

ESTABLISHING A MEASURE OF THE LIKELIHOOD
TO PURSUE AN ENTREPRENEURIAL
OPPORTUNITY

By

ROBERT J. KING

Bachelor of Science in Industrial Engineering
Texas A&M University
College Station, TX
1997

Master of Science in Finance
University of Houston-Clear Lake
Houston, TX
2005

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Dissertation Approved:

Dr. Matthew Rutherford

Dissertation Adviser

Dr. Bryan Edwards

Dr. Neil Tocher

Dr. Jeff Pollack

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Name: ROBERT JOSEPH KING

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Abstract: Over the past several decades, considerable research has attempted to better understand the characteristics and traits of those who choose to pursue entrepreneurial opportunities over conventional employment. Multiple theories have been drawn upon to assist in our understanding of why individuals choose to pursue entrepreneurial opportunities; the results have been mixed. To assess entrepreneurial phenomena, and since there is some degree of overlap in these theories, I developed a meta-theory after reviewing 10 highly ranked entrepreneurial and management journals. I combined 10 theories from multiple disciplines to show how individual traits and characteristics relate to their pursuit of entrepreneurial opportunities. From this meta-theory, I created the novel construct, the Entrepreneurial Likelihood Pursuit ratio, based on the ratio of individuals' aspirations to their perceived labor market value. The model incorporates human capital and environment as the antecedents to the Entrepreneurial Likelihood Pursuit Ratio. I hypothesized that the ratio in turn relates to the pursuit of entrepreneurial opportunities. I conducted preliminary interviews with doctoral students to identify antecedents. I then conducted three studies, two instruments, and one archival analysis to validate the measure using a convergent mixed methods design. The instrument includes items pertaining to human capital, environment, career aspirations, perceived labor market value, entrepreneurial self-efficacy, and entrepreneurial opportunity exploitation. I conducted the first study as a general population study. I drew the second sample from undergraduate students at a large, midwestern university. For the third study, I used archival data from the GEM 2018 APS dataset. The results of each study indicated that the Entrepreneurial Likelihood Pursuit ratio did not statistically mediate the relationship between human capital or environment and entrepreneurial opportunity exploitation. I conducted post hoc analyses on Studies 1 and 2 data where I replaced the Entrepreneurial Likelihood Pursuit ratio by career aspirations and then perceived labor market value. For Study 2, perceived labor market value did statistically mediate the relationship between human capital or environment and entrepreneurial opportunity exploitation.

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CHAPTER I

INTRODUCTION

Gene Caballero worked full-time at Dell Technologies as a corporate account manager performing technical sales in the western part of the United States where he was exposed to newer technologies like Uber, Lyft, and Airbnb (Brill, 2020). This exposure heightened his alertness to new entrepreneurial opportunities, and he noticed the opportunity to pair some of these business concepts with lawncare services. He and a couple of his friends launched GreenPal in 2012. It has since become known as the “Uber of lawncare.” Mr. Caballero continued to work at Dell Computers until his company reached 500 orders per week; then he left to work full time at the start up¹ (Bernard, 2016). What internal and external influences motivated Mr. Caballero to leave a secure job at a very reputable company to consider an entrepreneurial opportunity? What internal thresholds were exceeded for him to actively pursue an entrepreneurial opportunity? What entrepreneurial theory should be drawn upon when answering these questions? These questions will serve as the basis for the research in this manuscript.

Over the past several decades, considerable research has sought to better understand the characteristics and traits (C&T) of the people who have chosen to pursue

¹ Gene Caballero. LinkedIn. <https://www.linkedin.com/in/gene-caballero-53386a18>

entrepreneurial opportunities over conventional employment. Some of the C&T research efforts covered socio-cognitive traits (entrepreneurial self-efficacy, alertness to new business opportunities, and fear of failure) (Boudreaux et al., 2019), age (Wilde & Leonard, 2018), gender (Hossain et al., 2021), culture (Röhl, 2019), personality issues (Johnson et al., 2018), and even the dark side of entrepreneurial traits (Klotz & Neubaum, 2016). Despite all this research, the level of our perceived understanding of entrepreneurial C&T remains a popular research topic.

Using the theory-driven approach, entrepreneurial C&T research attempts to contribute to the literature by advancing our understanding of why people choose to pursue entrepreneurial opportunities. Research has applied Social Cognitive Theory (SCT; Bandura, 1986; 1991), the Big Five construct (Caliendo et al., 2014; Espíritu-Olmos & Sastre-Castillo, 2015; Zhao et al., 2010; Zhao & Seibert, 2006), and the Theory of Planned Behavior (TPB, Ajzen, 1991) to entrepreneurship. Other research may tie to more peripheral theories or frameworks, such as Utility Theory (risk aversion) (Kihlstrom & Laffont, 1979), Prospect Theory (Kahneman & Tversky, 1979), and Appraisal Tendency (Foo, 2011).

Each of these theories provides a vantage point from which to understand why people may make the decision to pursue entrepreneurial opportunities. By staying with a single theory or framework, researchers are restricted to only a few theory evaluation criteria; their studies may have measurements that extend beyond these criteria, causing researchers to miss pertinent aspects that are relevant in the decision-making processes people follow in determining whether to stay in their current employment situations, seek new employment, or pursue entrepreneurial opportunities (Franquesa et al., 2020).

To address this concern, I argue that since these theories and frameworks have a level of construct overlap, a meta-theory should be developed create an umbrella framework to aggregate and explicate C&T entrepreneurial research. For example, SCT includes the factors of behavior, personal factors (cognitive, affective, and biological (trait) events), and environmental (Bandura, 1991) where the behavior factor is associated with the personal attitude, subjective norms, and perceived behavioral control constructs of the TPB (Ajzen, 1991). Peoples' behavior is strongly influenced by their personality and can be evaluated through the Big Five Model (Caliendo et al., 2014; Espiritu-Olmos & Sastre-Castillo, 2015; Zhao et al., 2010; Zhao & Seibert, 2006). The relationships among the different constructs can be used to create a single paradigm that helps to simplify this complexity while maintaining the general abstract idea or theme.

To identify the common theories and frameworks, I reviewed articles from 10 highly regarded journals, including *Entrepreneurship Theory and Practice*, *Strategic Entrepreneurship Journal*, *Journal of Business Venturing*, *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of Applied Psychology*, *Journal of Management*, *Organization Science*, and *Strategic Management Journal*. From the review of 369 articles, I identified 28 articles that were relevant to C&T entrepreneurial research that had conducted studies at the individual level. From the list of theories and frameworks identified during my literature review, I selected seven theories to include in the meta-theory I am proposing. These theories include Expectancy Theory, Social Cognition Theory, Theory of Planned Behavior, Human Capital Theory, Attitude Theory, Whole Trait Theory, and Job Characteristics Model Theory. Additionally, I also included Prospect Theory and Strategic Reference Point Theory in the meta-theory. I selected these

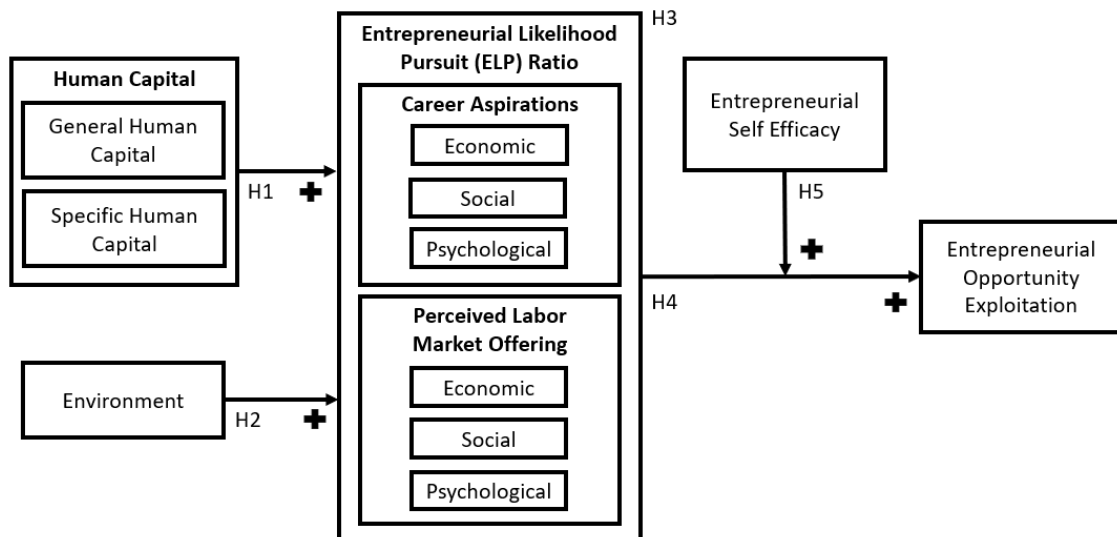
theories because they aligned to the purpose of my research. Creating a meta-theory will allow consolidation of these theories, specifically their constructs, as they apply to understanding potential entrepreneurial C&T, which lead to entrepreneurial opportunity pursuit. Also, it will help further establish the identity of entrepreneurial research and provide greater clarity for how C&T relate to people choosing entrepreneurial opportunities. From a more practical standpoint, the benefits of developing the measure will assist educators, policy makers, and entrepreneurs by providing an evidence-based assessment of the likelihood of engaging in entrepreneurial action.

While I propose that organizing the theory in this way will add substantial value to the field, it is not the chief purpose of my research. Rather, I seek to employ this aggregated theory to establish a novel measure. This measure, embracing a level of bounded rationality of the individual, will assess of the ratio of individuals' aspirations to the their perceived labor market value (Lee & Venkataraman, 2006). More specifically, it will measure peoples' perceptions of accomplishments of aspirations relative to their current positions or status in time to allow for them to determine whether this ratio meets the utility threshold to make a job change. The use of the entrepreneurial self-efficacy (Bandura, 1977a) will help to indicate whether individuals have a proclivity towards entrepreneurship.

In this study, I attempt to consolidate theories and frameworks that were commonly referenced in the literature review of the 10 journals as well as other select theories and frameworks into a single theory that pertains to C&T research related to entrepreneurship. I identified the other select theories and frameworks during the literature review process, but I did not have studies included to support their theory or framework. With these theories and frameworks, I will first identify the different theories that I will include in the meta-theory.

With these theories, I demonstrate how they are related to each other and how they are different. Second, I synthesize a meta-theory that can be applied specifically to C&T research for entrepreneurship. Third, I develop a model (refer to Figure 1) based on the meta-theory and test the relationships among general and specific human capital as antecedents to how individuals' aspirations, perceptions of the labor market, and their entrepreneurial self-efficacy result in (or not in) pursuit of entrepreneurial opportunities. I argue that people will establish thresholds and tolerances to these thresholds in relation to the ratio of their aspirations to perceptions of the labor market. When these thresholds have been exceeded, I believe that people with a higher entrepreneurial self-efficacy will pursue entrepreneurial opportunities. My theory-based assertions will lead to the construction of an entrepreneurial likelihood pursuit ratio that shows the relationship between peoples' career aspirations and their perceptions of their value in the labor market.

Figure 1. Model Relating Individuals' Backgrounds on Performance While Being Mediated with the Entrepreneurial Likelihood Pursuit Ratio and Moderated by Entrepreneurial Self-Efficacy



People's career aspirations have a future orientation and are motivators to achieve his or her professional goals (Sherwood, 1989). These professional goals may include a desired level of compensation, a particular title, a level of influence over a firm or industry, or a variety of other outcomes in which people determine as success in achieving their goals. As a result, they are willing to invest time and resources to achieve these goals. When they are part of a firm and have the ability within that environment to achieve their professional goals, this reduces the likelihood that they will leave their firms. However, if they become hindered within their firms to achieve their professional goals, then this could lead them to pursue career opportunities outside of their firms, specifically entrepreneurial opportunities (Short et al., 2010). When people reach a point where they believe that their professional goals are not achievable, this will most likely lead them to evaluate the labor market for job changes to a similar job, or a job within the typical career path, or for a career change to a different career path (Rhodes & Doering, 1983). From a variety of job posting websites and other sources (e.g., professional journals that publish salary information, government websites like the Bureau of Labor Statistics, etc.), they can obtain a reasonable approximation of their labor market value. They can then decide whether to leave their current firms. Their level of entrepreneurial self-efficacy will influence whether they have a disposition that is willing to take the risk of exploiting entrepreneurial opportunities (Zhao et al., 2005). For this research, I am interested in individuals who chose to pursue a career change by trying entrepreneurial opportunities. Creating a ratio of the variables that measure people's career aspirations to the variables that measure their perceived labor market value shows a proportion by which if the proportion is greater than one, they should have a greater likelihood of pursuing

entrepreneurial opportunities as compared to those with a proportion less than one, provided both have the same entrepreneurial self-efficacy.

To understand the motivational drivers of career aspirations, I explored different constructs that appear to strongly influence the reasons for peoples' career aspirations. Past research suggests that these drivers consists of their abilities, values, traits, past achievements, and environment (Krieger et al., 2022; Lee & Venkataraman, 2006; Ripley, 2003). Human capital, which includes individuals' abilities and past achievements, appears to be a construct that could be a strong influence on determining their career aspirations (Wright et al., 2007). The environment construct indicates the degree to which business and social environments are supportive of individuals pursuing entrepreneurial opportunities (Shepherd et al., 2015). Through the interviews of the pilot study (discussed later), the participants indicated that they believed that human capital and environment were two constructs that drove the motivations of their career aspirations.

This study addresses two research questions. The first question explores the measures associated with individuals' aspirations when considering continuing in the labor market through employment with firms in which they have no significant ownership or to reposition themselves by pursuing entrepreneurial opportunities. The second question is an extension of the first question by attempting to understand the thresholds individuals set to determine whether the conditions have been met to actively consider entrepreneurial opportunities and to pursue them. Therefore, I ask the following questions.

Research Question 1: What are the antecedents of the Entrepreneurial Likelihood

Pursuit ratio?

Research Question 2: Based on individuals' entrepreneurial self-efficacy, does the Entrepreneurial Likelihood Pursuit ratio indicate their likeliness to pursue entrepreneurial opportunities?

To answer these questions, I conduct preliminary interviews along with three studies – two surveys and one archival – following a convergent mixed methods design (Fetters et al., 2013). The preliminary interviews are conducted using a semi-structured approach in which I interview a small sample of people who are familiar with the Lee and Venkataraman (2006) published manuscript, *Aspirations, Marketing Offerings, and the Pursuit of Entrepreneurial Opportunities*, in which the authors propose a theoretical framework to help explain why people under certain conditions pursue entrepreneurial opportunities, and why others under the same conditions remain in the existing labor market. Although this manuscript did not enjoy broad interest (cited 284 times according to Google Scholar), I chose this particular work because the authors develop a theoretical framework for people to pursue entrepreneurial opportunities based on theoretical logic. Further, their propositions, though untested, appear to have reasonable face validity. In their framework, they believe the interaction between the *aspiration vector* (AV) construct (consisting of individuals' desired achievements based on their economic, intellectual, and social capital given their abilities, values, traits, past achievements, and environment) and the *perceived market offering vector* (P-MOV) construct (individuals' perceived value in the labor market at a particular time based on economic, social, and psychological dimensions) determines their' likelihood of pursuing entrepreneurial opportunities (Lee & Venkataraman, 2006).

The first study in my analysis is an online Qualtrics survey given through Amazon MTurk to the general population to conduct a between-participant survey study and validate

the scale. The purpose of this study is to collect data from individuals who have a range of backgrounds and levels of entrepreneurial self-efficacy to assess their desire to pursue entrepreneurial opportunities. The second study is an online survey given through Qualtrics to students at a large university in the midwestern to examine internal consistency using a within-participants survey study. The purpose of this study is to acquire data that is specific to individuals who demonstrate a desire to become entrepreneurs. The results of this study are compared to the first study to determine whether there are any significant or at least notable differences between those individuals who show a higher level of entrepreneurial self-efficacy. The third and final study uses archival data from the Global Entrepreneurship Monitor (GEM). The purpose of this study is to examine the consistency of results in other parts of the world. Additionally, this study examines the internal consistency using a within-participants survey experiment. Through these three studies, the external validity of the research is tested to indicate the quality of the findings as being representative of similar individuals outside of the studies. Provided the findings indicate strong validity, the model, specifically individuals' Entrepreneurial Likelihood Pursuit ratio in conjunction with their entrepreneurial self-efficacy, can be used to identify the likelihood they will pursue entrepreneurial opportunities. The awareness of the individuals who indicate that they are inclined to pursue an entrepreneurial opportunity could benefit them to seek startup resources. Although the measures for the Entrepreneurial Likelihood Pursuit ratio show scale consistency and reliability, there does not appear to be a statistically significant relationship between the antecedents of human capital and environment to the Entrepreneurial Likelihood Pursuit ratio, nor is there a statistically significant relationship between the Entrepreneurial Likelihood Pursuit ratio and individuals pursuing entrepreneurial opportunities.

The remaining structure is divided into four chapters. Chapter II provides an extensive review of the literature to provide definitions of the relevant concepts and the methods used to further describe the theoretical framework, the measures in the model used to measure the theoretical framework, the theory that will be enhanced, and the proposed hypotheses. Chapter III presents the methodological procedures used for determining the data sources and the variables for the research design of the studies to validate the proposed model. Chapter IV provides the qualitative and quantitative findings of the analysis. In Chapter V, the findings are interpreted along with the implications, limitations, and possible directions for future research.

CHAPTER II

LITERATURE REVIEW

I begin with a narrative review of the various theories that have been used in past research to investigate characteristics and traits of entrepreneurs. I queried 10 well-regarded journals in entrepreneurship and management for contributions that pertained to this broad topic. I reviewed the hits that were returned in the searches intending to identify articles that included studies with samples of nascent entrepreneurs and their C&T. From the theories referenced in these articles, I selected a subset that were most applicable to this research effort to create my hypotheses. I chose Expectance Theory, Social cognitive Theory, Theory of Planned Behavior, Job Characteristics Model Theory, Attitude Theory, Whole Trait Theory, Human Capital Theory, Self-Determination Theory, Prospect Theory, and Strategic Reference Point Theory because of their association with C&T specifically in the developing and managing of individuals' career aspirations. I combined these theories to create my meta-theory, which was then used in the development of the hypotheses.

