypothesis (coefficient = -0.076, $p < 0.001$).

Direct Effect of Entrepreneurial Passion Identity

Hypothesis 5a predicted that high founder passion identity would be positively related to opportunity attractiveness. The coefficient for this hypothesis is not significant (coefficient = -0.005, $p = 0.832$). Therefore, hypothesis 5a is not supported. Hypothesis 5b predicted that entrepreneurs who are highly passionate in all three dimensions of entrepreneurial passion would tend to find more opportunities attractive. The coefficient for this hypothesis is significant (coefficient = 0.703, $p = 0.018$) indicating that there is support for the hypothesis. This implies that entrepreneurs that are highly passionate for all entrepreneurship activities will be more driven to take entrepreneurial action and exploit an opportunity because they enjoy all aspects of being an entrepreneur and look forward to take part in entrepreneurial activities.

Moderating Effect of Entrepreneurial Passion Identity

Hypotheses 6a and 6b predicted that the higher relative level of inimitable resources and resources that can limit competitive response an opportunity promises, the more attractive it will be for entrepreneurs with a developer passion identity. In other

words, entrepreneurs who enjoy the process of taking an already existing opportunity and growing it into a viable business will look for resources that are difficult to replicate by competitors. The coefficients for both hypotheses are not significant: inimitability (coefficient = -0.037, p = 0.286) and limits on competition (coefficient = 0.012, p = 0.832) Therefore, hypotheses 6a and 6b are not supported.

Hypotheses 7a and 7b predicted that the higher relative level of valuable and rare resources an opportunity promises, the more attractive it will be for entrepreneurs with a founder passion identity. In other words, entrepreneurs who enjoy undertaking all the activities that lead up to the launch of a new company will look to acquire resources that are can help them start a company in the short-run. The coefficients for both hypotheses are not significant: value (coefficient = -0.004, p = 0.779) and rarity (coefficient = 0.022, p = 0.216). Therefore, hypotheses 7a and 7b are not supported.

Hypothesis 8 predicted that the higher relative level of inimitable resources an opportunity promises, the more attractive it will be for entrepreneurs with an inventor identity. In other words, entrepreneurs who enjoy identifying potential market needs and develop new products or services that meet those needs will look for resources that are unique and difficult to be replicated. The coefficient for hypothesis 8 is significant and positive (coefficient = 0.063, p = 0.012) indicating support for the hypothesis.

CHAPTER 6: DISCUSSION AND CONCLUSION

This dissertation integrates social cognitive theory with predictions from the resource-based view, regulatory focus theory and the literatures on entrepreneurial experts and entrepreneurial passion to develop and test an integrative model of opportunity evaluation. The findings support social cognitive theory's assertions that the environment, the individual and his/her focal behavior will interact to explain individual actions. First, novice entrepreneurs might not put as much emphasis on inimitable resources. I also find that younger entrepreneurs put emphasis on valuable resources whereas older entrepreneurs put emphasis on resources that limit competitive response. These two findings have implications for the field of entrepreneurship, as they could be an explanation for the high failure rate of new businesses. Second, there is evidence that entrepreneurs will find opportunities that are related to entrepreneurs' stock of social capital relatedness more attractive. Third, data also indicates that this relationship is unchanged regardless of an entrepreneurs' experience, age, gender or education emphasizing the importance entrepreneurs place on how related an opportunity is to their social capital. Fourth, there is evidence that entrepreneurs with prevention focus will rate opportunities as less attractive due to their heightened desire for security. Finally, the findings show that entrepreneurs who are high on all passion identities, and not just one, will tend to find more opportunities attractive. Thus, these findings offer new insights for the opportunity evaluation literature and strengthen our understanding of the importance

of studying the joint effects of environmental, individual and behavioral factors playing a role in opportunity evaluation decisions.

In this chapter, I discuss the findings of the dissertation in more detail before outlining the implications of these findings. Next, I discuss the contributions of this dissertation. Then, I list several future research directions stemming from this study. Finally, I address the limitations of the research and offer some concluding remarks.

Discussion of the Findings

A summary of the findings is displayed in Table 11.

TABLE 11: Summary of Findings

Hypotheses	Support
ENVIRONMENTAL FACTORS	
Resource Attributes and Evaluation	
H1a: The more valuable resources an opportunity promises, the more attractive it will be to the entrepreneur.	***Supported***
H1b: The more rare resources an opportunity promises, the more attractive it will be to the entrepreneur.	***Supported***
H1c: The more inimitable resources an opportunity promises, the more attractive it will be to the entrepreneur.	***Not Supported***
H1d: The more resources that limit competitive response an opportunity promises, the more attractive it will be to the entrepreneur.	***Supported***
INDIVIDUAL FACTORS	
Social Capital Relatedness and Evaluation	
H2: The more related an opportunity is to an entrepreneur's social capital, the more attractive it will be to the entrepreneur.	***Supported***
Moderating Effect of Entrepreneurial Expertise	
H3: The positive relationship between social capital relatedness and opportunity attractiveness is weakened for entrepreneurs who have more experience in starting business ventures.	***Not Supported***
BEHAVIORAL FACTORS	
Regulatory Focus and Opportunity Evaluation	
H4a: Entrepreneurs' dispositional promotion orientations are positively related to opportunity attractiveness	***Not Supported***
H4b: Entrepreneurs' dispositional prevention orientations are negatively related to opportunity attractiveness	***Supported***

Entrepreneurial Passion and Evaluation	
	Not Supported
H5a: In the context of the opportunity evaluation decision, founder passion identity is positively related to opportunity attractiveness.	
H5b: In the context of the opportunity evaluation decision, simultaneous high passion for founding, inventing and developing is positively related to opportunity attractiveness.	***Supported***
Entrepreneurial Passion, Resources and Evaluation	
H6a: The higher the relative level of perceived inimitable resources an opportunity promises, the more attractive the opportunity will be for entrepreneurs with a developer identity.	***Not Supported***
H6b: The higher the relative level of perceived resources that limit competitive response an opportunity promises, the more attractive the opportunity will be for entrepreneurs with a developer identity.	***Not Supported***
H7a: The higher the relative level of perceived valuable resources an opportunity promises, the more attractive the opportunity will be for entrepreneurs with a founder identity.	***Not Supported***
H7b: The higher the relative level of perceived rare resources an opportunity promises, the more attractive the opportunity will be for entrepreneurs with a founder identity.	***Not Supported***
H8: The higher the relative level of perceived inimitable resources an opportunity promises, the more attractive the opportunity will be for entrepreneurs with an inventor identity.	***Supported***

Resources and Evaluation

Resources play a key role in all aspects of the entrepreneurial process and often inform the environmental context for many entrepreneurs (Choi & Shepherd, 2004; Fiet, 1996; Haynie, Shepherd, & McMullen, 2009). According to the RBV, a venture's success is a factor of its access to resources that are valuable, rare, inimitable and that restrict the competition (Barney, 1991; Peteraf, 1993). Therefore, high values for each of the four resource attributes is highly desirable for both young and established firms alike. Indeed, in hypotheses 1a through 1d, I predicted that entrepreneurs would make decisions consistent with what RBV tells us that high values of the four attributes are desirable.

When I run the random coefficients model which only contains that direct effect of the four resource attributes, the data indeed supports the predictions that entrepreneurs will favor opportunities that promise resources with high value, rarity, inimitability and potential to limit competitive response. Yet, once I include all other predictors in the model, inimitability is not significant anymore ($p = .235$). This is a surprising finding in light of the predictions of the RBV, which has implications for the theory. I discuss these implications later in this chapter. To fully explore the notion that entrepreneurs might not emphasize inimitability, I performed additional post-hoc analysis. I analyzed whether entrepreneurs with more experience will be likely to put more emphasis on inimitability compared to novice entrepreneurs. The logic for this enquiry is that inimitable resources are the key ingredients in providing a company with a sustainable competitive advantage (Barney, 1991). This might not be apparently obvious for novice entrepreneurs who might hastily try to find an opportunity worth building a business around and not consider the long-term viability of the opportunity, which in many cases leads to failure. Through experience, entrepreneurs who have started several ventures should have learned this lesson. Indeed, data supported this prediction. This dissertation, therefore, provides initial evidence that novice entrepreneurs might not put as much emphasis on inimitable resources, which could be an explanation for the high failure rate of new businesses.

Post-hoc analysis also revealed that younger entrepreneurs will look for resources that are valuable whereas experienced entrepreneurs will look for resources that can limit competitive response. Since valuable resources only provide temporary competitive advantage and resources that can limit competitive response provide sustainable competitive advantage (Barney, 1991), data implies that indeed with age comes wisdom.

Older entrepreneurs, perhaps due to age, emphasize resources that can truly bring long-term success to their future companies whereas younger entrepreneurs, similar to novice entrepreneurs, hastily try to find an opportunity worth building a business around and do not consider the long-term viability of the opportunity, which in many cases could lead to failure and could be a factor in the high rate of new businesses failure.

Another finding that came as a result of the post-hoc analysis is that male entrepreneurs are more likely to emphasize inimitable resources compared to female entrepreneurs. This finding is consistent with prior research on female entrepreneurs indicating that there are differences in how male and female entrepreneurs perceive information in an entrepreneurial context (e.g. Fagenson, 1993). I extend this research stream by finding evidence that women do not put enough emphasis on resources that have potential to provide their companies with a sustainable competitive advantage which in turn could threaten the long-term viability of their businesses. This finding has pedagogical implications as educators need to emphasize the value of inimitable resources.

Social Capital Relatedness, Evaluation and Entrepreneurial Expertise

Extant research suggests that entrepreneurs require information, capital, skills and labor to start business activities (Shane & Venkataraman, 2000). They often hold some of these resources themselves, but in a lot of instances they must complement their resources by accessing their contacts (Aldrich & Zimmer, 1986; Cooper, Folta, & Woo, 1995). There is evidence that social capital facilitates the discovery process by exposing

entrepreneurs to new ideas and perspectives (Aldrich & Zimmer, 1986) and that social capital aids resource acquisition and allocation as well as the diffusion of critical information which plays part in the exploitation process (Birley, 1985). Therefore, social capital has been shown to play a key role in the discovery and exploitation of entrepreneurial opportunities. Yet, we previously lacked evidence of its effects in the evaluation stage. Hypothesis 2 aimed to provide such evidence. It confirms that when it comes to decision-making, especially in an entrepreneurial context, the social capital of the entrepreneur represents an important consideration. The current literature on decision making relating to the entrepreneurial process stipulates that decision making and the resulting behavior evolve from the interaction between the entrepreneur (e.g. motivation, cognitions, individual characteristics) and the perceived situational factors present at the time of the decision. This behavior is influenced by the characteristics of the individual, external environmental factors as well as the specific entrepreneurial opportunities available (Holland & Shepherd, 2013; Shane & Venkataraman, 2000). The findings from hypothesis 2 suggest that entrepreneurs also take into account the stock of social capital they have that is related to a specific opportunity.