Definitions

Although there are myriad definitions of entrepreneurship (Gartner, 1989; Herron & Sapienza, 1992; Schumpeter, 1934; Shane & Venkataraman, 2000), for this research I will use the definition from Shane and Venkataraman (2000, p. 218) that entrepreneurship is “the

scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited.” Furthermore, I define a single, nascent entrepreneur as “an individual who makes the decisions about the selection and use of scarce resources” (Casson, 2003, p. 20); while “engaged in the discovery, evaluation, and exploitation of a new entrepreneurial opportunity” (Shane & Venkataraman, 2000, p. 218); with the intent to earn a form of profit (Herron & Sapienza, 1992). Entrepreneurial opportunities are “situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their cost of production” (Shane & Venkataraman, 2000, p. 220; Casson, 2003). For the opportunity to be exploited by an entrepreneur, her or she must recognize the existence and value of the opportunity (Shane & Venkataraman, 2000). The exploitation of an entrepreneurial opportunity will be influenced by the nature of the opportunity, and the nascent entrepreneur’s cognitive capabilities, relevant information availability (Shane & Venkataraman, 2000), and self-efficacy (Brinckmann & Kim, 2015; Cassar & Friedman, 2009; Chen et al., 1998; McGee et al., 2009).

Theory Identification Literature Search Approach and Selection

Literature Search Methodology

I conducted journal-specific searches in *Entrepreneurship Theory and Practice*, *Strategic Entrepreneurship Journal*, *Journal of Business Venturing*, *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of Applied Psychology*, *Journal of Management*, *Organization Science*, and *Strategic Management Journal* through Business Source Premier on May 16, 2022 and May 19, 2022. I searched for articles containing research on traits and characteristics of entrepreneurs. The searches used

the keywords of *characteristic** or *trait** and *entrepren**. The search results were restricted to (1) publications in the English language, (2) research articles in scientific, peer-reviewed journals or book chapters (work papers and conference papers were not included), and (3) articles containing studies conducted on samples of nascent entrepreneurs or on participants who were considering an entrepreneurial opportunity, and (4) content related to the purpose of this manuscript. From the journal-specific searches, a total of 369 gross hits resulted with 28 hits kept as relevant to this research. The articles that were removed were due to reasons such as firm-level studies, not having at least one study, family-owned firms, all entrepreneurs in the sample being beyond the startup process, and research area outside of the scope of this research. From the kept articles, I identified the different theories used in these articles that were further searched. Table 1 contains the number of hits for each journal. I conducted additional supplementary literature searches through Google Scholar and Business Source Premier to identify other pertinent articles related to this research effort. They were included only as support to the kept theories and frameworks. Also, I included articles using the snowball method as appropriate.

Selected Articles

From the results literature review associated as described above (see Kept Number of Hits included in Table 1), I initially retained 32 articles for further review. During the article review process, I removed four articles due to noncompliance with at least one of the search criteria. For each article that was further reviewed and kept, I identified the theories or frameworks as well as the sample for each study, the variables of the study, and the results of each study. Some of the articles did not list a specific theory or framework but included a

contribution to a general area of literature. This information from each article is documented in Appendix H.

Table 1. Literature Search in Selected Journals

Journal	Gross Number of Hits	Retained Hits
<i>Entrepreneurship Theory and Practice</i>	133	9
<i>Journal of Business Venturing</i>	98	8
<i>Strategic Entrepreneurship Journal</i>	28*	2
<i>Academy of Management Journal</i>	20	3
<i>Academy of Management Review</i>	9	0
<i>Administrative Science Quarterly</i>	5	1
<i>Journal of Applied Psychology</i>	11	1
<i>Journal of Management</i>	16	0
<i>Organization Science</i>	12	0
<i>Strategic Management Journal</i>	35**	4

*Originally 27 hits; one additional article was identified and kept during the review of the journal articles. **Originally 36 hits; one article was removed since it was a duplicate

Formation of the Meta-Theory

In association with the Model (refer to Figure 1) proposed in Chapter 1, I identified the corresponding theories and their constructs that would best represent the intended relationships. In total, ten theories are included; I selected seven from the literature review (refer to Appendix H) and also included three additional theories based upon their application to the phenomenon under study. I explain my rationale for including these additional theories below; but overall, I added them because of their alignment to the central constructs of career aspirations and perceived labor market offerings as well as the antecedents that drive the career aspirations. I identify and compare primary constructs within the theories for overlap with the intent to create a consolidated set of constructs to comprise the meta-theory. Additionally, I review constructs to better determine how an individual's aspirations relate to entrepreneurship and the pursuit of an entrepreneurial opportunity.

Theories and Constructs from Literature Review

Selection of the theories for the meta-theory started with reviewing the theories identified from the articles retained from the literature search (refer to Appendix H). From these articles, the only two theories that were included more than once were Vroom's Expectancy Theory and Bandura's Social Cognitive Theory (both theories were mentioned twice). The following theories were mentioned only once: Affect-as-Information Theory, Atkinson's Theory of Achievement Motivation, Control Theory, Human Capital Theory, Institutional Theory, Individual-Opportunity Nexus Theory, Job Characteristics Model, Lazear's Jack-of-all-Trades Theory, Life Course Theory, Attitude Theory, Person-Environment Fit Theory, Real Options Theory, Social Learning Theory, Theory of Planned Behavior, Theory of Entrepreneurial Alertness, Triarchic Theory of Intelligence, Theory of Mind, and whole Trait Theory. In addition to the identified theories, I selected some of the authors' selected frameworks, or logically developed and connected set of concepts or premises based on one or more theories (Varpio et al., 2020) in lieu of a theory to support their research efforts. The frameworks mentioned include affective processing, appraisal tendency framework, configuration approach, entrepreneurship-as-emancipation ("entrepreneurizing"), entrepreneurs' networks, and Hofstede's cultural dimensions. Other frameworks referenced come from sources such as cognition literature, entrepreneurial investment decisions, entrepreneurial literature (e.g., none stated, Society of Associated Researchers of International Entrepreneurship), organizational theory literature, and personality theory literature.

Of the 20 theories identified in the literature review, I selected seven selected theories (Expectancy Theory, Social Cognitive Theory, Theory of Planned Behavior, Human Capital

Theory, Attitude Theory, Whole Trait Theory, and Job Characteristics Model Theory) plus three additional theories (Self-Determination Theory, Prospect Theory, and Strategic Reference Point Theory) because they each related to a part of the cycle of aspirational achievement (refer to Figure 2) (Oswick et al., 2011). Each theory helps to describe an aspect of peoples' determination of a career goal, expectation to achieve that goal, and the motivation and attitude that influences their behavior. From Figure 2, if the employment conditions result in the individual's expectations being unfulfilled, this increases the likelihood the individual will pursue an entrepreneurial opportunity. Each theory is associated with the individual's C&T coupled with learned knowledge and metacognitive skills used in problem solving-solving (Farmer & Matlin, 2019). Each of the selected theories has been summarized.

Expectancy Theory. In Vroom's (1964) Expectancy Theory, people believe that there will be a positive reward or outcome based on how they act. Vroom composed three components to his model (valence, instrumentality, and expectancy) where the combination of these parts yielded the greatest force (or motivation) to pursue a desired outcome (Renko et al., 2012). Valence is the preference of one of the outcomes in a pair of outcomes. This preference is based on the affective orientation towards the outcomes, which fosters an attitude for attainment and an intensity to achieve the preferred outcome (Peak, 1955). The instrumentality is peoples' perceptions that by performing well, the preferred outcome can be achieved. The expectancy is that peoples' efforts (i.e., performing well) will lead to the preferred outcome. For individuals pursuing an entrepreneurial opportunity, there are two estimates or expectations. The first is in the "belief that skills and abilities can result in the achievement of a particular level of performance," and the second is "the strength of the

belief that self-employment is the best path to achieve job satisfaction” (Laffineur et al., 2020).

Social Cognitive Theory. In 1977, Albert Bandura published Social Learning Theory (SLT) based on the research he started in the 1960s where he filmed children’s behaviors mimicking violent behavior from previously viewed videos (Bandura et al., 1963). SLT indicates the importance of how “cognitive processes amply play a prominent role in the acquisition and retention of new behavior patterns” (Bandura, 1977b, p. 192) where a person learns from observation, forms an understanding of how to behave, and then responds with said behavior when perceived to be in a situation similar to that of the observation. SLT was applied to show how individuals’ self-efficacy would be altered based on their experiences emphasizes the importance of self-efficacy (Bandura, 1977a).

In 1986, Bandura published a refined SLT (termed the Social Cognition Theory), where he posited that human behavior is based on triadic reciprocal causation (Wood & Bandura, 1989) in which peoples’ motivation and performance achievement (Boudreaux et al., 2019) are caused by interactions of their behavior, cognition and other personal factors, and the external environment. Individuals’ self-regulation serves as the mechanism for establishing and managing the levels of motivation and performance achievement (Bandura, 1991). Self-regulation has three principle subfunctions: self-monitoring, judgmental, and self-reactive influences. The self-monitoring subfunction consists of the self-diagnostic function, the self-motivating function, and valence of the behavior. The self-diagnostic function is where people reflect upon their thought patterns, emotional responses, and behavior in reaction to conditions. The self-motivating function is where people engage in goal setting and the monitoring of their performance to achieve the goal. The valence of the behavior is the value

that self-observation elicits and the ability to attain that value. The judgmental subfunction (Bandura, 1991) consists of the development of personal standards, social referential comparisons, valuation of activities, and perceived performance determinants. The development of personal standards in part from individuals' observations of significant people in their lives and through direct responses to their behavior. The social referential comparisons are where people evaluate their behavior relative to the attainments of others. The valuation of activities is the focus people have on the activity's value. The perceived performance determinants reflect the level of self-reaction based on individuals' abilities and efforts. The self-reactive influences subfunction (Bandura, 1991) are based on individuals' self-incentives based on internal standards that influence the level of achievement. The operational mechanism of the structure of the subfunctions is based on self-efficacy, which impacts individuals' "thought, affect, motivation, and action" (Bandura, 1991, p. 257).

Theory of Planned Behavior. Ajzen and Fishbein (1975) propose the Theory of Reasoned Action that posits individuals' behavioral intent is based on their attitudes and the subjective norms perceived from social influence. The Theory of Planned Behavior (TPB; Ajzen, 1991) is an extension of the Theory of Reasoned Action that incorporates behaviors over which individuals do not have complete volitional control (Ajzen, 1991). Also, TPB continues to include the central factor of peoples' intentions as included in the Theory of Reasoned Action. Individuals' intentions are formed based on their motivational factors, which include attitude toward the behavior, the subjective norm, and perceived behavioral control (Ajzen, 1991). Individuals' behavior is based on their intentions and indirectly through perceived behavioral control. Perceived behavioral control is a key addition to the TPB that sets it apart from the Theory of Reasoned Action. Perceived behavioral control differs significantly from

the locus of control concept in which the locus of control remains relatively “stable across situations and forms of action” (Ajzen, 1991, p. 183) and perceived behavioral control varies across situations and actions. Also, perceived behavioral control aligns with Bandura’s self-efficacy (Ajzen, 1991). TPB has been applied to the prediction of employment intentions (Ahmed et al., 2021; Kolvereid, 1996) to determine the likelihood of an individual entering into a wage or salaried occupation or becoming self-employed (or an entrepreneur).

Human Capital Theory. Human Capital Theory (Becker, 1964, 1993) refers to how the investment into intangible assets, including education, training, and knowledge from experience, leads to better career opportunities and higher salaries. Human capital is divided into general human capital and specific human capital (Forbes, 2005). General human capital pertains to the non-job-specific education and training individuals receive as employees of a company (e.g., workplace safety training) and where the individual pays for it (e.g., college) (Becker, 1993). Specific human capital pertains to job-specific education and training typically paid for by the employer to increase the productivity of the individual/employee in a specific role or function in order to increase the productivity of the firm (Becker, 1993). Both general and specific human capital benefits an individual who is pursuing a nascent entrepreneurial opportunity by helping to stand up the venture, firm survival, firm growth, and profitability (Stuetzer et al., 2013).

Attitude Theory. Robinson and colleagues (1991, p. 19) posit that the individual’s attitude, or “predisposition to respond in a generally favorable or unfavorable manner with respect to the object of the attitude,” has a direct correlation with his or her affect towards the object (general object) or towards achievement in a specific (i.e., entrepreneurial) setting (specific object). The individual’s attitude needs to be evaluated based on either general or

specific specificity. For studies to measure entrepreneurial tendencies, specific specificity should be measured. They include four subscales in their measurement of attitude.

1. Achievement in business, referring to concrete results associated with the start-up and growth of a business venture.
2. Innovation in business, relating to perceiving and acting upon business activities in new and unique ways.
3. Perceived personal control of business outcomes, concerning peoples' perception of control and influence over their business.
4. Perceived self-esteem in business, pertaining to the self-confidence and perceived competency of people in conjunction with their business affairs.

Robinson and colleagues (1991) identified four areas of perceived flaws in measuring personality and traits as they pertain to entrepreneurial tendencies. First, they state that the research methodologies for measuring personality and traits (such as achievement motive, locus of control, risk taking, problem-solving style, innovation, and values) were designed to measure general tendencies and were not designed to measure entrepreneurial tendencies. They did recognize that there are numerous interconnections between attitudes and other objects and characteristics. Interestingly, some of the C&T mentioned in their subscales tie directly (i.e., achievement, control) or indirectly (i.e., self-esteem) to the research methodologies that they perceived as flawed. Second, they state that the instruments lacked convergent validity where the results indicated a weak result that provided conflicting or misleading information pertaining to entrepreneurship. Third, the personality theories are generalized theories and not specific to the domain of entrepreneurship. Lastly, they argue that since personality and traits are believed to form in early years and remain stable and the

environment is dynamic, this interaction is only the latent behavioral response based on peoples' personalities and traits.

Whole Trait Theory. Although past research efforts have pitted socio-cognitive researchers against trait researchers, Whole Trait Theory (WTT; Fleeson & Jayawickreme, 2015) considers trait approaches and socio-cognitive approaches to be complementary to each other. According to them (p. 83):

The social-cognitive approach takes cross-situational consistency to be relatively low, and thus infers that social-cognitive mechanisms of situation interpretation are the best way to understand personality. The trait approach takes cross-situational consistency to be relatively high, and thus infers that traits are the best way to understand personality.

WTT is based on six traits of the “Big 5” or “Five-Factor Model” and the HEXACO model consisting of honesty/humility, conscientiousness, extraversion, agreeableness, intellect, and emotional stability. From these traits, Fleeson and Jayawickreme (2015) identify the *trait description* and the *trait explanatory* elements. The trait description element takes each of the six traits and creates a density distribution of the personality states, “one’s enacted personality in each moment” (Prentice et al., 2019, p. ??) or “as having the same affective, behavioral, and cognitive content as a corresponding trait but applying for a shorter duration” (Fleeson & Jayawickreme, 2015, p. 84). The trait explanatory element (p. 87) is based on interpretative processes (cognitive aspects of the mind), motivational processes (desired and feared end-states), stability-inducing processes (factors that guide toward the typical trait manifestation), temporal processes (influences of past events), and random error processes (unpredictable trait manifestations). Through the interaction of the trait description and the trait explanatory elements, WTT makes five assertions as the basis of the theory (p. 83):

1. The descriptive side of traits is best thought of as density distributions of states.

2. It is important to provide an explanatory account of the Big Five.
3. Adding an explanatory account to the Big Five creates two parts to traits, an explanatory part and a descriptive part, and these two parts are distinct entities that nevertheless can be joined into whole traits because one of the parts is the causal consequence of the other part.
4. The explanatory part of traits consists of social-cognitive mechanisms.
5. What needs to be done next is to identify social-cognitive mechanisms that produce Big-Five states.

From the combination of individuals' traits and social-cognitive approaches, WTT attempts to provide a better understanding of how and why individuals respond to a situation.

Job Characteristics Model Theory. The Job Characteristics Model (JCM), an influential theory in the field of organizational psychology (Behson & Eddy, 2000), was created by Hackman and Oldham (1976, 1980) based on their Job Diagnostic Survey and work redesign (Hackman, 1975). The theories associated the work redesign concept include the motivation-hygiene theory, activation theory, and socio-technical systems theory in addition to the differences between jobs and individuals (Hackman & Oldham, 1976). Motivation-hygiene theory, also known as the Herzberg two-factor theory of satisfaction and motivation, is an influential theory that proposes that factors, called motivators, influence peoples' satisfaction and motivation to accomplish job requirements, while factors that cause dissatisfaction are called hygiene factors (Hackman & Oldham, 1976). The theory does not take into consideration how likely it is that people will respond to being in jobs that have been enriched and does not specify how to measure motivating factors for these jobs. Activation theory is useful for evaluating jobs that are highly repetitive (Hackman & Oldham, 1976).

This theory does not include a means to measure the optimal level of activation for each individual and does not adequately measure changes in stimulation. The socio-technical systems approach incorporates the interdependencies of a job's technical aspects and the social milieu to accomplish the job requirements. It does not identify the aspects of how the work is accomplished. The research on the difference between jobs and individuals indicates that job characteristics can affect individuals' work attitudes and behaviors. Using the above-stated theories and the differences between jobs and people, Hackman and Oldham created the JCM by incorporating three psychological states (experience meaningfulness of the work, experience responsibility for the outcomes of the work, and knowledge of the results of the work activities), the job dimensions (toward experienced meaningfulness, toward experienced responsibility, and toward knowledge of results), and individual growth or strength (Hackman & Oldham, 1976, pp. 255–259). From an entrepreneurial context, four core job characteristics are identified: autonomy, variety, task identity, and feedback (Schjoedt, 2009).