There have been an increasing number of studies on the differences between expert and novice entrepreneurs. There is evidence that expert entrepreneurs frame decisions related to the entrepreneurial process differently compared to novice entrepreneurs (Dew, Read, Sarasvathy & Wiltbank, 2009). In hypothesis 3, I examined whether differences in how decisions are framed exist between experts and novices when it comes to the use of their social networks in the context of opportunity evaluation. In other words, I studied whether entrepreneurial experience will have a moderating effect

on the relationship proposed in hypothesis 2. Surprisingly, data did not support the existence of a negative moderating effect of entrepreneurial expertise which challenges recent findings that theories developed in expert–novice studies in cognitive psychology can potentially illuminate important aspects of the entrepreneurial process including how experienced entrepreneurs acquire and use useful cognitive frameworks (Mitchell, Smith, Seawright, & Morse, 2000; Ensley & Baron, 2006). In other words, in the current study, entrepreneurial experts were no less likely to judge the attractiveness of an opportunity based on their stock of social capital compared to novice entrepreneurs. Of course, the fact that I did not find any evidence does not mean such a relationship does not exist. The lack of support for the hypothesis could be due to methodological or sampling issues. For example, conjoint experiments present an "artificial" environment that cannot take into account all the contingencies and emotions that go into a decision. Further study of the relationship between social capital relatedness and opportunity attractiveness in a novice-expert context is needed. Another explanation for the lack of support for H3 is that social capital might be perceived as essential by both novices and experienced entrepreneurs when it comes to evaluating opportunities. I would like to note that I am not claiming that experienced entrepreneurs make evaluation decisions the same as novices. I am also not claiming that entrepreneurial experience does not matter in an evaluation context. Truly answering these scientific enquiries goes beyond the boundary conditions of this dissertation and requires more data. What I argue and what the lack of support for H3 might suggest is that expert entrepreneurs have a higher stock of human capital, in the form of knowledge, skills and experience, compared to novice entrepreneurs (Haynie et al, 2009) and yet they still do not undervalue the importance of social capital when

judging the attractiveness of an opportunity. In other words, in an opportunity evaluation context, having formed sufficient entrepreneurial knowledge, skills and expertise is not enough to substitute for the benefits of social capital.

Regulatory Focus and Evaluation

Scholars have suggested that regulatory focus theory offers a suitable lens through which to examine phenomena associated with the entrepreneurial process such as opportunity discovery, evaluation, and exploitation (Baron, 2002; Baron, 2004; Brockner, Higgins, & Low, 2004; Hmieleski & Baron, 2008). Yet, we lack empirical support for many of these claims. With hypotheses 4a and 4b I tried to address this gap in what we know. The findings suggest that entrepreneurs with a prevention focus will tend to rate lower the attractiveness of opportunities (H4b). Data does not indicate, however, that entrepreneurs with a promotion focus will rate higher the attractiveness of opportunities, which is contrary to expectations (H4a). One explanation for this is that maintaining a sense of security might be a more powerful motivator in altering the behavior of entrepreneurs compared to the relentless pursuit of achievement. If that is the case, then the findings are consistent with Maslow (1943). Maslow posited that individuals are motivated by a hierarchy of needs. At the lowest level are basic needs such as food, shelter and comfort. Once basic needs have been met, an individual pursues security needs followed at increasingly higher levels by needs for social acceptance, self-esteem and achievement. Maslow contends that in order to meet higher level needs, an individual needs to have secured lower level needs. This implies that even in an entrepreneurial context, individuals will prioritize lower level needs. More evidence is needed in order to

isolate whether entrepreneurs will inherently prioritize these lower level needs or it is the uncertainty-rich entrepreneurial context that heightens this need for security.

What is very surprising is that H4a was significant in the opposite direction. In other words, entrepreneurs with a high promotion focus were likely to rate opportunity attractiveness lower. Brockner et al (2004, p. 204) write: "when promotion-focused, people's growth and advancement needs motivate them to try to bring themselves into alignment with their ideal selves (based on their dreams and aspirations), thereby heightening the salience of potential gains to be attained (felt presence of positive outcomes)." In line with this statement, a possible explanation for the surprising finding in H4a is that entrepreneurs did not believe exploiting an opportunity would advance their need for growth and align them with their "ideal selves". Entrepreneurship involves high uncertainty, which contributes to a high failure rate for new businesses. Failure directly contradicts what promotion-focused individuals strive for (e.g. high achievement) and potentially explains the surprising finding of H4a.

Entrepreneurial Passion and Evaluation

Extant research theorizes entrepreneurial passion to be at "the heart of entrepreneurship" playing an important role in all aspects of the entrepreneurial process (Cardon, Zietsma, Saparito, Matherne, & Davis, 2005). Indeed, entrepreneurial passion can influence how entrepreneurs perceive opportunities and how they acquire resources (Baron, 2008). Further, it can affect how entrepreneurs recognize complex patterns, which in turn can inform entrepreneurial behavior in lieu of potential opportunities (Baron & Ward, 2004). Yet, we do not know whether the three passion identities can

influence how entrepreneurs evaluate opportunities. Hypotheses 5a examined whether founder passion identity has a direct effect on decision-making regarding the attractiveness of potential opportunities. Data did not support the existence of such a direct effect. In hypothesis 5b, I explored whether entrepreneurs who have high values for all passion identities will be more likely to rate more opportunities as attractive. This implies that entrepreneurs with passion for all parts of the entrepreneurial process are more likely to rate an opportunity as attractive regardless of resource consideration. One explanation for this finding is that entrepreneurs that are highly passionate for all entrepreneurship activities will be more driven to take entrepreneurial action and exploit an opportunity because they enjoy all aspects of being an entrepreneur and look forward to take part in entrepreneurial activities.

Entrepreneurial Passion, Resources and Evaluation

In hypotheses 6a and 6b, I argued that due to their long-term perspective, entrepreneurs with high passion for developing would favor resources that have the potential to prepare their company for the long-run. Based on RBV, I expected that, when evaluating opportunities, entrepreneurs with developer identity will be more likely to favor resources that could provide their company with a sustainable competitive advantage and will therefore emphasize resources that are inimitable and put a limit on the competition, as opposed to valuable and rare, because of the consistency with entrepreneurs' developer identity. In other words, entrepreneurs who enjoy the process of taking an already existing opportunity and growing it into a viable business will emphasize resources that are difficult to replicate by competitors. The data did not

support that entrepreneurs with high passion for developing will put more emphasis on inimitable resources or resources that could limit competitive response. An explanation for the lack of support for the hypothesis could be that due to their developer identity, such entrepreneurs would be focused on growing and developing their company. Extant research indicates that growth-oriented entrepreneurs emphasize the accumulation of scarce resources because scarce resources can facilitate firm growth (Liao & Welsch, 2003). Yet, scarce resource accumulation is a complex process and attracting resources is one of the biggest challenges facing entrepreneurs (Brush, Greene & Hart, 2001). Due to this, growth-oriented entrepreneurs will focus on accumulating a mix of resources at all stages of the company, even if it is not apparent when they will be needed or how they fit in with the growth-oriented nature of the venture. Because such mode of resource accumulation is present within growth-oriented entrepreneurs, they emphasize all resource attributes explaining the lack of support for H6a and H6b.

In hypotheses 7a and 7b, I argued that entrepreneurs with high passion for founding enter into entrepreneurship with the clear vision of a quick exit en route to founding another profitable venture in the future. Since resources that are inimitable and put a limit on the competition are less common making them more costly to find and acquire, I argued that entrepreneurs with a founder identity will favor resources that are rare and valuable because such resources will provide them with efficient means to attain a temporary competitive advantage which they can capitalize on in the short-run before moving on to another venture. In other words, entrepreneurs who enjoy undertaking all the activities that lead up to the launch of a new company will look to acquire resources that can help them start a company in the short-run. The data did not support that

entrepreneurs with high passion for founding will put more emphasis on resources that are valuable or rare. Unlike developers who are growth-oriented entrepreneurs, founders are focused on venture creation (Cardon et al, 2005). In order to achieve venture creation, founders can use different strategies. What strategy is used depends on the specific identity a founder has. For example, Fauchart & Gruber (2011) find evidence that founders could fall in one of three distinct identity categories: Darwinians, Communitarians or Missionaries. Each of these groups treats resource acquisition in a different way. For example, Darwinians will look for cost-effective (valuable) and patentable (inimitable) resources, Communitarians will look for "highly individualized and artisanal" (rare) resources and Missionaries will acquire resources based on supplier relationships (limit competitive response) (Fauchart & Gruber, 2011). Because these three founder identities show founders as emphasizing all resource categories, it can be implied that founders will favor resources consistent with their founder identity explaining why I found no support for hypotheses 7a and 7b.

Hypothesis 8 suggested that entrepreneurs with an inventor passion identity may give precedence to resources that are inimitable as such resources could be used in the development of prototypes that would allow for unique inventions consistent with entrepreneurs' passion identity. In contrast, entrepreneurs with high passion for inventing experience positive affect when they engage in activities that allow them to come up with new ideas for products or services (Cardon, Wincent, Singh, & Drnovsek, 2009). For example, such entrepreneurs will enjoy discovering and developing new prototypes for products. That is, entrepreneurs who enjoy identifying potential market needs and develop new products or services that meet those needs will look for resources that are

unique and difficult to be replicated. The data supports this prediction. Inventors are passionate about activities that lead up to the creation of a new product or service which is then used as a cornerstone to build a business around. Generally, in the early stages entrepreneurial activities are linked to an inventor identity (Cardon et al, 2005). There is more planning involved in the early stages of a venture and therefore, the finding that inventors emphasize inimitable resources should not be surprising because such resources are linked to better performance. This finding also provides further support for Markman, Espina, and Phan (2004) who find that resource inimitability is significantly related to new product introductions.

Implications of the Findings

This dissertation has several theoretical, methodological and practical implications. I start by outlining this study's theoretical implications before discussing the methodological and practical implications.

Implications for Social Cognitive Theory

This study provided evidence of the usefulness of social cognitive theory in the examination of decision-making related to the entrepreneurial process. There has been speculation in extant literature that social cognitive theory provides a useful theoretical framework for understanding multiple entrepreneurial phenomena (Hmieleski & Baron, 2011). Yet, the theory is not present in work on the entrepreneurial process, and opportunity evaluation in particular, even though the opportunity evaluation decision

presents a suitable context to apply the predictions of social cognitive theory as the evaluation decision is made in lieu of the interacting environmental, behavioral and individual forces (Bandura, 1989; Holland & Shepherd, 2012). Social cognitive theory suggests that the effects of personal dispositions are determined by their interaction with behavioral and environmental factors (Bandura, 1986). As such, the theory combines personal, behavioral and environmental perspectives, thus providing a more comprehensive framework for examining entrepreneurial decision-making than could be gained by focusing on any of these levels of variables independently. The current literature on decision-making relating to the entrepreneurial process stipulates that decision-making and the resulting behavior evolve from the interaction between the entrepreneur (i.e. motivation, cognitions, individual characteristics) and the perceived situational factors present at the time of the choice. This behavior is influenced by the characteristics of the individual, external environmental factors, and the specific entrepreneurial opportunities available (Holland & Shepherd, 2013; Shane & Venkataraman, 2000).