Other Relevant Theories

Three additional theories, Self-Determination Theory, Prospect Theory, and Strategic Reference Point Theory, were also incorporated into the meta-theory based on their perceived benefit in explaining other dimensions such as the influence of autonomy in decision making, choices based on risk aversion, and time (Fiegenbaum et al., 1996; Gagné & Deci, 2005; Lee & Venkataraman, 2006; Prentice et al., 2019). Self-Determination Theory was selected because the belief is that entrepreneurs want to manage themselves — be their own bosses (Carter et al., 2003; Kautonen et al., 2017; Wiklund et al., 2019). Prospect theory was selected since it provides insights into decision making when the outcomes involve risk

or uncertainty. Strategic reference point theory was selected since it considers that people make decisions that include time forecasts using multiple variables. The inclusion of these theories should complement and supplement the theories previously stated by adding dimensions which impact setting expectations, motivations to achieve the expectations, and evaluating and adjusting expectations over time.

Self-Determination Theory. Deci and Ryan (1985) introduced the Self-Determination Theory (SDT) as a meta-theory that is “an empirically based, organismic theory of human behavior and personality development” (Ryan & Deci, 2017). Another way to describe SDT is that this theory attempts to indicate an individual’s behavior based on the level of autonomy or controlled motivations and reasons (Ryan & Deci, 2017, p. 6). The motivations and reasons are influenced by personality, environment, and social contexts (Gagné & Deci, 2005) and further supported by the individual’s level of autonomy, competence, and relatedness.² The individual’s motivation is from both intrinsic (self) and extrinsic (environmental and social influences) (Deci & Ryan, 2000). The autonomy-control continuum is a central dimension used to differentiate the different types of motivation and representing the autonomous versus controlled regulations (Ryan & Deci, 2017, p. 14). Autonomous regulations consist of a higher level of self-regulation; whereas, controlled regulations are behaviors motivated by external influences for perceived positive reasons (e.g., rewards or approval) or to avoid negative reasons (e.g., punishment or feelings of guilt) (Hagger et al., 2014).

Prospect Theory. Prospect theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981) accounts for the inconsistencies in expected utility theory by accommodating for risk

² <https://selfdeterminationtheory.org/theory/>

in the decision making process. The expected utility theory includes the tenets of expectation, asset integration, and risk aversion. Tversky and Kahneman posited four phenomena of outcome utilities to support their theory: certainty effect, reflection effect, probabilistic insurance, and isolation effect. In the certainty effect, individuals tend to overweigh outcomes that are considered certain with respect to outcomes considered only probable (Kahneman & Tversky, 1979, p. 265). In the reflection effect, the individual's preferences for selecting the prospects with the greatest probability of winning is mirrored in selecting the prospects with high gains but only possible (Kahneman & Tversky, 1979, p. 268). Probabilistic insurance is the "protective action where one pays a certain cost to reduce [but not eliminate] the probability of an undesired event possible (Kahneman & Tversky, 1979, p. 269). The isolation effect addresses the phenomenon where people disregard the shared components between alternatives and only focuses on the components that distinguish them, causing inconsistencies in preference selection (Kahneman & Tversky, 1979, p. 271). Based on these phenomena, people will make choices based on risk probabilities with the intention to optimize their results while reducing the probability of a perceived negative outcome.

Strategic Reference Point Theory. Strategic reference point theory (SRPT; Fiegenbaum et al., 1996) was a meta-theory created to address the dynamic external environment of a firm while balancing with its internal capabilities to achieve desired performance. It was based on motivation theory (Latham & Yukl, 1975), prospect theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981), resource based view of the firm (Barney, 1991; Wernerfelt, 1984), industrial organization economics (Porter, 1980, 1985), resource dependence (Pfeffer & Nowak, 1976), institutional theory (Meyer et al., 1983), external points of reference to strategic choice (Singh, 1986), and corporate identity (Dutton & Dukerich, 1991). SRPT as

developed to predict the strategic choice behavior given the level of risk aversion along with the three dimensions of the strategic reference point (SRP) matrix (Fiegenbaum et al., 1996, p. 220), which includes (1) conditions internal to the firm; (2) conditions external to the firm; and (3) time. The conditions internal to the firm dimension consists of strategic inputs (e.g., capabilities, innovation, production) and strategic outputs (e.g., performance targets) (Fiegenbaum et al., 1996, p. 225). The conditions external to the firm consists of competitors, customers, and stakeholders (Fiegenbaum et al., 1996, pp. 225–227). The time dimension is based on past, present, and future categories. The past consists of accumulated knowledge including decisions and learnings from those decisions that aid the decision-maker in future decisions (Fiegenbaum et al., 1996, p. 227). Although strategic reference point theory is developed to address firm-level decisions to improve its performance and competitive advantage, the dimensions can be aligned to an individual, specifically an individual in the workforce who is making decisions based on the forecast of his or her career path in being employed by a company or considering entrepreneurship (Lee & Venkataraman, 2006; Shepherd et al., 2015).

Formation

The purpose of this metatheory is to create an aggregated, or higher order, theory to allow analysis, comparison, and evaluation for phenomena showing the relationship between an individual's C&T and his/her pursuit of an entrepreneurial opportunity. I identified a total of 10 theories, seven from the literature review and three additional related theories (refer to the sections *Theories and Constructs from Literature Review* and *Other Relevant Theories*) to include in the metatheory. I propose that these theories can be successfully aggregated to form the Entrepreneurial Likelihood Pursuit theory.

Selected Theories and the Entrepreneurial Likelihood Pursuit Theory and Framework.

The process to aggregate the theories begins with identifying the principal constructs associated with each theory. To do this, I create a table (refer to Table 2) to show the different theories and their respective principal constructs. From the table, a comparison can be made to identify the constructs the theories have in common. As can be observed, three constructs — external environment, attitude, and motivation — are included in three or more of the theories. External environment is considered part of Social Cognitive Theory, Self-Determination Theory, and Strategic Reference Point Theory. Attitude is considered part of Theory of Planned Behavior, Attitude Theory, and self-Determination Theory. Motivation is considered part of Expectance Theory, Social Cognitive Theory, Whole Trait Theory, and Job Characteristics Model Theory. Eight constructs — valence, expectance, achievement, volitional control, temporal processes, risk aversion, asset integration, and decision making — are included in two of the theories. Each of these theories considers the construct to influence the phenomenon it is attempting to explain. By having multiple theories use the same or nearly the same constructs, the common construct can be used to join the theories or to create a theory that includes only the common construct.

For the entrepreneurial likelihood pursuit theory, I selected the three common constructs of external environment, attitude, and motivation as the primary influencers of individual decision-making to pursue an entrepreneurial opportunity, with the other eight constructs having a lower level of influence. Additionally, I will be using the common constructs to join the theories and provide a framework (refer to Figure 2) to show the how these theories integrate to create the Aspiration Achievement Variable. This Aspiration Achievement

Variable will be part of the measurement in my model (refer to aspiration vector included in Figure 1).

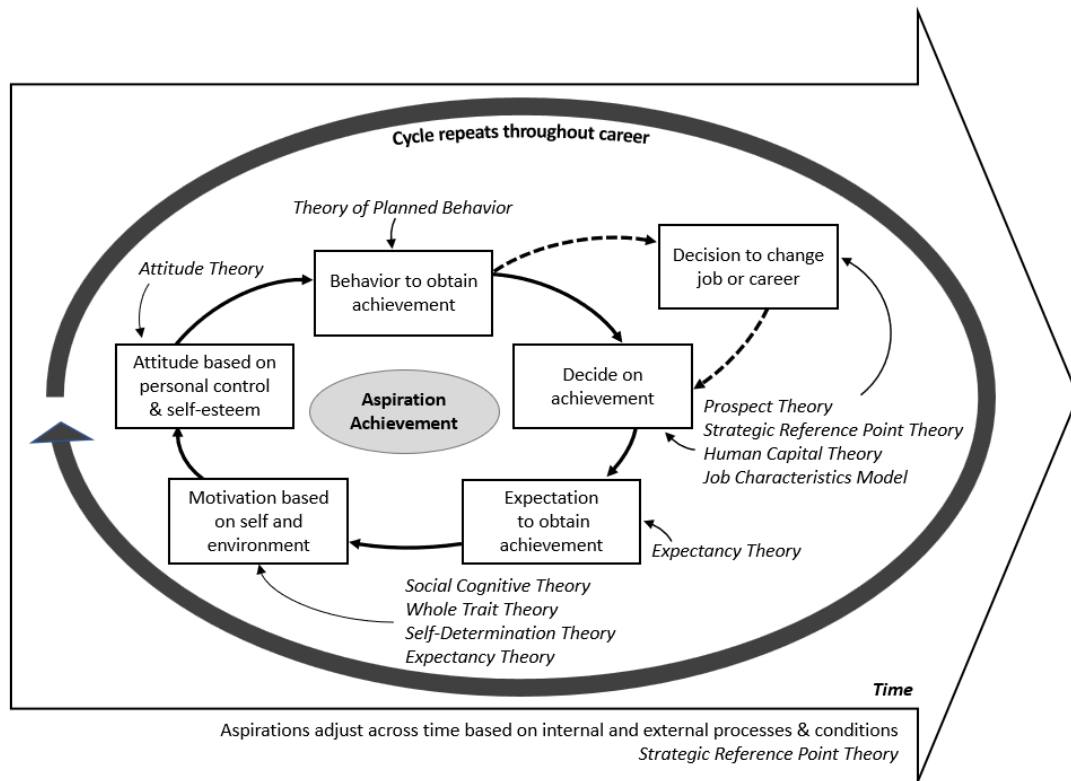
Table 2. Overlap in Theories

Principal Construct	ET	SCT	TPB	JCM	AT	WTT	HCT	SDT	PT	SRPT
Valence	•	•								
Instrumentality	•									
Expectance	•								•	
Achievement		•			•					
Behavior		•								
Cognition and other personal factors		•								
External environment		•						•		•
Attitude			•		•			•		
Subjective norm perceived from social influence			•							
Volitional control			•					•		
Satisfaction (dissatisfaction; hygiene factors)				•						
Motivation	•	•		•		•		•		
Experience meaningfulness of the work				•						
Experience responsibility for the outcomes of the work				•						
Knowledge of the results of the work activities				•						
Toward experienced meaningfulness				•						
Toward experienced responsibility				•						
Toward knowledge of results				•						
Growth or strength				•						
Innovation in business					•					
Perceived personal control of business outcomes					•					
Perceived self-esteem in business					•					
Honesty/humility						•				
Conscientiousness						•				
Extraversion						•				
Agreeableness						•				
Intellect						•				
Emotional stability						•				
Interpretative processes (cognitive aspects of the mind)						•				
Motivational processes (desired and feared end-states)						•				
Stability-inducing processes (factors that guide toward the typical trait manifestation)						•				
Temporal processes (influences of past events)						•				•
Random error processes (unpredictable trait manifestations)						•				
Education							•			
Training							•			

Principal Construct	ET	SCT	TPB	JCM	AT	WTT	HCT	SDT	PT	SRPT
Knowledge from experience							•			
Career opportunities							•			
Competence (need to feel effectance and mastery)								•		
Autonomy (need to self-regulate one's experiences and actions)								•		
Relatedness (feeling socially connected)								•		
Risk aversion									•	•
Asset integration									•	•
Internal capability										•
Time										•
Decision making									•	•

Theory abbreviation: expectance theory (ET), social cognitive theory (SCT), theory of planned behavior (TPB), job characteristics model theory (JCM), attitude theory (AT), whole trait theory (WTT), human capital theory (HCT), self-determination theory (SDT), prospect theory (PT), and strategic reference point theory (SRPT).

Figure 2. Aspiration Achievement Framework Based on Integration of Theories



The constructs chosen are consistent with a meta-analytical study compiled by Frese and Gielnik (2014) to ascertain the antecedents of business creation. In their review of the psychology of entrepreneurship, they identify a strong relationship among the dimensions of

personality and human capital on entrepreneurial business creation. The personality dimension include the constructs of self-efficacy, achievement motivation, risk propensity (for entrepreneurs scoring higher than managers), innovativeness, stress tolerance, autonomy, locus of control, conscientiousness (for entrepreneurs scoring higher than managers), neuroticism (for entrepreneurs scoring lower than managers), openness to experience (for entrepreneurs scoring higher than managers), and agreeableness (for entrepreneurs scoring lower than managers) (Frese & Gielnik, 2014). The human capital dimension includes only the human capital construct (Frese & Gielnik, 2014). Interestingly, the construct of strategic planning, which aligns to the constructs of the strategic reference point theory, is not associated with business creation but is associated with business performance. The fact that my systematic review of the literature mirrored this empirical review of the literature provides some initial validation for my proposed framework.

In moving towards a more complete understanding of the individual motivations for pursuing entrepreneurship, and referencing Lee and Venkatraman's (2006) work, I investigate the relationship between individuals' 1) career aspirations, 2) perception of their labor market value, and 3) background and entrepreneurial self-efficacy. Also building from Lee and Venkatraman (2006), I suggest that creating a ratio derived from individuals' career aspirations to their value in the labor market will give an indication of the likelihood that they will pursue an entrepreneurial opportunity. I adopted this approach because of the accessibility and application afforded by the ratio. That is, by organizing the constructs in this way, both scholars and practitioners can parsimoniously build upon and apply this framework. Finally, I suggest that peoples' level of entrepreneurial self-efficacy will moderate the relationship between the ratio and their likelihood of pursuing an entrepreneurial opportunity. I also

examine how this ratio is influenced by individuals' backgrounds based on general and specific human capital.

Hypotheses Development

Human Capital and the Entrepreneurial Likelihood Pursuit Ratio

Individuals' backgrounds — consisting of demographic information, life experiences, professional or job-related experiences, and education — will influence their aspirations and decisions regarding career path. The aspirations and decision-making will be biased based on their bounded rationality (March & Simon, 1993). Becker's (1964, 1993) Human Capital Theory attempts to identify the value individuals should expect based on their education, training, and professional or job-related experiences. Both general human capital (Forbes, 2005) and specific human capital (Becker, 1993) contribute to an individual's value (Gathmann & Schönberg, 2010; Raffiee & Coff, 2016) in preparing him or her for career opportunities, including entrepreneurship (Brinckmann & Kim, 2015; Canavati et al., 2021; Gimeno et al., 1997). General human capital refers to the education and work experience that can be applied in a wide variety of career contexts, and it enables people to transition from one work environment with one set of job requirements to a different work environment with a different set of job requirements (Canavati et al., 2021). These generalized skills allow people to transition from a work situation where they are working for someone else to creating their own companies and working for themselves. On the other hand, people who pursue knowledge and experience in a specific area for jobs in that particular area (e.g., corporate accountant, software application developer) are pursuing specific human capital. As they acquire more experience and knowledge in that particular area, the perception is that they become more valuable (Gimeno et al., 1997) and may chose to leave a company to

pursue higher compensation, greater career opportunities, or both. As an alternative to pursuing another job in traditional labor markets, people could perceive themselves as having acquired sufficient knowledge and experience that they would be more successful as entrepreneurs. For individuals, pursuing entrepreneurial opportunities would be considered another career opportunity option along with the option to pursue a job with a different company (Gimeno et al., 1997).

Individuals' career aspirations (aspiration vector) are influenced by economic, social, and psychological motivations and desired achievements relative to the current point in time to the preferred time horizon (Lee & Venkataraman, 2006). At a given point in time, the labor market (or the perceived labor market offering) will provide multiple points of information that can also be measured in terms of economic, social, and psychological dimensions (Lee & Venkataraman, 2006). These points of information will include information about individuals' current employment, current labor market opportunities of which they are aware, and the expected employment opportunities within a time horizon. By creating a ratio of individuals' aspiration vectors to their perceived market value vector, I argue that the Entrepreneurial Likelihood Pursuit (ELP) ratio will indicate the motivation for individuals to pursue entrepreneurial opportunities. Since individuals' human capital influences their perceived labor market value, there is a relationship between individuals' backgrounds and their ELP ratios.

This is consistent with the ELP Theory (refer to the Selected Theories and the ELP Theory and Framework section).

***Hypothesis 1:** Human capital will have a positive relationship with individuals' ELP ratios.*

Environment and the Entrepreneurial Likelihood Pursuit Ratio

For this research, *environment* refers to the physical and social experiences that contribute to forming individuals' perceptions and beliefs, specifically as the environment influences their career path decisions (Arthur & Lawrence, 1984; Korunka et al., 2003). As people make career path decisions, they draw from past environments and current environments, both microsocial (e.g., family) and macrosocial (e.g., social networks) (Korunka et al., 2003), as part of the inputs in determining expectations, motivations, and behaviors towards career aspirations (Lent & Brown, 1996, 2013) — more specifically towards pursuing entrepreneurial opportunities. In entrepreneurship, environmental considerations are manifested as the conditions in which the market presents opportunities for the emergence of new profit-seeking organizations (Eckhardt & Shane, 2003; Edelman & Yli-Renko, 2010; Schumpeter, 1934). In this research, I focus on individuals' microsocial and macrosocial environments that impact their career path choices, specifically as their career aspirations cause them to seek entrepreneurial opportunities. Since the environment has been shown to have an impact on career paths (Burton et al., 2004; Rosado-Cubero et al., 2022), I argue that individuals' microsocial and macrosocial environmental measures have a significant and positive relationship with their ELP ratio.

Hypothesis 2: Microsocial and macrosocial environmental measures will positively influence the ELP ratio.

The Mediating Role of the Entrepreneurial Likelihood Pursuit Ratio

One purpose of this research is to show a relationship between the ELP ratio and entrepreneurial opportunity exploitation, which is included in the Model in Figure 1 (refer to Hypothesis 4). Also, as part of the Model, human capital was identified as an antecedent to

the ELP ratio. (That relationship was indicated as part of Hypothesis 1.) The relationship established in Hypothesis 1 and the relationship between the ELP ratio and entrepreneurial opportunity exploitation shows the ELP ratio to be the mediator in the relationship with the intent of better demonstrating why human capital has a relationship with entrepreneurial opportunity exploitation.