In this study, while I demonstrate that social cognitive theory provides a useful lens through which to examine all phases of the entrepreneurial process, I specifically illustrate its usefulness in studying the complex evaluation decision. I find evidence that, in an opportunity evaluation context, the following factors play a role in decision-making: 1) environmental factors, such as certain resource considerations, 2) individual factors, such as social capital relatedness, 3) behavioral factors, such as regulatory focus and the simultaneous influence of all entrepreneurial passion identities. There were also

factors I could not demonstrate play a role in the evaluation decision, such as inimitable resources, entrepreneurial experience and the three distinct passion identities.

The model presented in this dissertation gives evidence, in support of social cognitive theory in an entrepreneurial context, that the evaluation decision involves entrepreneurs having to make a trade-off between the environmental, behavioral and individual factors influencing decision-making. For example, consider a serial entrepreneur who has built an extensive network of social connections that could help facilitate financing of any future ventures he pursues. Such an entrepreneur might focus on his *individual* expertise and not consider *environmental* factors as seriously when evaluating future opportunities. Compare this to another entrepreneur who has a limited network of contacts but is someone who is driven by a sense of achievement and is willing to pursue opportunities with high potential for achievement irrespective of *environmental* or *individual* factors. These trade-offs play a role in the evaluation decision and should be explored in more detail in future research. For example, perhaps an entrepreneur with high promotion focus would consider addressing his limitations in exploiting an opportunity by finding a partner who can help him/her. Or perhaps, the entrepreneur would choose a less attractive opportunity instead. The existence of these trade-offs raises questions that could potentially be answered by incorporating predictions from various theories along with social cognitive theory. This dissertation illustrated the feasibility of such an approach by developing the proposed integrative model of opportunity evaluation. Hopefully, this study serves as a platform on which to build on and illustrates the usefulness of social cognitive theory in examining phenomena associated not only with opportunity evaluation, but also with the entrepreneurial process.

Implications for Entrepreneurship

This dissertation also has implication for the entrepreneurship literature. First, I offer a comprehensive view of opportunity evaluation. The evaluation decision involves entrepreneurs making a judgment on the attractiveness of potential opportunities and whether any of them are attractive for entrepreneurs to exploit. Building on the work of Taylor (1998), Haynie et al (2009), McMullen and Shepherd (2006), Higgins (1997), Cardon et al (2009) and others, I presented and tested a model of opportunity evaluation that incorporates interrelated environmental, individual and behavioral forces (Figure 3 on page 33). The model suggests a framework through which we can investigate the influences of idiosyncratic behavior, motivations and environmental context on opportunity evaluation.

Second, this study provides an intriguing insight for the literature on entrepreneurial passion. I provide evidence that any of the three passion identities does not directly affect how entrepreneurs perceive opportunity attractiveness. It is the combined effect of all passion identities that leads to some entrepreneurs being more likely to find an opportunity as more attractive. Therefore, this dissertation provides a key implication for the current entrepreneurship literature in that being highly passionate in all dimensions could be a spark for entrepreneurial action. Affect and emotions have been theorized to play an important role in entrepreneurship (Baron, 2008). Yet, most of the evidence of this existence is provided by data collected using instruments designed for disciplines other than entrepreneurship. Perhaps due to this, our knowledge on the issue has been at a macro level. Cardon et al (2009) go beyond what we know in theoretically

identifying three distinct entrepreneurial passion identities that affect entrepreneurial decision-making – inventor, founder and developer. So far, we had little knowledge of the role the different passion identities play in the entrepreneurial process. Further, we did not know whether entrepreneurs who are high in a specific passion identity and low in the others will tend to differ in their decision-making.

Finally, the resource-based view tells us that companies should seek inimitable resources in order to gain a sustainable competitive advantage. This prescription, however, is based on data from managers in large, established companies. We have little evidence whether entrepreneurs' thinking is consistent with that of managers in emphasizing inimitable resources. This dissertation provides initial evidence that novice entrepreneurs might not put as much emphasis on inimitable resources, which could be an explanation for the high failure rate of new businesses. It could be that novice entrepreneurs focus so much on finding an opportunity worth building a business around that they do not consider the long-term viability of the opportunity, which in many cases leads to failure. This finding has implications for how we teach entrepreneurship in that educators should emphasize the importance of acquiring inimitable resources.

Methodological Implications

This dissertation has methodological implications for studying opportunity evaluation. First, I am consistent with the multilevel perspective highlighted by Shepherd (2011) both theoretically, through the use of the multilevel social cognitive theory, and methodologically, through the use of hierarchical linear modeling. This perspective

suggests that in order to fully understand complex entrepreneurial decisions (including opportunity discovery, evaluation and exploitation), it is essential to examine variables operating at different levels of analysis (e.g. decision, individual, environment). Following this perspective has implications for future research on opportunity evaluation in that we should move away from simple single level of analysis models and focus on complex multilevel models because decision-making in an entrepreneurial context is a complicated phenomenon warranting comprehensive examination using the appropriate tools.

Second, this study illustrated an alternate way of manipulating social capital as part of an experimental design. As a result, this dissertation has methodological implications about examining the use of social capital in an entrepreneurial context. For example, so far social capital has been measured using a separate scale and mainly treated as a measured variable (Adler & Kwon, 2002). In this study, I illustrate how we can manipulate social capital as an experimental variable. Such manipulation allows for incorporating social capital along with new variables at various levels of analysis. It also allows examining social capital and its effects in all parts of the entrepreneurial process, consistent with studying entrepreneurship as a process (McMullen & Shepherd, 2006).

Practical Implications

This dissertation may also have some practical implications. First, having knowledge of the social capital an entrepreneur has is important from the point of view of establishing which connections can help with which opportunities. If an entrepreneur is aware of how a social connection might help him/her with exploiting a specific

opportunity, he/she might evaluate opportunities in such a way as to maximize the chance of finding a quality opportunity, which would also minimize the chance of failure. Second, the ultimate goal for entrepreneurs is to be able to successfully determine whether an opportunity is suitable and lucrative. Making the wrong choice when evaluating the attractiveness of opportunities could lead to a number of negative outcomes including wasting financial and personal resources. Because of that, it is important for entrepreneurs to understand the factors involved in opportunity evaluation. There are various possible contingencies that could bias entrepreneurs towards making a certain decision and understanding these contingencies could lead to more sound judgment. Further, entrepreneurs would be better prepared to take measures prior to reaching a decision by possibly seeking an objective opinion from other sources.

Contributions

This dissertation makes several contributions. First, it sheds new light on opportunity evaluation by presenting an integrative model of opportunity evaluation. By integrating social cognitive theory with predictions from the resource-based view, regulatory focus theory and the literature on entrepreneurial passion and entrepreneurial experts, I offer a robust, testable framework through which we can investigate the influences of idiosyncratic behavior, motivations and environmental context on opportunity evaluation. The framework and the findings in this dissertation are consistent with social cognitive theory in taking into account the effects of environmental, individual and behavioral factors on opportunity evaluation decisions setting the groundwork for examining important questions outlined in extant research. My

dissertation contributes to social cognitive theory by explaining how the theory affects entrepreneurial decision making and by identifying new environmental, individual and behavioral factors that affect the entrepreneurial process, thus extending the understanding of the three social cognitive factors by demonstrating their impact on entrepreneurial decision making related to opportunity evaluation.

Second, this dissertation contributes to social capital theory. We have evidence that the relatedness of the opportunity to the entrepreneurs' skills, knowledge, and experience has a positive effect on opportunity evaluation (Haynie, Shepherd, & McMullen, 2009). Building on this line of research, this dissertation emphasizes the positive effect that social capital relatedness has on opportunity evaluation. Prior research has identified the relationship between social capital and cognitive biases as an explanation for why some people exploit specific opportunities whereas others do not (DeCarolis & Saparito, 2006). Yet, we have limited knowledge of whether social capital plays a role in the evaluation process or if it is strictly related to exploitation. This dissertation contributes to social capital theory by empirically showing that indeed the theory plays a part in the evaluation stage of the entrepreneurial process.

Third, this dissertation aims to shed a new light on the scholarly conversation on serial entrepreneurship by examining how being an expert affects the relationship between social capital relatedness and entrepreneurs' judgment on the attractiveness of opportunities. I contribute to this literature by illustrating that theories developed in an expert–novice context in cognitive psychology can potentially illuminate important aspects of the entrepreneurial process including how experienced entrepreneurs acquire and use useful cognitive frameworks might not always hold (Mitchell, Smith, Seawright,

& Morse, 2000; Ensley & Baron, 2006). I found no difference between experts and novices in their perception of the value of social capital when it comes to judging opportunities. I further contribute to the literature on expert-novice entrepreneurship by illustrating that novice entrepreneurs do not put emphasis on acquiring inimitable resources which could be one explanation for the high rate of new business failures.

Fourth, this dissertation contributes to regulatory focus theory. Scholars have suggested that regulatory focus theory offers a suitable lens through which to examine the entrepreneurial process (Baron, 2002; Baron, 2004; Brockner, Higgins, & Low, 2004; Hmieleski & Baron, 2008). Yet, while the theory has been used in empirically explaining discovery and exploitation phenomena (Baron, 2002; Hmieleski & Baron, 2008), it has not been used to examine whether it plays part in the opportunity evaluation process. I contribute to regulatory focus theory by empirically illustrating that it affects opportunity evaluation and by identifying its direct effect on decision making related to judging whether an opportunity is attractive.

Finally, this dissertation contributes to the entrepreneurial passion literature by providing empirical evidence for some of the effects of entrepreneurial passion identity in the entrepreneurial process (Cardon, 2008; Cardon, Wincent, Singh, & Drnovsek, 2009). Most of the empirical work up to this point has used measures developed within different fields such as organizational behavior and psychology which measure general passion (Cardon, Gregoire, Stevens, & Patel, 2013). This dissertation is one of the first studies to incorporate an instrument specifically designed to measure passion in an entrepreneurial context. It is my hope that more researchers will use the instrument so that we can get more empirical evidence of the role of entrepreneurial passion in the entrepreneurial

process. Further, this dissertation illustrates that the effect of being passionate about all aspects of the entrepreneurial process might be a spark for entrepreneurial action.