The presence of the ELP ratio as a mediator is important since it helps to address inconsistencies from prior research relating human capital to entrepreneurial opportunity exploitation. Some research indicates a strong relationship (Brinckmann & Kim, 2015; Davidsson & Honig, 2003), while other research does not (Lazear, 2004, 2005; Stuetzer et al., 2013). This inconsistency is suggestive of a mediation effect (Shepherd et al., 2015), whereby the relationship between human capital and entrepreneurial opportunity exploitation could be more conclusively explained. Human capital has been shown to associate with entrepreneurship in some studies and not in others, but why? I argue that individuals' career aspirations in relation to their perception of their value in the labor market is the link that ties human capital to entrepreneurial opportunity exploitation. Individual human capital has been shown to have a relationship with career aspirations (Korunka et al., 2003; Lent & Brown, 1996; 2013), and career aspirations have been shown to have a relationship with entrepreneurship (Rider et al., 2019; Rindova et al., 2009). Therefore, the ELP ratio will mediate the relationship between human capital and entrepreneurial opportunity exploitation.

***Hypothesis 3a:** Individuals' ELP ratios will mediate the relationship between their human capital and entrepreneurial opportunity exploitation.*

The environment construct is similar to human capital where in Hypothesis 2 the relationship is shown between environment and the ELP ratio; Hypothesis 4 shows the

relationship from the ELP ratio to entrepreneurial opportunity exploitation (refer to Figure 1). The ELP ratio serves to better demonstrate why environment has a relationship with entrepreneurial opportunity exploitation because the microsocial or the macrosocial elements influence an individual's career aspirations, which in turn is related to the choice to pursue an entrepreneurial opportunity. Additionally, other environmental conditions can influence individuals to pursue entrepreneurial opportunities such as pursuing an entrepreneur opportunity out of opportunity (pull) or pursuing entrepreneur opportunity out of necessity (push) (Dawson & Henley, 2012). This is because the ratio of individuals' career aspirations to their perception of their value in the labor market takes into consideration how individuals process the decision to choose pursuing an entrepreneurial opportunity over other career opportunities (Lee & Venkataraman, 2006; Rindova et al., 2009). Without this consideration, where only the direct relationship between environment and entrepreneurial opportunity is considered, the relationship is missing *how* individuals process environmental dynamics and the reasons *why* they would pursue entrepreneurial opportunities. Therefore, I argue that the ELP ratio mediates the relationship between environment and entrepreneurial opportunity exploitation.

***Hypothesis 3b:** The ELP vector will mediate the relationship between individuals' environments and entrepreneurial opportunity exploitation.*

The Entrepreneurial Likelihood Pursuit Ratio and Entrepreneurial Opportunity Exploitation

In the ELP Theory, the three constructs of external environment, attitude, and motivation are considered the primary influencers upon people as they make decisions to pursue entrepreneurial opportunities. This theory can be applied to people who are considering the

pursuit of entrepreneurial opportunities regardless of their current employment state of either being employed or unemployed. If they are unemployed, the pursuit of an entrepreneurial opportunity is most likely out of necessity for income. For those who are employed, the situation could be driven based on either opportunity or necessity. As shown in Figure 2, when people are making decisions about potentially changing jobs, they have reached a point where their expectations of achievement have not been fulfilled and the motivation to remain in their current jobs negatively affects their attitude about the job and behavior to obtain these achievements. This state of unfulfilled aspirational achievement will most likely motivate them to explore their current value in the labor market and possibly entrepreneurial opportunities. Provided peoples' career aspirations exceed that of their perceived value in the labor market, they will have a greater likelihood of pursuing entrepreneurial opportunities (Lee & Venkataraman, 2006) given the level of risk tolerance and belief that they can be successful in the entrepreneurial venture (Kahneman & Tversky, 1979).

***Hypothesis 4:** The ELP ratio positively influences exploitation.*

Entrepreneurial Self-Efficacy as Moderator

Bandura (1977a) establishes the theoretical framework of self-efficacy to describe the relationship between individuals and behavior to achieve a certain outcome. Individuals' efficacy is "the conviction that one can successfully execute the behavior required to produce the [desired outcomes]" (Bandura, 1977a, p. 193). Entrepreneurial self-efficacy refines Bandura's self-efficacy by making it specific to the entrepreneurial domain in which individuals believe they are capable of successfully achieving outcomes related to entrepreneurship (Chen et al., 1998; McGee et al., 2009). From the previous hypothesis, the belief is that the ELP ratio has a relationship with entrepreneurial opportunity exploitation;

however, the level of the relationship is believed to be influenced by varying degrees of individuals' beliefs that they are capable of successfully accomplishing the roles or tasks related to those of an entrepreneur (Brinckmann & Kim, 2015; Chen et al., 1998; McGee et al., 2009). That is, individuals may have ELP ratios that indicate that they should consider pursuing entrepreneurial opportunities, but if they do not perceive themselves capable of success, then they may pass on entrepreneurial opportunities. If they have an ELP ratio that indicates that they should consider pursuing entrepreneurial opportunities and do believe they are capable of success, then the conditions should indicate people who are more motivated to pursue entrepreneurial opportunities. I argue that the degree of entrepreneurial self-efficacy will influence whether people will take action towards entrepreneurial opportunities. By having entrepreneurial self-efficacy as the moderator, I will be able to show why the level of the ELP ratio may be influenced in its relationship to people pursuing entrepreneurial opportunities. Therefore, I hypothesize that entrepreneurial self-efficacy should affect the strength of the relationship between the ELP ratio and the exploitation of the entrepreneurial opportunity.

***Hypothesis 5:** Entrepreneurial self-efficacy will positively moderate the relationship between the ELP ratio and entrepreneurial opportunity exploitation.*

CHAPTER III

METHODOLOGY

In this chapter, I present the methodological procedures used in the preliminary interviews, the two online survey studies, and the archival study. The main purpose of the preliminary interviews is to identify the antecedents to the novel measure, the ELP ratio. After analyzing the interview responses, these antecedents are incorporated into the Model and are considered in the development of the survey instrument. The survey instrument questions were created in Qualtrics for the online surveys. The first study was conducted through the Amazon.com MTurk platform as a general population study. The second study was conducted through the SONA System with a focus on business students at a large midwestern university. The third study was conducted on archival data from the GEM 2018 APS dataset. Each of the studies tests the ELP ratio using linear regression and a *t*-test to determine whether it was a significant mediator between the antecedents and entrepreneurial opportunity exploitation and to answer the other hypotheses.

Preliminary Interviews

Participants

Prior to proceeding with contacting the participants and conducting the interviews, I obtained approval from the IRB (refer to Appendices E and F). After obtaining IRB approval, the participants were contacted through an electronic invitation sent to email address associated with the university (refer to Appendix A). The interviews conducted were with a group of 12 (Guest et al., 2006) graduate students pursuing their Ph.D.s from a large, midwestern university. The interviews centered around the Lee and Venkataraman (2006) article “Aspirations, Market Offerings, and the Pursuit of Entrepreneurial Opportunities” since their proposed theoretical framework aligned with the antecedents being considered in this research. The participants were selected based on their familiarity with the article since it was assigned reading in a particular entrepreneurship graduate course that the participants had taken.

Procedures

The interviews were conducted remotely through Zoom video conferencing software. At the beginning of the interviews, the participants were informed of the process to keep them anonymous and how the data would be used. Before proceeding with the interviews, the participants provided their approval to proceed with recording the interviews and using their responses. During the interviews, the participants were asked questions related to the face validity of the Lee and Venkataraman (2006) theoretical framework in addition to other questions that helped me to understand the influences and to inquire about understanding the conditions of why people choose to pursue an entrepreneurial opportunities (refer to Appendix B). The interviews took about 15 minutes. After the meeting concluded, the

recording was be transcribed using otter.ai transcription software, and the video recordings were then deleted. Each transcription was given an identification code, and the key that associates the interviewee and the respective identification code were be kept separate from each other. This allowed for the anonymity of the participants.

Measures

The feedback from each transcription was reviewed and coded. The analysis followed the Gioia Methodology (Gioia et al., 2013) where the feedback was initially grouped into concepts (first order), then to themes (second order), and finally to aggregate dimensions. The feedback was used as guidance to make sure the parts of the survey instrument were appropriate to represent the proposed model to operationalize the theoretical framework (Hlady-Rispal et al., 2021).

Development of the Survey Instrument

For measurement validation efforts, I used established scale development guidelines (Hinkin, 1998) and accepted examples of measurement development from other researchers (Davidsson et al., 2021; Hornsby et al., 2002; McGee et al., 2009). In developing the Model, I attempted to pursue unidimensional, reflective measures since there was greater support for this approach (Coltman et al., 2008; Edwards, 2011). The framework applied to the measurement development process started with identifying an initial list of items from studies with similar variables and creating newly formed items for the remaining variables. Initially, I created 71 questions, including 43 pertaining to individuals' background, characteristics and values; nine questions pertaining to their aspirations; nine questions pertaining to their perceptions of their market value; six questions pertaining to their entrepreneurial self-efficacy; and three questions pertaining to their entrepreneurial

opportunity exploitation. The list of questions was revised based on feedback from the interviews. The revised set of questions can be located in Chapter 4.

Outcome Variable

Entrepreneurial Opportunity Exploitation (EOE). Participants with higher EOE scores indicate a more favorable desire to pursue self-employment opportunities (Kolvereid, 1996; Souitaris et al., 2007). Each item was measured with a seven-point scale.

Predictor Variables

Professional Background. Professional background consists of the individuals' education, industry experience, and management experience (Hambrick, 2007; Hambrick & Mason, 1984). Individuals are in essence serving in the capacity of chief executive officers (CEO) when making their strategic decisions regarding career choices (de Vos & Segers, 2013). Although CEO education has not been shown to have a direct impact on firm performance (Bhagat et al., 2011; Chang et al., 2010; Gottesman & Morey, 2010), the level of education appears to have an influence on strategic decision making and innovation (Sonfield & Lussier, 2014). The amount of education was measured based on the highest level of education obtained.

Both industry experience and management experience influence the quality of the rational decision-making process as people make selections on career direction (Brockmann & Simmonds, 1997; Hitt & Tyler, 1991). Four questions were asked about individuals' level of industry experience, including total time in an industry and time in their specific industries. Four questions were asked regarding the amount of management experience, including individuals' age, current title, number of years of experience in their current

industries, and the total number of years of management experience. Management experience is defined as years in which the person has managed people or projects.

Environment. The eight items created to measure individuals' perceptions of how their environments affected decision making regarding their careers were based on the Korunka and colleagues (2003) items to measure individuals' environments. These items address microsocial, macrosocial, necessity for job or career change, and the influence of individuals' role models. These items were measured with a seven-point scale.

Aspiration Vector. Lee and Venkataraman (2006) identified aspects of economic, psychological, and social to measure individuals' aspiration levels. To evaluate these aspects, I used items from degree of authority, freedom of action, and economic rewards content components of the Subjective Occupational Aspiration Scale (Han et al., 2019). The items from degree of authority and freedom of action were used for the psychological and social aspects, and the economic rewards were used for the economic aspects. Additional items were added to the social and economic aspects. Each item was measured on a seven-point scale.

Perceived Labor Market Offering Vector. Lee and Venkataraman (2006) identified the aspects of economic, psychological, and social to measure individuals' aspiration levels. I created items to evaluate these aspects, and each item was measured on a seven-point scale.

Specialized and Measurable Skills. Two items were created to measure the level of specialized and measurable skills that had been developed through education, certification, or licensure. Each item was measured on a seven-point scale.

Moderating Variable

Entrepreneurial Self-Efficacy. According to Bandura (1977a, p. ??), self-efficacy refers to how “people process, weigh, and integrate diverse sources of information concerning their capability, and they regulate their choice behavior and effort expenditure accordingly.” The six items used were selected from the Entrepreneurial Self-Efficacy questionnaire (McGee et al., 2009) that measured the phases of searching, planning, marshaling, and implementing. Each item was measured on a seven-point scale.

Control Variables

Additional information was collected during the studies that was associated with peoples’ professional backgrounds, including the age, gender, race, origin, highest education level completed, number of years of experience in their overall careers, number of years of supervisory experience, primary functional area of experience, industry in which they were employed, and number of years of experience in their current industries. None of the information collected was used as control variables nor were any other variables used as control variables in the model.

Study 1 – MTurk

Participants

The first study was conducted through the Amazon.com MTurk platform to perform a participant comparison when testing the hypotheses based on the items from the survey instrument. To determine the sample size, I used G*Power 3.1.9.7 to calculate the minimum sample size. I based the sample size calculation on criteria of an F-test for linear multiple regression with a fixed model and evaluating the correlation of determination as a deviation from zero. For the parameters, I used 0.15 (medium) for the effect size, 0.05 for the α , 0.95

for the power, and four predictors since the outcome is binary, resulting in the need for at least 129 usable surveys to have a statistically significant sample size. (This sample size was used for the other two studies.)

In selecting the participants, the following parameters were included in MTurk:

- Location: United States only,
- HIT approval rate (%) of all requesters' HITs: greater than 98,
- Number of HITs approved: greater than 1,000,
- Requirement that workers be masters to do their tasks: No.

The study was planned to collect responses from 150 participants with the expectation that some of the responses were not going to be included in the analysis due to incomplete or inconsistent data. Qualified participants would each be compensated \$4 for successfully completing the survey. Of the 170 responses received, 18 were removed as there was no confirmation that the participant was within the United States. Of the remaining responses, 14 were removed as the participants responded that they were under the minimum required age of 19 (three responses) or the difference between their reported age and years of experience were not at least 14 years (11 responses). (Fourteen years of age is the minimum age to be able to work legally in the United States.³) The final number of responses included in the analysis was 138. The average time to complete the usable survey was 10 minutes 13 seconds with a standard deviation of 6 minutes 42 seconds. The descriptive statistics can be found in Table 3.

³ U.S. Department of Labor, *Workers Under 18*. Retrieved November 4, 2022, from <https://www.dol.gov/general/topic/hiring/workersunder18#:~:text=Generally speaking%2C>

Table 3. Descriptive Statistics from MTurk Sample

	Mean	SD
Age	37.84	10.17
Categories	<i>n</i>	%
Gender		
<i>Male</i>	85	61.59
<i>Female</i>	52	37.68
<i>Nonbinary</i>	1	0.72
<i>Other</i>	0	0.00
Race		
<i>Asian</i>	11	8.09
<i>Black or African American</i>	5	3.68
<i>Hispanic</i>	4	2.94
<i>Native American</i>	0	0.00
<i>Other</i>	0	0.00
<i>White</i>	116	85.29
Education		
<i>High School</i>	29	21.01
<i>Associate's Degree</i>	16	11.59
<i>Bachelor's Degree</i>	83	60.14
<i>Graduate Degree</i>	10	7.25
Educational Area - Bachelor's degree		
<i>Business</i>	30	34.09
<i>Humanities or Liberal Arts</i>	20	22.73
<i>Science or Engineering</i>	38	43.18
<i>Other</i>	0	0.00
Educational Area - Graduate degree		
<i>Humanities or Liberal Arts</i>	2	20.00
<i>Finance / Accounting / Marketing / Other Business Area</i>	3	30.00
<i>MBA</i>	2	20.00
<i>Science or Engineering</i>	2	20.00
<i>Multiple Graduate Degrees</i>	1	10.00
Professional Tenure in Years		
<i>Overall Career</i>	14.66	9.96
<i>Supervising People</i>	5.12	5.70
<i>Current Industry</i>	9.50	7.43
Functional Area		
<i>Accounting Or Finance</i>	18	13.04
<i>Engineering</i>	13	9.42
<i>Executive Level</i>	1	0.72
<i>Human Resources</i>	10	7.25
<i>Information Technology</i>	33	23.91
<i>Legal</i>	1	0.72
<i>Marketing</i>	9	6.52
<i>Operations</i>	13	9.42
<i>Other</i>	18	13.04
<i>Product Development (R&D)</i>	1	0.72
<i>Product Management</i>	3	2.17
<i>Sales</i>	18	13.04
<i>Accommodation and Food Services</i>	4	2.90
<i>Administrative and Support and Waste Management and Remediation Services</i>	1	0.72

Categories	Mean (n)	SD (%)
<i>Arts, Entertainment, and Recreation</i>	6	4.35
<i>Construction</i>	1	0.72
<i>Educational Services</i>	4	2.90
<i>Finance and Insurance</i>	18	13.04
<i>Health Care and Social Assistance</i>	20	14.49
<i>Information</i>	16	11.59
<i>Management of Companies and Enterprises</i>	6	4.35
<i>Manufacturing</i>	14	10.14
<i>Other Services (except Public Administration)</i>	7	5.07
<i>Professional, Scientific, and Technical Services</i>	14	10.14
<i>Retail Trade</i>	17	12.32
<i>Transportation and Warehousing</i>	4	2.90
<i>Utilities</i>	2	1.45
<i>Wholesale Trade</i>	4	2.90

Procedure

An online Qualtrics survey was made available through MTurk using the survey items listed in Appendix D. This survey was conducted during August 2022. The usable responses were identified from the data collected, and descriptive statistics and correlations were conducted in SPSS version 28. The statistical equation modeling for the linear regression analysis was conducted in Mplus version 8.8.

Measures

The variables were based on the survey items identified for each variable (refer to Development of the Survey Instrument in this chapter and again in Chapter 4 with the revised items). The outcome variable, entrepreneurial opportunity exploitation, and the human capital variable were each measured with one item. The environment variable was measured based on eight items. Each dimension of the ELP ratio, career aspirations and perceived labor market offering, was measured with nine items for a total of 18 items. Entrepreneurial self-efficacy was measured with six items. No control variables were included in the statistical model.

Study 2 – Students

Participants

The second study was similar to the first study in that it also tests the hypotheses based on the items from the survey instrument; however, in this study students were the participants, and the intent was a within-subject comparison to test for internal consistency. The 173 participants were from a large, midwestern university who participated through the SONA System. The participants received extra credit in the SONA System, which could be applied to participating classes. After reviewing the responses, two were removed — one for being under the age of 19 and one for missing all four check questions. This left 171 participants' responses to be used for the analysis. Of these participants, 140 (81.9%) indicated that they had taken or were currently taking an entrepreneurship course. The average time to complete the usable survey responses was 10 minutes 16 seconds with a standard deviation of 14 minutes 2 seconds. The descriptive statistics can be found in Table 4.