Future Research Opportunities

There are several opportunities to extent this research. While the data did not support a few of the hypotheses, the lack of significant results does not permit me to conclude that a relationship does not exist. Analysis of the data indicated that the relationship between social capital relatedness and evaluation is not moderated by entrepreneurial expertise. Since there is evidence that expert entrepreneurs frame decisions differently compared to novice entrepreneurs (Dew, Read, Sarasvathy & Wiltbank, 2009), future research should further test the effects of entrepreneurial expertise on the relationship. Additionally, studies should test whether the expert-novice distinction stands in an evaluation context. More specifically, are experts more likely to find opportunities attractive? What are some environmental, behavioral and individual factors that experts emphasize?

Following the lead of Haynie & Shepherd (2009), future research should also examine whether metacognition plays a role in evaluation. Metacognition is simply "thinking about thinking" and could be useful in an opportunity evaluation context because it allows individuals to adapt their decision making to quickly interpret various complex contexts (Miller & Ireland, 2005). More specifically, it would be interesting to know whether the extent to which an entrepreneur is self-aware of their knowledge and experience would lead to making better evaluation decisions. Further, it would be

worthwhile to study entrepreneurs' metacognitive tendencies related to the environmental, behavioral and individual factors outlined in this study.

Future research could also take a closer look at relationship between evaluation and performance. More specifically, the various factors that inform evaluation could be causally linked to performance to isolate what factors differentiate successful firms from failing firms. Further, the moderating effect of social capital relatedness could be explored in assessing the evaluation and performance relationship. For example, are companies that are started by entrepreneurs who have a high stock of social capital related to the opportunity more likely to be successful?

Another interesting future research opportunity could be further applying the different entrepreneurial passion identities to try to isolate what other effects on decision-making they might have when assessing the attractiveness of opportunities. For example, are individuals with the same passion identity more likely to follow similar mental schemas and heuristics? Do the different passion identities contribute to difference in decision-making? Are any of the passion identities more likely to contribute to a higher chance of a successful start-up and a better opportunity?

Future research should also apply the prescriptions of social cognitive theory in the other two phases of the entrepreneurial process – discovery and exploitation. The individual, his/her behavior and the environment play a role in the discovery and exploitation of opportunities so it is logical to assume that social cognitive theory could provide a useful tool for furthering what we know about the entrepreneurial process.

Limitations

Like most studies, this one is not without limitations. This dissertation uses a conjoint experiment and aims to advance our understanding of opportunity evaluation. While it offers a number of benefits in studying decision making, conjoint analysis has a few limitations as well. I address these limitations along with the measures I took to mitigate the effects of each below.

Content Validity

Content validity is concerned with whether the measures are actually relevant and representative of the content and consists of two types of validity – face validity and construct validity. In conjoint analysis there is the possibility that respondents could attach importance to attributes merely because they were presented with them within the experiment. However, prior research gives us evidence that conjoint analysis really reflects the decision policies actually used by individuals (e.g. Haynie, Shepherd, & McMullen, 2009; Holland & Shepherd, 2012). Additionally, in order to address the fact that respondents could attach importance to attributes merely because they were presented with them in the experiment I use a sample of experienced entrepreneurs as opposed to inexperienced respondents (such as students), who would be more likely to fall into this trap. Further, the attributes employed in the study were theoretically justified and the nature of the experimental design is such that content validity is not a genuine concern. My focus was on the change of decision making given the effect of several independent variables. Thus my focus in this dissertation was not to suggest through my

findings how the attributes are used by the respondents, but to demonstrate how the independent variables affect decision making.

A related limitation is the fact that a conjoint experiment presents an "artificial" environment. Critics argue that artificial experiments cannot consider all the information that goes into entrepreneurial decisions in real life because they fail to consider all the contingencies and emotions that go into a decision. Even though this is an unavoidable limitation not only for conjoint experiments, but also for other types of experiments, Haynie et al (2009) and Stewart (1993) assert that the method has strong validity. Further, extant research indicates that hypothetical scenarios like the ones used in this study are useful for capturing real policies (Chaput de Saintonge & Hathaway, 1981; Riquelme & Rickards, 1992; Shepherd, 2011; Shepherd & Zacharakis, 1997).

Another concern related to construct validity is the limited number of attributes that can be included in a conjoint analysis. Prior research suggests that the maximum number of attributes a respondents can be expected to deal with are eight (Shepherd & Zacharakis, 1997) or ten (Broonn & Olson, 1999). In this dissertation I included five attributes.

Structural Validity

Structural validity refers to the requirement that analytical methods are consistent with the theoretical construction of the variables and models. This often requires a clearly specified research model. In this research, I have defined the research model both theoretically and empirically reducing the possibility of structural validity implications.

Non-response Bias

Non-response bias refers to an issue generated by the possibility that results may reflect an unrealistic percentage of a particular demographic portion of the sample. Non-response bias is a problem for almost every survey because often there are differences between the ideal sample pool of respondents and the sample the actually responds to a survey. One of the most effective ways to reduce the effects of non-response bias is to realize a high response rate. The response rate for this study is 79.3% which is considered excellent based on the nature of the study. For comparison Haynie et al (2009) has a response rate of 44%.

External Validity

External validity refers to the issue of generalizability. More specifically, it focuses on how the findings of the study can be attributed to the population or setting they are designed to study. One of the major concerns in conjoint analysis is that the experiment may lack external validity. Steps were taken to ensure external validity including a random sample of expert entrepreneurs. Consistent with prior research I focused on entrepreneurs who have started a venture within the past ten years.

Reliability

Reliability refers to the extent to which a variable measures what it is intended to measure. If multiple measures are taken they should be consistent in their values. To

assure reliability within this study, I replicated several of the profiles to allow for a comparison of the original profiles with the replicated one. Reliabilities were strong and in line with prior research.

Conclusion

Opportunity evaluation is an integral part of the entrepreneurial process. Indeed, how entrepreneurs evaluate opportunities is an important issue as many factors play a role into the evaluation decision. In this dissertation, using social cognition theory as an underlying theory, I developed a model of opportunity evaluation. Testing of the model revealed that entrepreneurs base their evaluation decisions on environmental, individual and behavioral factors. The findings show that entrepreneurs will find opportunities that relate to their network of relationship as more attractive. Further, entrepreneurs with a prevention regulatory focus orientations will generally find opportunities as less attractive than they are. Additionally, entrepreneurs who are high on all passion identities will be likely to find more attractive opportunities. Hopefully these findings provide scholars with the motivation to conduct future research focusing on the evaluation part of the entrepreneurial process.

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Ma, D., Mattingly, E.S., Kushev, T. N., & Ahuja, M. (2013) Entrepreneurial Persistence: Family Business Focus on Nonfinancial Benefits. Academy of Management Annual Meeting, Orlando, Florida.

Kushev. T.N., Mueller, J.M. (2013) Immigrants, Innovation, and New Firms. Industry Studies Conference, Kansas City, Missouri.

D'Mello, J., Mattingly, E.S., & Kushev, T.N. (2012) Explaining Conflicts among Stakeholders in Social Enterprises: A Multi-Theoretic Approach. Babson College Entrepreneurship Research Conference, Fort Worth, Texas.

Kushev. T.N., Meek, W.R., Davis-Sramek, E. (2012) Franchisee Cooperation: The Effects of Justice Perception, Trust, and Affective Commitment on Citizenship Behavior. Academy of Management Annual Meeting, Boston, Massachusetts.

TEACHING

University of Louisville — Louisville, KY
Instructor — 2012 - 2014

- MGMT 340 (Entrepreneurial Creativity & Innovation)
  - Fall 2012 – Average teaching effectiveness: 4.22/5
  - Fall 2012 – Average teaching effectiveness: 3.63/5
  - Spring 2013 – Average teaching effectiveness: 4.00/5
- FIN 345 (Entrepreneurial Finance)
  - Spring 2013 – Average teaching effectiveness: 3.74/5

University of California, Riverside — Riverside, CA
Teaching Assistant — 2008 - 2010

- BUS 101 (Information Technology Management)
  - Fall 2008 – Average teaching effectiveness: 6.50/7
  - Winter 2009 – Average teaching effectiveness: 6.60/7
  - Winter 2009 – Average teaching effectiveness: 6.60/7
  - Spring 2009 – Average teaching effectiveness: 6.10/7
  - Spring 2009 – Average teaching effectiveness: 6.20/7

- BUS 106 (Financial Theories and Markets)
  - Fall 2009 – Average teaching effectiveness: 6.40/7
  - Fall 2009 – Average teaching effectiveness: 6.70/7

ACADEMIC SERVICE

Professional Service

- Ad hoc reviewer: AOM (2012, 2013), WAM (2013), USASBE (2012)

University Service

- Project BUILD instructor (University of Louisville, 2013)
- Part of the AACSB accreditation assessment process at the University of Louisville (2012)

Community Service

- Co-founder – Idea Mornings (www.ideamornings.com)
- Breakfast talk series/community project aimed to spark new ideas to make Louisville better through social entrepreneurship, civic engagement and the arts.
- Curated/Organized/Hosted over 30 consecutive monthly events for over 2000 total people, including partnership with Louisville's annual IdeaFestival (www.ideafestival.com)
- Kept the event free to the public by obtaining sponsorships from local businesses.

AWARDS & HONORS

- Invited participant and grant recipient, Charles Koch Foundation Entrepreneurship Workshop. Arlington, VA (2013)
- Awarded a grant to attend the Entrepreneurship Doctoral Consortium. Academy of Management, Annual Meeting, Orlando, Florida (2013)
- Research Grant, College of Business Research Incentive Grant (CBRIG), University of Louisville (2012)
- Research/Travel Stipend, Delphi Center Graduate Teaching Academy Stipend, University of Louisville (2012)
- Selected participant, Graduate Teaching Academy (University of Louisville, 2012)
- Selected Participant, New Student Doctoral Consortium (AOM 2011)
- Inducted to the Beta Gamma Sigma International Honor Society (UC Riverside, 2009)
- Winner of the prestigious Walter A. Henry Memorial Scholarship (UC Riverside, 2009)
- Nominated for the "Most Outstanding Teaching Assistant" award (UC Riverside, 2009)
- Recipient of two merit-based fellowships covering all tuition and fee expenses (UC Riverside, 2008-2010)
- Dean's List in six out of eight semesters (Valdosta State University, 2004-2007)
- Recipient of a merit-based tuition waiver (Valdosta State University, 2004-2007)

PROFESSIONAL AFFILIATIONS

- Academy of Management (ENT, OMT, RM divisions)
- United States Association for Small Business and Entrepreneurship (USASBE)

PROFESSIONAL EXPERIENCE

Westview Services — Riverside, CA
System Analyst Intern — 2009

- Evaluated and revised current company strategy
- Investigated entrepreneurial options for client population and financial liabilities
- Retooled marketing strategy

ClientTell, Inc. — Valdosta, GA
Accounts Manager — 2006 - 2008

- Managed accounts payable, accounts receivable, and payroll
- Assisted with preparation of budgets
- Investigated entrepreneurial and investing opportunities

REFERENCES

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