Procedure

A similar online Qualtrics survey was created for this study. The only differences were the compensation part of the instructions and a question at the end of the survey asking students whether they had taken or were taking an entrepreneurship course. All other questions remained the same. The online Qualtrics survey was made available to students through the SONA System at a large, midwestern university. This survey was conducted during late October through early November 2022. From the data collected, the usable responses were identified, and descriptive statistics and correlations were conducted in SPSS

version 28. The statistical equation modeling for the linear regression analysis was conducted in Mplus version 8.8.

Table 4. Descriptive Statistics from Student Data

	Mean	SD
Age	22.30	5.24
Categories	<i>n</i>	%
Gender		
<i>Male</i>	66	38.60
<i>Female</i>	105	61.40
<i>Non-binary</i>	0	0.00
<i>Other</i>	0	0.00
Race		
<i>Asian</i>	8	4.68
<i>Black or African American</i>	5	2.92
<i>Hispanic</i>	6	3.51
<i>Native American</i>	9	5.26
<i>Other</i>	2	1.17
<i>White</i>	137	80.12
<i>Prefer Not to Say</i>	3	1.75
Education		
<i>High School</i>	112	65.50
<i>Associate's Degree</i>	39	22.81
<i>Bachelor's Degree</i>	20	11.70
<i>Graduate Degree</i>	0	0.00
Educational Area - Bachelor's degree		
<i>Business</i>	16	80.00
<i>Humanities or Liberal Arts</i>	1	5.00
<i>Science or Engineering</i>	1	5.00
<i>Other</i>	2	10.00
Professional Tenure in Years		
<i>Overall Career</i>	3.42	5.31
<i>Supervising People</i>	1.09	2.39
<i>Current Industry</i>	2.43	3.41
Functional Area		
<i>Accounting or Finance</i>	38	22.22
<i>Engineering</i>	2	1.17
<i>Executive Level</i>	2	1.17
<i>Human Resources</i>	10	5.85
<i>Information Technology</i>	11	6.43
<i>Legal</i>	1	0.58
<i>Marketing</i>	31	18.13
<i>Operations</i>	17	9.94
<i>Other</i>	32	18.71
<i>Product Development (R&D)</i>	0	0.00
<i>Product Management</i>	8	4.68
<i>Sales</i>	19	11.11
<i>Accommodation and Food Services</i>	18	10.53

Categories	<i>n</i>	%
<i>Agriculture, Forestry, Fishing, and Hunting</i>	3	1.75
<i>Administrative and Support and Waste Management and Remediation Services</i>	0	0.00
<i>Arts, Entertainment, and Recreation</i>	13	7.60
<i>Construction</i>	3	1.75
<i>Educational Services</i>	16	9.36
<i>Finance and Insurance</i>	15	8.77
<i>Health Care and Social Assistance</i>	5	2.92
<i>Information</i>	7	4.09
<i>Management of Companies and Enterprises</i>	5	2.92
<i>Manufacturing</i>	2	1.17
<i>Other Services (except Public Administration)</i>	37	21.64
<i>Professional, Scientific, and Technical Services</i>	13	7.60
<i>Public Administration</i>	4	2.34
<i>Retail Trade</i>	13	7.60
<i>Transportation and Warehousing</i>	3	1.75
<i>Utilities</i>	0	0.00
<i>Wholesale Trade</i>	1	0.58

Measures

The same survey questions were used in this survey as in the Study 1 survey. These included one item for the outcome variable, EOE, and the human capital variable. The environment variable was measured based on eight items. Each dimension, career aspirations and perceived labor market offering, of the ELP ratio was measured with nine items for a total of eighteen items. Entrepreneurial self-efficacy was measured with six items. For this study, the industry was used as the control variable.

Study 3 – GEM

Participants

For the third and final study, I wanted to examine internal consistency using a within-participants survey experiment using archival data. This data was restricted to responses from the United States. Data from the 2018 Adult Population Survey (APS), which looks at the

characteristics, motivations, and ambitions of individuals starting businesses, were used because it is the latest dataset available on the GEM website. This dataset contains 281 variables and 3,012 responses from the United States to their survey questions. The data were initially filtered by limiting the cases to only those in the United States; the participants had to be at least 19 years old; the participants' work status could not be retired, disabled, or missing; and their businesses must have been open for 42 months or less. After determining the variables to be used in the Model, the variables associated with the environment (ENV) were filtered to not include only yes or no and the variable associated with human capital (HC) was filtered to require at least a primary education or first stage of basic education. After applying the filters, 288 participants (entrepreneurs) remained to be used for the analysis. The descriptive statistics of these participants can be found in Table 5.

Table 5. Descriptive Statistics from GEM APS Data

	Mean	SD
Age	38.87	12.96
Categories	<i>n</i>	%
Gender		
<i>Male</i>	160	55.56
<i>Female</i>	128	44.44
Education		
<i>Primary Education or First Stage of Basic Education</i>	0	0.00
<i>Lower Secondary or Second Stage of Basic Education</i>	4	1.39
<i>(Upper) Secondary Education</i>	25	8.68
<i>Post-Secondary Nontertiary Education</i>	76	26.39
<i>Bachelor or Equivalent</i>	117	40.63
<i>Master or Equivalent</i>	66	22.92
<i>Doctor or Equivalent</i>	0	0.00

Process

The GEM Adult Population Survey (APS) data for 2018 was downloaded from the GEM website. The data was organized for analysis. SPSS Version 28 was used to calculate the descriptive statistics. Primary education or first stage of basic education and doctor or

equivalent had no participants. Mplus was used for the linear regression calculations of the structured equation model.

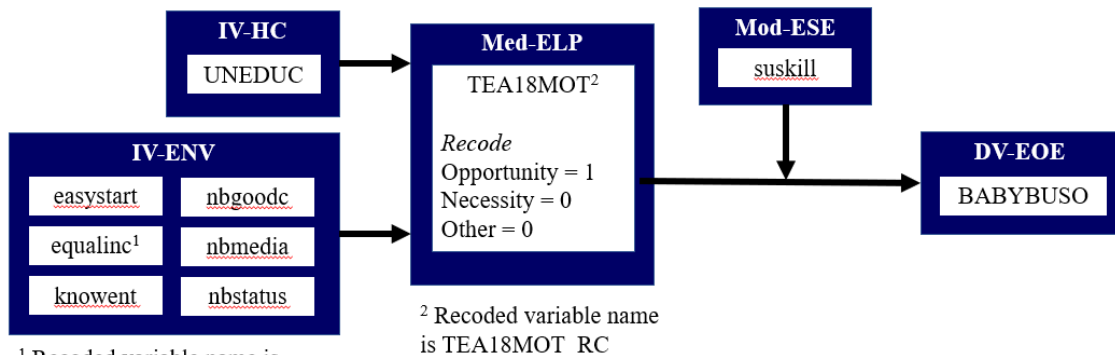
Measures

Since the questions included in the GEM survey do not exactly match with the questions used in the survey instrument from Studies 1 and 2, select variables (refer to Table 6) from the GEM survey were aligned to the Model proposed in Chapter 2. After reviewing the variables and cases in the APS of the 2018 Global Individual Level data, I decided to reduce the variables to those shown in Figure 3. The Equalinc variable, which measured the perceptions of each participant that “most people would prefer that everyone had a similar standard of living,” was reverse coded for this study. Additionally, TEA18MOT, which measured each participant’s perception that the entrepreneurial opportunity that he or she pursued was based on opportunity, necessity, or other motive, was recoded to be either opportunity or other (either necessity or other motive). The industry code (TEAISIC4_1D) was used for the control variable. This variable was reclassified where each industry code was assigned to an industry group.

Table 6. GEM Data Variables to be Used in the Study

Model Variable	SPSS Variable Label	SPSS Variable Name
Human Capital (IV-HC)	UNEDUC. UN harmonized educational attainment (Categories updated in 2018)	UNEDUC
Environment (IV-ENV)	Qi9. In my country, it is easy to start a business.	easystart
Environment (IV-ENV)	Qi1. Do you know someone personally who started a business in the past 2 years?	knowent
Environment (IV-ENV)	Qi5. In my country, most people would prefer that everyone had a similar standard of living.	equalinc
Environment (IV-ENV)	Qi6. In my country, most people consider starting a new business a desirable career choice.	nbgoodc
Environment (IV-ENV)	Qi8. In my country, you will often see stories in the public media and/or internet about successful new businesses.	nbmedia
Environment (IV-ENV)	Q1K1. Are you involved in this start-up to take advantage of a business opportunity or because you have no better choices for work?	sureason
Entrepreneurial Likelihood Pursuit Ratio (Med-ELP)	TEA: opportunity, necessity or other motive	TEA18MOT
Entrepreneurial Self-Efficacy (Mod-ESE)	Qi3. Do you have the knowledge, skill and experience required to start a new business?	suskill
Entrepreneurial Opportunity Exploitation (DV-EOE)	Manages and owns a business that is up to 42 months old	BABYBUSO
Control	TEAISIC4_1D – Agriculture	IndGp1
Control	TEAISIC4_1D – Mining	IndGp2
Control	TEAISIC4_1D – Manufacturing	IndGp3
Control	TEAISIC4_1D – Trade & Transportation	IndGp4
Control	TEAISIC4_1D - Information, Finance, Professional Services, and Administrative Services	IndGp5
Control	TEAISIC4_1D – Health Care, Government, and Education	IndGp6
Control	TEAISIC4_1D - Other Services	IndGp8

Figure 3. Theoretical Model for GEM APS Data



CHAPTER IV

FINDINGS

Preliminary Interviews

Analytics Approach

The interviewees were a select group of graduate students (Guest et al., 2006) who were pursuing their Ph.D.s or had recently earned their Ph.D.s in business-related areas from a large, midwestern university. The interviews were conducted in June and July 2022. The participants consisted of three (25%) females and nine (75%) males. Of this pool, four (33%) did and eight (66%) did not identify themselves as entrepreneurs.

The objectives were to evaluate the face validity of the Lee and Venkataraman (2006) theoretical framework and to help understand the influences and the conditions under which people choose to exploit entrepreneurial opportunities. The feedback was used as guidance to make sure the parts of the survey instrument are appropriate to represent proposed model to operationalize the theoretical framework (Hlady-Rispal et al., 2021).

All participants agreed that there was face validity with the theoretical model, indicating that there was a perceived association between peoples' career aspirations and their perceptions of their value in the labor market and the potential pursuit of entrepreneurial opportunities. Additionally, the participants were asked about the

antecedents to the constructs related to career aspiration and the perception of value in the labor market. The analysis was based on the Gioia Method (Gioia et al., 2013) regarding antecedents to the model where participants were asked about the influences of abilities, values and traits, past achievements, and environment.

Findings

The number of participants who responded to each influence and other perceived influences is shown in Table 7. None of the influences received strong (half or more) votes. Environment, abilities, values, past experiences, and past achievements received the highest number of participants, each receiving four, or one-third, of the participants' votes for believing that these influences should be antecedents to the ELP ratio. Additionally, the participants were asked specifically about the influence of general and specific human capital as antecedents. The number of participants who responded with each is shown in Table 8. The participants stated how their beliefs in human capital as a potential antecedent and what other potential antecedents should be included. One interesting comment came in the form of irrational confidence, where the participant defined this as a person whose achievements or background does not align to a very high level of confidence. The participant gave an example of a basketball player who consistently misses baskets yet professes to be a great shooter. Additional feedback included the impact of generation (Baby Boomer, Generation X, Generation Y/Millennials) on career aspiration vector as part of the ELP ratio.

Table 7. Abilities, Values and Traits, Experiences, and Achievements as Potential Antecedents

Potential Antecedent (Influence)	Number of Participants (Percent of Total Participants)
Environment	4 (33%)
Abilities	4 (33%)
Values	4 (33%)
Past Experiences	4 (33%)
Past Achievements	4 (33%)
Traits	3 (25%)
Need	1 (8%)
Risk Tolerance	1 (8%)

Table 8. Human Capital as a Potential Antecedent

Potential Antecedent (Influence)	Number of Participants (Percent of Total Participants)
Value and Traits	4 (33%)
Human Capital	3 (25%)
Past Experiences	2 (17%)
Abilities	2 (17%)
Past Achievements	1 (8%)
Relationships	1 (8%)
Not Environment	1 (8%)

Development of the Survey Instrument

The interviews provided valuable insights into the antecedent constructs that should be included in the model. After analyzing the interview data, the Model was developed (refer to Figure 1). From this Model, the variables and measures were identified or created for each construct. From these refinements, the items included in the survey were changed as appropriate from those originally proposed in Chapter III.

Feedback from the interviews was used to select the items to include in the antecedents. Also, since the number in the initial set of survey items was so large and some redundancy existed, I was concerned that participants may become fatigued as the survey progressed and thus their responses might not be accurate. I reduced the number of survey items to 45, including 11 items for background information, nine items for environment, 18 items for

ELP ratio (nine for career aspirations and nine for perceived labor market offering), six items for entrepreneurial self-efficacy, and one item for entrepreneurial opportunity exploitation. I included an opt-out question at the beginning of the survey and three qualification questions to check whether the participant met the qualification criteria. During the survey, four check questions were asked to determine whether the participant was reading the survey items and responding appropriately.

Study 1 – MTurk

Analytic Approach

My first step was to test the ELP ratio for internal consistency. Using SPSS Version 28, the Cronbach's alpha was calculated to be 0.91 (refer to Table 9), which indicated that it has strong internal consistency (since it was greater than 0.7) (George & Mallery, 2003, p. 231). Human capital and entrepreneurial opportunity exploitation were not tested since they only had one measure each. Environment and entrepreneurial self-efficacy were tested and had Cronbach's alphas of 0.60 and 0.86, respectively. Additionally, career aspirations and perceived labor market offerings were tested independently for Cronbach's alpha; they were calculated to be 0.760 and 0.900, respectively. This indicated that both had internal consistency, but the perceived labor market offering had greater internal consistency. In the correlation matrix, the ELP ratio only had a significant correlation with entrepreneurial self-efficacy ($r = -0.25, p < 0.001$). The ELP ratio did not have significant correlation with either human capital ($r = -0.04, p = 0.67$) or ENV ($r = -0.10, p = 0.27$). Confirmatory factor analysis was not conducted since human capital and entrepreneurial opportunity exploitation were both single item variables and the environment, the ELP ratio, and the entrepreneurial self-efficacy variable are formative measurement variables. The structured equation model was

run in Mplus Version 8.8 where I used a bootstrapping method to test the hypotheses by obtaining point estimates of all effects with bias-corrected 95% confidence intervals around the effects (MacKinnon et al., 2004; Shrout & Bolger, 2002) (refer to Table 10).

Findings

I evaluated both Hypotheses 1 and 2 for the antecedents of human capital and environment, respectively, to the ELP ratio. From the results in Table 7 showing the ELP ratio as the mediator model, human capital ($\beta = -0.002, p = 0.932$) did not have a statistically significant relationship with the ELP ratio; thus, Hypothesis 1 was not supported. In the testing of Hypothesis 2, environment ($\beta = 0.096, p = 0.649$) did not have a statistically significant relationship with the ELP ratio; thus, Hypothesis 2 was not supported. Hypothesis 3 tested ELP ratio as the mediator. To demonstrate mediation, the independent variables, consisting of human capital (Hypothesis 3a) and environment (Hypothesis 3b), should relate to the mediator, the ELP ratio, and the mediator should relate to the dependent variable, entrepreneurial opportunity exploitation. Human capital ($\beta = -0.151, p = 0.31$) and environment ($\beta = -0.096, p = 0.65$) did not show statistically significant relationships with entrepreneurial opportunity exploitation. The indirect path with mediation using the ELP ratio as the mediator also did not yield statistically significant relations as stated in Hypotheses 3a and 3b. The only path that showed statistical significance was from environment to the ELP ratio ($\beta = -0.035, p = 0.04$). Therefore, Hypotheses 3a and 3b were not supported.

Table 9. Descriptive Statistics, Reliability Estimates, and Study Variable Intercorrelations

	M	SD	1	2	3	4	5	6	7
1. Human Capital	5.49	1.33	—						
2. Environment	4.33	0.90	0.28**	(0.60)					
3. Entrepreneurial Likelihood Pursuit	1.08	0.33	-0.04	-0.18*	(0.91)				
4. Entrepreneurial Self-Efficacy	4.99	1.13	0.35**	0.50**	-0.25**	(0.86)			
5. Entrepreneurial Opportunity Exploitation	4.59	2.05	0.03	0.19*	0.01	0.31**	—		
6. Career Aspirations	5.01	0.83	0.35**	0.55**	-0.18*	0.75**	0.19*	(0.76)	
7. Perceived Labor Market Offering	4.83	1.10	0.35**	0.50**	-0.60**	0.73**	0.12	0.82**	(0.90)

N = 138. Cronbach's alphas are shown in the diagonal. * *p* < 0.05 level, ** *p* < 0.01 level

Table 10. Moderated Mediation Analyses with Entrepreneurial Likelihood Pursuit as Mediator

	<u>Mediator Model</u>		<u>Dependent Variable Model</u>	
	<u>Entrepreneurial Likelihood Pursuit Ratio</u>		<u>Entrepreneurship Opportunity Exploitation</u>	
	β	SE	β	SE
Constant	0.163	1.133	3.684	0.362
Human Capital	-0.002	0.027	-0.151	0.148
Environment	-0.035*	0.017	0.096	0.212
Entrepreneurial Likelihood Pursuit (ELP)			0.565	1.085
ELP × Entrepreneurial Self-Efficacy			-0.081	0.855
Entrepreneurial Self-Efficacy			0.635***	0.168
R ²	0.009		0.136	

Mediator: Entrepreneurial Likelihood Pursuit Vector	<u>Mediator Model</u>		<u>Dependent Variable Model</u>	
	<u>Entrepreneurial Likelihood Pursuit Vector Effect</u>		<u>Entrepreneurship Opportunity Exploitation</u>	
			Lower CI	Upper CI
-1 SD Entrepreneurial Self-Efficacy	-1.120		1.532	6.138
Mean Entrepreneurial Self-Efficacy	0.000		2.652	7.258
+1 SD Entrepreneurial Self-Efficacy	1.120		3.772	8.378

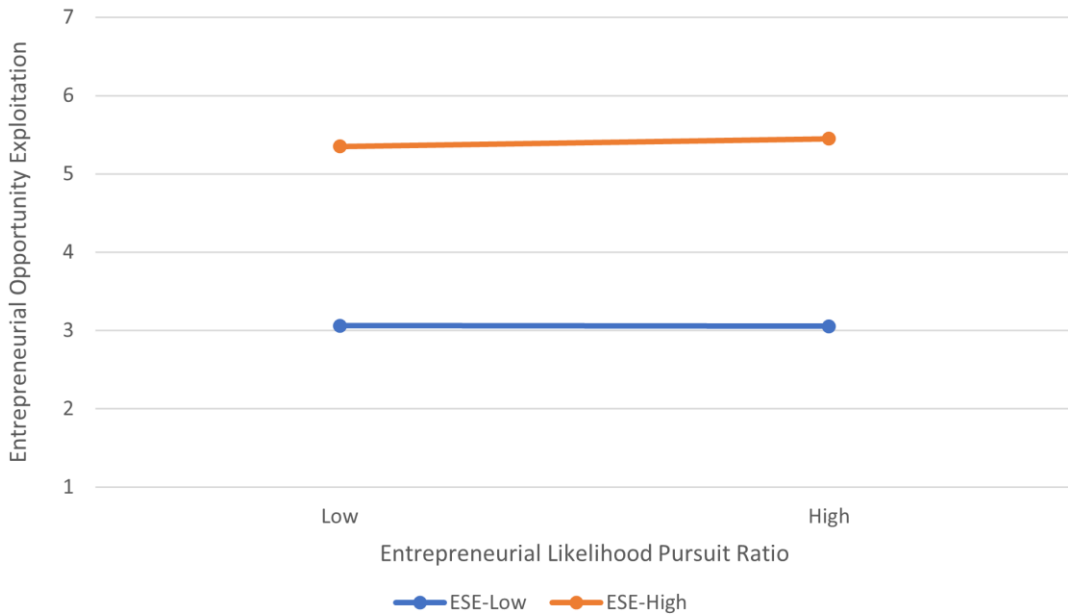
N = 138; Variables were mean centered prior to analysis, CI 95% bias-corrected confidence interval. *** *p* < 0.001, ** *p* < 0.01, * *p* < 0.05

Hypothesis 4 pertained to the relationship between the ELP ratio and entrepreneurial opportunity exploitation. The ELP ratio ($\beta = 0.565, p = 0.60$) was not shown to have a statistically significant relationship with entrepreneurial opportunity exploitation. For the final hypothesis, Hypothesis 5 states that entrepreneurial self-efficacy will moderate the relationship between the ELP ratio and entrepreneurial opportunity exploitation. Unlike the other hypotheses that did not show a statistically significant relation, entrepreneurial self-efficacy ($\beta = 0.635, p = 0.00$) did have a statistically significant relationship to entrepreneurial opportunity exploitation. In Figure 4, the interaction between the ELP ratio and entrepreneurial opportunity exploitation are shown for low and high values of entrepreneurial self-efficacy. The graph illustrates that the participants with high entrepreneurial self-efficacy show a slightly greater disposition towards pursuing entrepreneurial opportunities as compared to the participants with low entrepreneurial self-efficacy.

Post Hoc Results

The statistical test with the ELP ratio as the mediator did not result in a statistically significant relationship with entrepreneurial opportunity exploitation. In the correlation table (refer to Table 7), the two dimensions of the ELP ratio, career aspirations, and perceived labor market offering were correlated with each of the antecedents, including human capital ($r = 0.35, p < 0.001$; $r = 0.35, p < 0.001$, respectively) and environment ($r = 0.55, p < 0.001$; $r = 0.50, p < 0.001$, respectively). Additionally, career aspirations correlated with entrepreneurial opportunity exploitation ($r = 0.19, p = 0.03$). From these correlations, I decided to modify the model and use career aspirations in lieu of the ELP ratio as the mediator. I reran the statistical test with career aspirations having a statistically

Figure 4. Interaction of Entrepreneurial Self-Efficacy on Entrepreneurial Opportunity Exploitation



significant relationship with human capital ($\beta = 0.133, p = 0.002$) and with environment ($\beta = 0.454, p = 0.000$) (refer to Table 9). For the full model, career aspirations did not indicate a statistically significant relationship with entrepreneurial opportunity exploitation ($\beta = -0.205, p = 0.513$). Additionally, I modified the Model to use the perceived labor market offering in lieu of the ELP ratio as the mediator. I reran the statistical test with perceived labor market offering having a statistically significant relationship with human capital ($\beta = 0.193, p = 0.002$) and with environment ($\beta = 0.534, p = 0.000$) (refer to Table 10). For the full model, perceived labor market offerings did indicate a statistically significant relationship with entrepreneurial opportunity exploitation ($\beta = -0.412, p = 0.045$).

Perceived labor market offering had a statistically significant relationship with entrepreneurial opportunity exploitation, which may indicate that the ELP ratio did not have sufficient dispersion with the ratio values to create a statistically significant difference.

Table 11. Moderated Mediation Analyses with Career Aspirations as Mediator

	<u>Mediator Model</u>		<u>Dependent Variable Model</u>	
	<u>Career Aspirations</u>		<u>Entrepreneurship</u>	
	<u>β</u>	<u>SE</u>	<u>β</u>	<u>SE</u>
Constant	-2.694***	0.266	4.719***	1.262
Human Capital	0.133**	0.043	-0.121	0.146
Environment	0.454***	0.062	0.147	0.519
Career Aspirations (CA)			-0.205	0.313
CA × Entrepreneurial Self-Efficacy			-0.152	0.169
Entrepreneurial Self-Efficacy			0.609*	0.313
R ²	0.345		0.130	

N = 138. *** *p* < 0.001, ** *p* < 0.01, * *p* < 0.05

Table 12. Moderated Mediation Analyses with Perceived Labor Market Offering as Mediator

	<u>Mediator Model</u>		<u>Dependent Variable Model</u>	
	<u>Perceived Labor Market Offering</u>		<u>Entrepreneurship</u>	
	<u>β</u>	<u>SE</u>	<u>β</u>	<u>SE</u>
Constant	-3.371***	0.432	4.368***	1.172
Human Capital	0.193**	0.063	-0.106	0.145
Environment	0.534***	0.083	0.193	0.218
Perceived Labor Market Offering (PLMO)			-0.412*	0.206
PLMO × Entrepreneurial Self-Efficacy			-0.041	0.118
Entrepreneurial Self-Efficacy			0.799***	0.198
R ²	0.299		0.218	

N = 138. *** *p* < 0.001, ** *p* < 0.01, * *p* < 0.05

Study 2 – Students

Analytic Approach

The approach for Study 2 was very similar to Study 1. The focus for Study 2 was to compare within-subjects as part of the hypotheses testing. Using SPSS Version 28, I used Cronbach’s alpha to measure internal consistency; the ELP ratio was calculated to be 0.88, which indicated that it has strong internal consistency (greater than 0.7) (refer to Table 13) (George & Mallery, 2003). As in Study 1, human capital and entrepreneurial opportunity exploitation were not tested since they only had one measure each. Environment and entrepreneurial self-efficacy were tested and had Cronbach’s alphas of 0.54 and 0.84,

respectively. Additionally, career aspirations and perceived labor market offering were tested independently for Cronbach's alphas (0.79 and 0.86, respectively), indicating both had strong internal consistency. In the correlation matrix, the ELP ratio did not have a significant correlation with any of the Model variables. Confirmatory factor analysis was not conducted since human capital and entrepreneurial opportunity exploitation were both single-item variables and the environment, the ELP ratio, and the entrepreneurial self-efficacy variable are formative measurement variables. I ran a structured equation model in Mplus Version 8.8 using a bootstrapping method (MacKinnon et al., 2004; Shrout & Bolger, 2002) to test the hypotheses by obtaining point estimates of all effects with bias-corrected 95% confidence intervals around the effects (refer to Table 14).

Findings

I evaluated both Hypotheses 1 and 2, the antecedents of human capital and environment, respectively, to the ELP ratio. The results in Table 14 show the ELP ratio as the mediator model; human capital ($\beta = -0.014, p = 0.20$) had no statistically significant relationship with the ELP ratio. Thus, Hypothesis 1 was not supported. In the testing of Hypothesis 2, environment ($\beta = -0.019, p = 0.33$) had no statistically significant relationship with the ELP ratio; thus, Hypothesis 2 was not supported.

Hypothesis 3 tested ELP ratio as the mediator. To demonstrate mediation, the independent variables, consisting of human capital (Hypothesis 3a) and environment (Hypothesis 3b), should relate to the mediator (the ELP ratio) and the mediator should relate to the dependent variable (entrepreneurial opportunity exploitation). Human capital ($\beta = -0.144, p = 0.26$) and environment ($\beta = -0.178, p = 0.36$) had no statistically significant relationships with entrepreneurial opportunity exploitation. The indirect path with

Table 13. Descriptive Statistics, Reliability Estimates, and Study Variable Intercorrelations

	M	SD	1	2	3	4	5	6	7	8
1. Human capital	5.34	1.27	—							
2. Environment	4.05	0.84	0.16*	(0.54)						
3. Entrepreneurial Likelihood Pursuit	1.07	0.21	-0.10	-0.09	(0.88)					
4. Entrepreneurial Self-Efficacy	5.19	0.89	0.18*	0.16*	-0.05	(0.74)				
5. Entrepreneurial Opportunity Exploitation	4.22	2.16	-0.02	-0.01	-0.06	0.36**	—			
6. Career Aspirations	5.68	0.79	0.13	0.04	0.28**	0.44**	0.16*	(0.79)		
7. Perceived Labor Market Offering	5.42	0.91	0.23**	0.14	-0.61**	0.38**	0.17*	0.54**	(0.86)	
8. Industry Group 1	0.02	0.13	0.00	-0.06	-0.07	0.01	0.05	-0.15*	-0.03	—
9. Industry Group 2	0.06	0.25	0.06	0.07	-0.04	0.06	0.13	-0.04	-0.01	-0.04
10. Industry Group 3	0.01	0.11	0.14	0.00	-0.01	0.12	0.04	0.04	0.00	-0.02
11. Industry Group 4	0.10	0.30	-0.03	-0.04	-0.01	-0.14	-0.09	-0.08	-0.08	-0.04
12. Industry Group 5	0.26	0.44	0.10	0.04	0.00	0.17*	0.04	0.26**	0.19*	-0.08
13. Industry Group 6	0.12	0.33	-0.03	-0.02	0.04	-0.11	-0.06	-0.04	-0.07	-0.05
14. Industry Group 7	0.18	0.39	-0.04	0.00	-0.14	-0.06	0.02	-0.11	0.03	-0.06
15. Industry Group 8	0.22	0.41	-0.13	-0.02	0.16*	0.01	0.01	0.00	-0.11	-0.07
16. Industry Group 9	0.02	0.15	0.08	0.05	-0.03	-0.05	-0.18*	-0.03	0.04	-0.02

	9	10	11	12	13	14	15	16
1. Human capital								
2. Environment								
3. Entrepreneurial Likelihood Pursuit								
4. Entrepreneurial Self-Efficacy								
5. Entrepreneurial Opportunity Exploitation								
6. Career Aspirations								
7. Perceived Labor Market Offering								
8. Industry Group 1								
9. Industry Group 2	—							
10. Industry Group 3	-0.03	—						
11. Industry Group 4	-0.09	-0.04	—					
12. Industry Group 5	-0.16	-0.07	-0.20**	—				
13. Industry Group 6	-0.10	-0.04	-0.12	-0.22**	—			
14. Industry Group 7	-0.12	-0.05	-0.16*	-0.28**	-0.17*	—		
15. Industry Group 8	-0.14	-0.06	-0.18	-0.31**	-0.20**	-0.25**	—	
16. Industry Group 9	-0.4	-0.02	-0.05	-0.09	-0.06	-0.07	-0.08	—

N = 171. Cronbach's alphas are shown in the diagonal. **p* < 0.05 level, ***p* < 0.01 level.

Table 14. Moderated Mediation Analyses with Entrepreneurial Likelihood Pursuit as Mediator

	Mediator Model		Dependent Variable Model	
	Entrepreneurial Likelihood Pursuit Ratio		Entrepreneurship Opportunity Exploitation	
	β	SE	β	SE
Constant	0.155	0.111	5.595	1.036
Human Capital Environment	-0.014	-0.011	-0.144	0.128
Entrepreneurial Likelihood Pursuit (ELP)	-0.019	0.020	-0.178	0.194
ELP \times Entrepreneurial Self-Efficacy			-0.537	1.085
Entrepreneurial Self-Efficacy			0.108	1.346
Industry Group 1			0.893**	0.000
Industry Group 2			0.690	1.563
Industry Group 3			1.052	0.810
Industry Group 4			0.281	0.960
Industry Group 5			-0.156	0.634
Industry Group 6			0.092	0.466
Industry Group 7			0.023	0.619
Industry Group 8			—	—
Industry Group 9			0.108	0.481
R ²	0.016		—	—
Mediator: Entrepreneurial Likelihood Pursuit Vector				
	Effect		Lower CI	Upper CI
-1 SD Entrepreneurial Self-Efficacy	-0.892		2.668	6.518
Mean Entrepreneurial Self-Efficacy	0.000		3.560	7.410
+1 SD Entrepreneurial Self-Efficacy	0.892		4.452	8.302

N = 171; Variables were mean centered prior to analysis, CI 95% bias-corrected confidence interval.

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

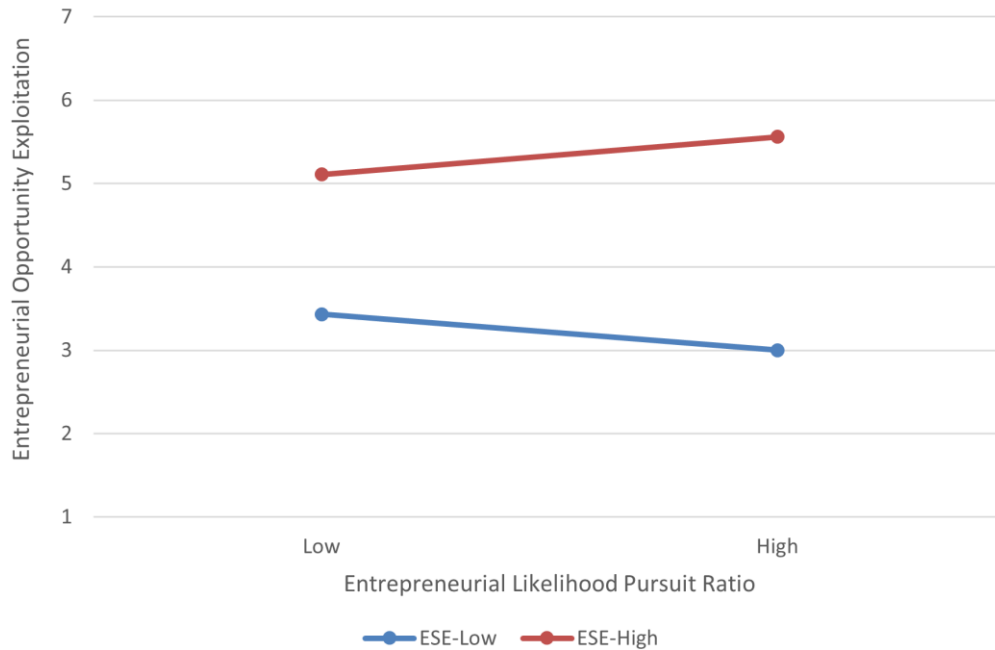
mediation using the ELP ratio as the mediator also yielded no statistically significant relations as stated in Hypotheses 3a and 3b. Therefore, Hypotheses 3a and 3b were not supported.

Hypothesis 4 pertained to the relationship between the ELP ratio and entrepreneurial opportunity exploitation. The ELP ratio ($\beta = -0.537, p = 0.62$) had no statistically significant relationship with entrepreneurial opportunity exploitation. For the final hypothesis, Hypothesis 5 states that entrepreneurial self-efficacy will moderate the relationship between the ELP ratio and entrepreneurial opportunity exploitation. Unlike the other hypotheses that had no statistically significant relation, entrepreneurial self-efficacy ($\beta = 0.893, p = 0.00$) did have a statistically significant relationship to entrepreneurial opportunity exploitation. However, the interaction between the ELP ratio and entrepreneurial self-efficacy ($\beta = 0.108, p = 0.94$) had no statistically significant relationship and thus did not indicate that entrepreneurial self-efficacy moderated the relationship. Therefore, Hypotheses 4 and 5 were not supported. In Figure 5, the interaction between the ELP ratio and entrepreneurial opportunity exploitation is shown for low and high values of entrepreneurial self-efficacy. The graph illustrates that the participants with high entrepreneurial self-efficacy show a slightly greater disposition towards pursuing entrepreneurial opportunities as compared to the participants with low entrepreneurial self-efficacy.

Post Hoc Results

Like Study 1, the mediator of the ELP ratio was replaced with career aspirations and then with perceived labor market offering. I ran the statistical test again; career aspirations had no statistically significant relationship with human capital ($\beta = 0.077, p = 0.123$) or

Figure 5. Interaction of Entrepreneurial Self-Efficacy on Entrepreneurial Opportunity Exploitation



with environment ($\beta = 0.019, p = 0.823$) (refer to Table 15). For the full model, career aspirations had no statistically significant relationship with entrepreneurial opportunity exploitation ($\beta = 0.073, p = 0.774$). Additionally, I modified the Model to use the perceived labor market offering in lieu of the ELP ratio as the mediator. I ran the statistical test again; perceived labor market offering had a statistically significant relationship with human capital ($\beta = 0.152, p = 0.003$) but not with environment ($\beta = 0.115, p = 0.190$) (refer to Table 16). For the full model, perceived labor market offerings did indicate a statistically significant relationship with entrepreneurial opportunity exploitation ($\beta = 0.173, p = 0.400$). Unlike Study 1, the results of the replacement of the mediator of the ELP ratio with career aspirations and then with perceived labor market offering in Study 2 showed the mediator to be a significant contributor between the antecedents of human capital and environment to entrepreneurial opportunity exploitation.

Table 15. Moderated Mediation Analyses with Career Aspirations as Mediator

	<u>Mediator Model</u>		<u>Dependent Variable Model</u>	
	<u>Career Aspirations</u>		<u>Entrepreneurship</u>	
	<u>β</u>	<u>SE</u>	<u>β</u>	<u>SE</u>
Constant	-0.486	0.402	5.561	1.003
Human Capital	0.077	0.050	-0.140	0.129
Environment	0.019	0.084	-0.164	0.189
Career Aspirations (CA)			0.073	0.254
CA × Entrepreneurial Self-Efficacy			0.012	0.190
Entrepreneurial Self-Efficacy			0.868***	0.210
Industry Group 1			0.786	1.598
Industry Group 2			1.038	0.802
Industry Group 3			0.223	0.949
Industry Group 4			-0.192	0.646
Industry Group 5			0.026	0.474
Industry Group 6			-0.038	0.632
Industry Group 7			—	—
Industry Group 8			0.024	0.479
Industry Group 9			—	—
R ²	0.016		0.157	

N = 171. Variables were mean centered prior to analysis, CI 95% bias-corrected confidence interval.

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

Table 16. Moderated Mediation Analyses with Perceived Labor Market Opportunity as Mediator

	Mediator Model		Dependent Variable Model	
	Perceived Labor Market Offering		Entrepreneurship Opportunity Exploitation	
	β	SE	β	SE
Constant	-1.281	0.385	5.704	1.014
Human Capital Environment	0.152**	0.052	-0.156	0.129
Perceived Labor Market Offering (PLMO)	0.115	0.088	-0.183	0.190
PLMO \times Entrepreneurial Self-Efficacy			0.173	0.205
Entrepreneurial Self-Efficacy			-0.074	0.179
Industry Group 1			0.843***	0.201
Industry Group 2			0.738	1.513
Industry Group 3			1.079	0.817
Industry Group 4			0.309	0.939
Industry Group 5			-0.128	0.641
Industry Group 6			0.055	0.467
Industry Group 7			—	—
Industry Group 8			0.103	0.481
Industry Group 9			—	—
R ²	0.065		0.156	

N = 171. Variables were mean centered prior to analysis, CI 95% bias-corrected confidence interval. *** *p* < 0.001,

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

Study 3 – GEM

Analytical Approach

I used SPSS Version 28 to calculate the descriptive statistics, the reliability estimate of the environment variables, and the correlations for the variables to measure the constructs. I used Cronbach's alpha to measure the level of internal consistency for environment since it consisted of multiple variables that were combined; it was calculated to be 0.03, which indicated an unacceptable level (alpha less than 0.5) (refer to Table 17) (George & Mallery, 2003). The internal consistency for environment was very low as it consisted of formative measurement variables. None of the other constructs, specifically the ELP ratio, were measured for internal consistency since they each consisted of only one measure. In the correlation matrix, the environment ($r = 0.181$, $p = 0.002$), the ELP ratio ($r = 0.190$, $p = 0.001$), and entrepreneurial self-efficacy ($r = 0.147$, $p = 0.012$) showed significant correlation with human capital (refer to Table 17). Environment and entrepreneurial self-efficacy ($r = 0.168$, $p = 0.004$) also showed significant correlation. I did not conduct a confirmatory factor analysis for human capital, the ELP ratio, entrepreneurial self-efficacy, and entrepreneurial opportunity exploitation as only environment had multiple variables for which to measure the construct. I used Mplus Version 8.8 to further test my hypotheses by estimating the full mediation model using a bootstrapping method (MacKinnon et al., 2004; Shrout & Bolger, 2002) with 1,000 iterations. In the statistical model, entrepreneurial opportunity exploitation was declared a binary and ordered categorical variable, and the ELP ratio variable was declared continuous.

Table 17. Descriptive Statistics, Reliability Estimates, and Study Variable Intercorrelations

	M	SD	1	2	3	4	5
1. Human Capital	5.39	1.39	—				
2. Environment	0.65	0.19	0.18**	(0.03)			
3. Entrepreneurial Likelihood Pursuit	0.82	0.39	0.19**	0.09	—		
4. Entrepreneurial Self-Efficacy	0.86	0.34	0.15**	0.17**	0.03	—	
5. Entrepreneurial Opportunity Exploitation	0.37	0.48	0.06	0.07	0.04	0.11	—
6. Industry Group 1	0.24	0.15	0.10	0.07	0.02	0.00	0.02
7. Industry Group 2	0.35	0.18	-0.19**	-0.04	0.09	0.08	0.01
8. Industry Group 3	0.06	0.23	0.04	-0.04	-0.04	0.01	-0.09
9. Industry Group 4	0.20	0.40	-0.12*	-0.09	0.02	-0.03	-0.02
10. Industry Group 5	0.26	0.44	0.07	0.05	0.01	0.00	0.12*
11. Industry Group 6	0.11	0.31	0.12*	0.01	-0.01	0.01	-0.04
12. Industry Group 8	0.04	0.20	0.08	-0.05	-0.04	-0.17**	-0.02

	6	7	8	9	10	11	12
1. Human Capital							
2. Environment							
3. Entrepreneurial Likelihood Pursuit							
4. Entrepreneurial Self-Efficacy							
5. Entrepreneurial Opportunity Exploitation							
6. Industry Group 1	—						
7. Industry Group 2	-0.03	—					
8. Industry Group 3	-0.04	-0.05	—				
9. Industry Group 4	-0.08	-0.10	-0.12*	—			
10. Industry Group 5	-0.09	-0.11	-0.14*	-0.30**	—		
11. Industry Group 6	-0.06	-0.07	-0.08	-0.18**	-0.20**	—	
12. Industry Group 8	-0.03	-0.04	-0.05	-0.11	-0.12*	-0.07	—

N = 288. Cronbach's alphas are shown in the diagonal. **p* < 0.05 level, ***p* < 0.01 level.

Industry Group 1 – Agriculture; Industry Group 2 – Mining; Industry Group 3 – Manufacturing; Industry Group 4 – Trade and Transportation; Industry Group 5 – Information, Finance, Professional Services, and Administrative Services; Industry Group 6 – Health Care, Government, and Education; Industry Group 8 – Personal and Other Services

Findings

I evaluated both Hypotheses 1 and 2, the antecedents of human capital and environment, respectively, to the ELP ratio. The results in Table 18 show the ELP ratio as the mediator model; human capital ($\beta = 0.050$, $p = 0.005$) did have a statistically significant relationship with the ELP ratio. Thus, Hypothesis 1 was supported. In testing Hypothesis 2, environment ($\beta = 0.110$, $p = 0.396$) had no statistically significant relationship with the ELP ratio; thus, Hypothesis 2 was not supported.

Hypothesis 3 tested the ELP ratio as the mediator. To demonstrate mediation, the independent variables, consisting of human capital (Hypothesis 3a) and environment (Hypothesis 3b), should relate to the mediator (the ELP ratio) and the mediator should relate to the dependent variable (entrepreneurial opportunity exploitation). Human capital ($\beta = 0.045$, $p = 0.672$) and environment ($\beta = 0.509$, $p = 0.512$) had no statistically significant relationships with entrepreneurial opportunity exploitation. The indirect path with mediation using the ELP ratio as the mediator also yielded no statistically significant relations as stated in Hypotheses 3a and 3b; therefore, neither Hypotheses 3a nor 3b was supported.

Hypothesis 4 pertained to the relationship between the ELP ratio and entrepreneurial opportunity exploitation. The ELP ratio ($\beta = 0.965$, $p = 0.840$) had no statistically significant relationship with entrepreneurial opportunity exploitation. Hypothesis 5 stated that entrepreneurial self-efficacy moderated the relationship between the ELP ratio and entrepreneurial opportunity exploitation. Entrepreneurial self-efficacy ($\beta = 1.481$, $p = 0.757$) had no statistically significant relationship to entrepreneurial opportunity exploitation, nor did the interaction between the ELP ratio and entrepreneurial self-efficacy ($\beta = 0.045$,

$p = 0.849$) indicate that entrepreneurial self-efficacy moderated the relationship between the ELP ratio and entrepreneurial opportunity exploitation.

Table 18. Moderated Mediation Analyses with Entrepreneurial Likelihood Pursuit as Mediator

	<u>Mediator Model</u>		<u>Dependent Variable Model</u>	
	Entrepreneurial Likelihood Pursuit Ratio		Entrepreneurship Opportunity Exploitation	
	<u>B</u>	<u>SE</u>	<u>B</u>	<u>SE</u>
Constant	0.478	0.124	2.515	4.699
Human Capital	0.050**	0.005	0.044	0.097
Environment	0.110	0.129	0.560	0.735
Entrepreneurial Likelihood Pursuit (ELP)			0.926	4.724
ELP × Entrepreneurial Self-Efficacy			-0.838	4.739
Entrepreneurial Self-Efficacy			1.393	4.724
Industry Group 1			0.307	2.711
Industry Group 2			0.269	1.519
Industry Group 3			-0.775	2.436
Industry Group 4			0.136	0.393
Industry Group 5			0.580	0.359
Industry Group 6			-0.078	0.508
Industry Group 8			0.126	1.703
R ²	0.039		0.084	

$N = 288$. Variables were mean centered prior to analysis, CI 95% bias-corrected confidence interval. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

CHAPTER V

DISCUSSION AND CONCLUSION

Overview

In this chapter, I provide a summation and a discussion of the findings of the empirical studies related to the development and testing of the novel measure, the entrepreneurial likelihood pursuit (ELP) ratio, as it pertains to people deciding to pursue entrepreneurial opportunities. This discussion will include (1) the results from the empirical studies, specifically as they pertain to the ELP ratio, (2) the benefits of these results to the proposed new ELP Theory, and (3) the theoretical and practical applications of the results of the empirical studies.

To address the research questions, I conducted an extensive literature review pertaining to characteristics and traits related to career decision making that leads people to pursuing entrepreneurial opportunities. I then conducted interviews with a group of doctoral students to identify antecedents to the ELP ratio as it related to the pursuit of exploiting entrepreneurial opportunities. From the interviews, I developed a theoretical model and identified corresponding variables to operationalize the constructs in the Model. I developed a survey instrument to conduct two studies, one of the general population in the United States and one of students enrolled in an Introduction to Entrepreneurship course at a large midwestern university. I conducted a third study on

archival Adult Population Survey (APS) data from the Global Entrepreneurship Monitor (GEM).

Understanding why people choose to pursue entrepreneurial opportunities has been a question challenging researchers for a long time and continues to do so (EspírituOlmos & Sastre-Castillo, 2015; Henley, 2007; Papanek, 1962). As indicated by Figure 2, the individual aspiration achievement begins with individuals deciding on the achievement they want to obtain. Once aspiration achievements have been determined, individuals set expectations about their abilities and motivations to reach those achievements based on the environment in which they operate. This motivation influences their attitudes based on personal control and self-esteem. Their attitudes then drive their behavior towards obtaining the achievement. If their career aspirations are not being met, they may seek other career opportunities, specifically entrepreneurial opportunities. This indicates that individuals' career aspirations are greater than their perceived labor market value. Thus, if the ratio of the value for career aspirations is greater than value of the perceived labor market value (referred to as the ELP ratio), there is a higher probability that they will pursue entrepreneurial opportunities. Based on the meta-theory, the ELP Theory, developed as part of this research, the studies were designed to test whether the ELP ratio is a valid measure by answering the two research questions, one about the antecedents to the ELP ratio and the other to examine whether the ELP ratio is an indicator of individuals' pursuit of entrepreneurial opportunities.

Research Question 1

The first research question of the qualitative study, "What antecedents should be used to the entrepreneurial likelihood pursuit ratio?" was answered in part. The interviewees provided their insights on which antecedents appeared to be of greater influence on the

mediator, the ELP ratio. From their insights, the human capital and environment constructs were included in the Model and variables with measures were identified to measure these constructs and incorporated in the survey instrument. The variables tested in Study 1 showed the result that human capital and environment do not have a statistical relationship with the ELP ratio. Unlike Study 1 or Study 3, Study 2 did not show a statistically significant relationship between human capital or environment and the ELP ratio. In Study 3, the measures of the antecedents of human capital and environment were different than those included in either Study 1 or Study 2. Even with different measurements, the results remained the same: neither human capital nor environment were statistically significant in the full Model. Human capital did have a statistically significant relationship with the ELP ratio.

Interestingly, in Study 1 when the mediator was changed from the ELP ratio to career aspirations, both human capital and environment had statistically significant relationships with career aspirations; the same was true when the mediator was changed from the ELP ratio to perceived labor market offering. Yet for both cases, neither human capital nor environment had a statistically significant relationship with entrepreneurial opportunity exploitation. This indicates that the ELP ratio does not create a significant level of dispersion for the statistical test to determine a level of change from the null hypothesis of no change detected. The individual variables that measure the constructs of career aspirations or perceived labor market offering each had a greater level of dispersion.

Research Question 2

The second research question, “Based on the individual’s entrepreneurial self-efficacy, does the entrepreneurial likelihood pursuit ratio indicated an individual’s likeliness to pursue

an entrepreneurial opportunity?” was answered in the hypotheses. None of the three studies showed the ELP ratio to have a statistically significant relationship with people pursuing entrepreneurial opportunities. From these studies, the ratio that was created between individuals’ career aspirations and their perceptions of their value in the labor market was not a good indicator of their pursuit of entrepreneurial opportunities. The lower dispersion of the ELP ratio values did not allow greater insights into individual differences. By separating the dimensions of the ELP ratio and using each of those dimensions as a replacement mediator, I found that the perceived labor market offering (individuals’ perceptions of their value in the labor market) did have a statistically significant negative relationship with their pursuit of entrepreneurial opportunities. This result indicates that the higher the perceived compensation individuals receive in the labor market, the less interested they are in pursuing entrepreneurial opportunities; it becomes a risk-reward situation, as indicated by the Prospect Theory component of the aspiration achievement framework (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981) (refer to Figure 2). This is counter to research that indicates that people are willing to accept lower wages in order to pursue entrepreneurship (Debrulle, 2016; Gottlieb et al., 2022; Hamilton, 2000). This indicates that people will adjust the economic component their career aspirations based on the discovery of their perception of value in the labor market, but it may not adjust their overall career aspirations. In other words, as people realize they can be better compensated at different firms, they have a greater willingness to change jobs as interim changes. But that does not mean they will forgo the long-term aspirations of pursuing entrepreneurial opportunities, as indicated by Strategic Reference Point Theory (Fiegenbaum et al., 1996), which is also part of the aspiration achievement framework.

Theoretical Implications

Three important theoretical contributions come from my attempt to create a novel measure to better link individuals' traits and characteristics to their pursuit of entrepreneurial opportunities. The first theoretical contribution is the identification of the antecedents identified through interviews. Following the Gioia method (Gioia et al., 2013), human capital and environment were identified as antecedents to the ELP ratio. These antecedents further the literature of Human Capital Theory and Social Cognitive Theory. By including professional background and education, I was able to test these upon individuals' career aspirations and their influence in pursuing entrepreneurial opportunities. Human capital did not impact the ELP ratio enough to be significant nor did it significantly impact entrepreneurial opportunity exploitation. These findings help to further our understanding of how Human Capital Theory may not be as applicable to career aspirations related to entrepreneurship or to the pursuit of entrepreneurship, as some other research asserts (Brinckmann & Kim, 2015; Forbes, 2005; Stuetzer et al., 2013). Additionally, environment was identified as an antecedent and when tested showed to have a statistically significant relationship with the ELP ratio (a negative relationship between the two), which is counter to the hypothesis. Environment did not have a statistically significant relationship with pursuit of entrepreneurial opportunities. These findings indicate the need for further research to determine how Social Cognitive Theory can benefit.

Second, I created a theoretical model (refer to Figure 1) to identify the antecedents (human capital and environment), the mediator (the ELP ratio), the moderator (entrepreneurial self-efficacy), and the dependent variable (entrepreneurial opportunity exploitation). This Model provided the structure to guide my research effort (Grant &

Osanloo, 2014). Additionally, the novel measurement of ELP ratio was created as a ratio of individuals' career aspirations to their perceptions of their value in the labor market. This helps to further the research on Expectance Theory related to people pursuing entrepreneurship.

The third theoretical contribution pertains to the meta-theory, a combination of ten theories, that I created to improve the analysis, comparison, and evaluation of the phenomena showing the relationship between individuals' traits and characteristics and their pursuit of entrepreneurial opportunities. I developed the Model based on this meta-theory and tested it through three studies. Both Study 1 and Study 2 indicated that peoples' entrepreneurial self-efficacy was associated with their pursuit of entrepreneurial opportunities. Study 1 indicated that environment was associated with the ELP ratio. Studies 2 and 3 indicated that human capital was associated with the ELP ratio. Additionally, through the ad hoc analysis as part of Study 1 where the ELP ratio was replaced by career aspirations, both human capital and environment were associated with career aspirations. When the ELP ratio was replaced by the perceived labor market offering, both human capital and environment were also associated with perceived labor market offering. These findings indicate that there could be support to the meta-theory by indicating a relationship between individual traits and characteristics and their pursuit of entrepreneurial opportunities.

Practical Implications

The aspiration achievement framework based on the integration of the theories (refer to Figure 2) was derived from the meta-theory. From this framework, I was able to follow how people make career aspiration decisions relative to the achievements they determine leading to the behaviors they show to obtain that achievement, specifically as they decide to make

career changes to pursue entrepreneurial opportunities. This framework can assist people who are considering entrepreneurship to evaluate their decision-making regarding career aspirations and corresponding behaviors that may lead them to pursue entrepreneurial opportunities.

The study results show some indications that human capital and environment have a relationship with career aspirations and with perception of value in the labor market. From the ad hoc analysis of Study 1, the perception of value in the labor market mediated the relationship between the predictor variables of human capital and environment with the pursuit of an entrepreneurial opportunity. Provided this relationship is accurate, policy makers who are evaluating and forecasting the economic conditions for an economy could create a forecast of new entrepreneurial activity based on economic expansion and contractions.

Limitations

Three limitations can be identified. The first is that the archival data for Study 3 did not include the same items that were included in the survey items used in Studies 1 or 2. One variable was used to represent the ELP ratio in Study 3. No dimensions of career aspirations or perceived labor market offering were provided to further explore whether people had career aspirations to become entrepreneurs or how their perception of their value in the labor market would influence their decisions to pursue entrepreneurial opportunities. Including these dimensions with their respective items would have allowed for a more consistent measurement of the ELP ratio across the three studies.

The second limitation is that the studies only focused on responses from United States, which creates a boundary for meta-theory and limits the generalizability of the ELP ratio.

The United States is a developed economy, which allows more flexibility in choosing to work for companies where employees do not have ownership and earning a livable wage or to pursue entrepreneurial opportunities. Other countries in which economies are in transition or are developing may generate different results as their citizens may have different career aspirations and labor market values. These differences may influence the level of variance within the ELP ratio, making the result more statistically significant.

The first two limitations lead to the third limitation of external validity caused by issues with population validity and by temporal validity. The samples chosen were only from the United States. As stated above, the economy of the United States as a developed economy is different from economies in transition or that are developing. Therefore, the results of the research cannot be generalized. Additionally, the state of the economy during the time period in which the data was collected may have influenced how people responded to the surveys (for both the survey instrument created and administered as part of this research as well as GEM's Adult Population Survey in which the archived data was used). If the data had been collected during a time period under different economic conditions, the outcome may have been different, thus indicating an issue with temporal validity.

Future Research

The results of the ad hoc analysis for Study 1 indicates that the perceived labor market offering (perceptions of value in the labor market) mediated the relationship between the antecedents of human capital and environment with people pursuing entrepreneurial opportunities. Although this was not confirmed by the ad hoc analysis for Study 2, further investigation could be conducted into how perception of value in the labor market influences

career aspirations, specifically for those who intend to pursue entrepreneurial opportunities within a defined time horizon.

A second opportunity for future research would be to incorporate additional constructs related to traits and characteristics with predictor variables that include more data about personality and how people make decisions. Including these variables in addition to the variables related to human capital and environment might provide greater context into how and why people evaluate their career aspirations and perceived value in the labor market, specifically as they pertain to pursuing entrepreneurial opportunities. With these predictor variables, the individuals sampled could be clustered to see whether the different clusters lead to an ELP ratio that better predicts pursuing entrepreneurial opportunities.

The final future research opportunity is based on the limitation that the data was from the United States during a low unemployment period. At the time of the data collection for Studies 1 and 2, the United States was experiencing very low unemployment of 3.7% (U.S. Bureau of Labor Statistics, 2022), which was consistent the United States unemployment rate of 3.9% in 2018 (Blank & Edwards, 2019) when Study 3's GEM 2018 APS data was collected. The very low unemployment rate caused wages to increase, and this may have influenced the participants' perceptions of their labor market value and decisions to pursue or not pursue entrepreneurial opportunities. Another study could be performed in a time period where the unemployment rate was high (such as 2010 when the U.S. was in a recession) to see the impact on the pursuit of entrepreneurial opportunities.

Conclusion

The focus of this research was to better understand the relationship between career aspirations and perceptions of value in the labor market, specifically as this relationship leads

some toward pursuing entrepreneurial opportunities. As part of this research, a novel measure, the entrepreneurial likeliness pursuit (ELP) ratio, was developed and measured through a mixed methods approach. The interviews yielded considerations for the antecedents that were used to help answer the first research question and were incorporated into the Model. The results of survey instrument that was created and administered were not able to show that the ELP ratio had a statistically significant relationship with pursuit of entrepreneurial opportunities.

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APPENDICES

APPENDIX A: Qualitative Study: Survey Electronic Invitation

SUBJECT: Request your opinions to assist with ARP

Dear [Participant's Name],

In Dr. Rutherford's entrepreneurship class, we read Lee's and Venkataraman's (2006) article "Aspirations, market offerings, and the pursuit of entrepreneurial offerings." This article presented a theoretical framework about how a person's level of aspiration (aspiration vector) interacts with the person's perceived valuation of the market (perceived valuation of the market vector). If the person's aspiration vector was greater than the person's perceived valuation of the market vector, then the person will tend to pursue entrepreneurial opportunities. The research project in which we are pursuing is to create a measure for Lee's and Venkataraman's theoretical framework.

Would you be willing to participate in a recorded interview that should take no more than 15 minutes? The interview will consist of qualitative questions to ask your opinion to help guide our research efforts. The video recordings will be converted into transcripts of the conversation, and then, the video recordings will be deleted.

Thank you for taking the time to assist me in my educational endeavors. If you have any questions about this study, please contact Robert King (robert.king@okstate.edu). If you have questions about your rights as a research participant, please contact the Oklahoma State University Institutional Review Board (405-744-5700 or irb@okstate.edu).

Kind regards,
Robert King
PhD Student, Cohort VIII
Spears Business School

APPENDIX B: Qualitative Study: Participant Consent and Interview Questions

Interviewer's Statement at the Start of the Interview

Thank you for agreeing to participate in this interview. There are a few questions before we begin the interview:

- A. Are you familiar with Lee's and Venkataraman's (2006) article "Aspirations, market offerings, and the pursuit of entrepreneurial offerings"? [Yes or No answer. If the answer is "no," request the participant reread the article and reschedule the interview.]
- B. Do you believe the answers you will provide during this interview will be of your own opinion? [Yes or No answer. If the answer is "no," inquire why the participant would not express his/her opinion.]
- C. Do you consent to have your responses recorded with the understanding that after your responses have been transcribed that the recording will be deleted? [Yes or No answer. If the answer is "no," inquire as to the concerns of the participant. If concerns cannot be addressed where the participant changes response to "Yes," end the interview.]

Interview Questions

- 1. In Lee's and Venkataraman's (2006) article, the authors presented a theoretical framework about how a person's level of aspiration (aspiration vector) interacts with the person's perceived valuation of the market (perceived valuation of the market vector). If the person's aspiration vector was greater than the person's perceived valuation of the market vector, then the person will tend to pursue entrepreneurial opportunities.
 - a. In your opinion, does their statement appear to have face validity? (From Dr. Edward's *Research Methods Lecture Notes*, face validity is "the extent to which a measure looks like it measures what it supposed to.")
 - b. Why do you believe it does (or does not) have face validity?
- 2. The authors stated that they were trying to address two questions about entrepreneurship: (1) Why do some people see entrepreneurial opportunities while others join or remain in the existing labor market? (2) Under what conditions is the pursuit of entrepreneurial opportunity most likely?
 - a. In your opinion, how well does their theoretical framework answer these questions?

- b. Why do you believe it does (or does not) address their questions about entrepreneurship?
- 3. Lee and Venkataraman state that the aspiration vector of “an individual tends to be influenced by abilities, values and traits, past achievements, and environment” (p. 114).
 - a. What is your opinion of these influences on a person’s aspiration vector?
 - b. In our instrument (share screen and show slide with following information), we will be using items that ask about the participant’s general human capital and specific human capital, including professional background, Schwartz’s Value Survey which is used to measure the participant’s value priorities, and environment items from the Korunka et al. (2003) used to measure an individual’s perception of how his or her environment affects decision making regarding career. How well will do you believe the general human capital and specific human capital will satisfy the influences stated by Lee and Venkataraman?
- 4. Do you have any other comments regarding the content of the article?

Thank you for taking time to participate in this interview.

APPENDIX C: Quantitative Study in Amazon MTurk and Qualtrics: Survey

Invitation

Dear Participants,

My name is Robert King, and I am a doctoral student at Oklahoma State University. You are being invited to participate in a research study about the likelihood of making a career change based on aspirations and perceived market conditions. The goal of this research is to better understand if the relationship of aspirations to perceived market conditions may lead to exploring entrepreneurial opportunities. Participating in this study may not benefit you directly, but it will help us learn more about how people make career choices that could lead to pursuing an entrepreneurial career choice.

To participate in this survey, you will need to meet the following three (3) qualifications: (1) able to read and understand English; (2) must be at least 19 years of age; and (3) able to be employed. Participation is strictly voluntary, and you may refuse to participate at any time. If you agree to participate in this study, the survey will take approximately [30] minutes to complete. Please answer all questions as honestly as possible. By completing this survey, you are consenting to participate in this study. Once you have completed the survey, please print or save a copy of this form for your records. The data collected will remain confidential and used solely for academic purposes. There is no compensation nor is there any known risk. [If you participate in the study, you will receive \$4 for your time.]

Thank you for taking the time to assist me in my educational endeavors. If you have any questions about this study, please contact Matt Rutherford, Ph.D. (405-744-7864 or matthew.rutherford@okstate.edu). If you have questions about your rights as a research participant, please contact Dawnett Watkins, CIP, IRB Manager, Oklahoma State University Institutional Review Board (405-744-5700 or irb@okstate.edu).

APPENDIX D: Participant Consent Form for Mturk Survey

Consent Statement

Dear Participants,

My name is Robert King, and I am a doctoral student at Oklahoma State University. You are being invited to participate in a research study about the likelihood of making a career change based on aspirations and perceived market conditions. The goal of this research is to better understand if the relationship of aspirations to perceived market conditions may lead to exploring entrepreneurial opportunities. Participating in this study may not benefit you directly, but it will help us learn more about how people make career choices that could lead to pursuing an entrepreneurial career choice.

To participate in this survey, you will need to meet the following three (3) qualifications: (1) able to read and understand English; (2) must be at least 19 years of age; and (3) able to be employed in the United States. Participation is strictly voluntary, and you may refuse to participate at any time. If you agree to participate in this study, the survey will take approximately 15 minutes to complete. Please answer all questions as honestly as possible. By completing this survey, you are consenting to participate in this study. Once you have completed the survey, please print or save a copy of this form for your records. The data collected will remain confidential and used solely for academic purposes. There is the opportunity for compensation, and there are no known risks.

Thank you for taking the time to assist me in my educational endeavors. If you have any questions about this study, please contact Matt Rutherford, Ph.D. (405-744-7864 or matthew.rutherford@okstate.edu). If you have questions about your rights as a research participant, please contact Dawnett Watkins, CIP, IRB Manager, Oklahoma State University Institutional Review Board (405-744-5700 or email the IRB through <https://okstate.forms-db.com/view.php?id=113699>).

If you agree to participate, then click "I agree to participate." [Participant clicks "I agree to participate" or "No thanks. I do not want to participate"]

APPENDIX E: Participant Consent Form for Student Survey

Consent Statement

Dear Participants,

My name is Robert King, and I am a doctoral student at Oklahoma State University. You are being invited to participate in a research study about the likelihood of making a career change based on aspirations and perceived market conditions. The goal of this research is to better understand if the relationship of aspirations to perceived market conditions may lead to exploring entrepreneurial opportunities. Participating in this study may not benefit you directly, but it will help us learn more about how people make career choices that could lead to pursuing an entrepreneurial career choice.

Qualifications

To participate in this survey, you will need to meet the following three (3) qualifications: (1) able to read and understand English; (2) must be at least 19 years of age; and (3) able to be employed in the United States. Participation is strictly voluntary, and you may refuse to participate at any time.

Risks

There are no known risks. The data collected will remain confidential and used solely for academic purposes.

Estimated Time to Complete the Survey

If you agree to participate in this study, the survey will take approximately 15 minutes to complete. Please answer all questions as honestly as possible. By completing this survey, you are consenting to participate in this study. Once you have completed the survey, please print or save a copy of this form for your records.

Compensation/Benefit Opportunities

By completing this survey you will receive 0.5 SONA credits.

Appreciation for Participation and Contact Information

Thank you for taking the time to assist me in my educational endeavors. If you have any questions about this study, please contact Matt Rutherford, Ph.D. (405-744-7864 or matthew.rutherford@okstate.edu). If you have questions about your rights as a research participant, please contact Dawnett Watkins, CIP, IRB Manager, Oklahoma State University Institutional Review Board (405-744-5700 or email the IRB through <https://okstate.forms-db.com/view.php?id=113699>).

If you agree to participate, then click "I agree to participate." [Participant clicks "I agree to participate" or "No thanks. I do not want to participate"]

APPENDIX F: Quantitative Survey Questions Used in Study 1 and Study 2

Entrepreneurial Opportunity Exploitation

1. If you were to choose between running your own business and being employed by someone, what would you prefer? (1 = Would prefer to be employed by someone to 7 = Would prefer to be self-employed);

Professional Background

2. What is your current age? [Number]
3. What is your gender? [Female, Male, Non-binary, Other (please specify), Prefer not to say]
4. What is your race/ethnic group? [White, Black or African American, Hispanic, Asian, Native American, Pacific Islander, Other (please specify), Prefer not to say]
5. What is your highest completed level of education? [Did not complete high school, ..., Graduate degree]
 - 5.1. If earned a bachelor's degree, what area is your degree? [Business, Science or Engineering, Humanities or Liberal Arts, Other]
 - 5.2. If earned a graduate degree, was it in business (e.g., MBA, Finance, Accounting)? [MBA, Finance/Accounting/Marketing/Other business area, Science or Engineering, Humanities or Liberal Arts, Other]
6. How many years of experience you have had in your overall career? [Number]
7. How many years of experience supervising people have you had in your overall career? [Number]
8. In what primary functional area is your experience? [List of functional areas]
9. In what industry are you currently employed? [List of NAICS industries]
10. What is your current job title? [Free response]
11. In what primary functional area are you currently employed? [List of functional areas]
12. How many years of experience you have had in your current industry? [Number]

Environment

Microsocial

13. I have family commitments that restrict the job or career opportunities I can consider.
14. My financial commitments to support my family restrict the job or career opportunities I can consider.
15. I perceive that I have adequate support from my immediate family if I pursue another job or career opportunity.

Macrosocial

16. I perceive my professional network is large enough to allow me to easily change jobs or careers.

Push

17. The threat of losing my job is motivation to pursue a different job or career opportunity.
18. The threat of loss of income is motivation to pursue a different job or career opportunity.
19. I perceive that I have adequate financial resources to not be concerned if I lose my job.

Role Models

20. My role models inspire me to make the changes that are best for me.

Specialized and Measurable Skills

21. My education, certifications, licensures, and training match the specific skills required for my functional area.

Career Aspiration

Please use the time horizon of five (5) years to forecast when answering the following questions.

Psychological

22. I aspire to a job that allows me to have enough time for my personal, nonwork life.
23. I aspire to a job where I have control of my daily work.
24. I aspire to a job where I can make decisions that influence the future of my organization and can manage many people in the organization.

Social

25. In my future job, I will have a position with a title that indicates that I am in a position of authority.
26. I aspire to a job that allows me to interact with people of importance in which I currently do not interact.
27. I aspire to a job where I have an influence on a state-size area or a nationwide large group of people.

Economic

28. I prefer a career path with predictable promotions and salary increases.
29. I aspire to a job that pays fairly well, allowing me to purchase high-quality goods and services and live a comfortable life.
30. I aspire to a job that pays very well, allowing me to purchase highly luxurious houses, cars, and goods and live an immensely comfortable life.

Perceived Labor Market Offering

Please use the time horizon of five (5) years to forecast when answering the following questions.

Psychological

31. In the future, the labor market will have job opportunities that will allow me to have enough time for my personal, nonwork life.
32. In the future, the labor market will have job opportunities in which I can achieve my desired level of control over my daily work.
33. In the future, the labor market will have job opportunities in which I can be a decision-maker that allows me to influence the future of my organization.

Social

34. In the future, the labor market will have job opportunities in which I can achieve a position with a title that indicates that I am in a position of authority.
35. In the future, the labor market will have job opportunities that allows me to interact with people of importance in which I currently do not interact.
36. In the future, the labor market will have job opportunities in which allows me to have an influence on a state-size area or a nationwide large group of people.

Economic

37. In the future, the labor market will have job opportunities with predictable promotions and salary increases.
38. In the future, the labor market will have job opportunities that pays fairly well, allowing me to purchase high-quality goods and services and live a comfortable life.
39. In the future, the labor market will have job opportunities that pays very well, allowing me to purchase highly luxurious houses, cars, and goods and live an immensely comfortable life.

Entrepreneurial Self-Efficacy

For the following question, please state your confidence level in your ability.

Searching

40. Identify the need for a new product or service that will satisfy customer needs and wants?

Planning

41. Estimate customer demand for a new product or service?

Marshaling

42. Get others to identify with and believe in my vision and plans for a new business?

Implementing-People

43. Supervising employees?

Implementing-Financing

44. Organize and maintain the financial records of my business?

Attitude Toward Venturing

45. In general, starting a business is worthwhile.

APPENDIX G: Institutional Review Board Approval Letter



Oklahoma State University Institutional Review Board

Date: 03/30/2022
Application Number: IRB-22-148
Proposal Title: Entrepreneurial Likelihood Pursuit Ratio

Principal Investigator: Matt w Rutherford
Co-Investigator(s): Robert King
Faculty Adviser:
Project Coordinator:
Research Assistant(s):

Processed as: Exempt
Exempt Category:

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in 45CFR46.

This study meets criteria in the Revised Common Rule, as well as, one or more of the circumstances for which continuing review is not required. As Principal Investigator of this research, you will be required to submit a status report to the IRB triennially.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 405-744-3377 or irb@okstate.edu.

Sincerely,
Oklahoma State University IRB

APPENDIX H: Institutional Review Board First Modification Approval Letter



Oklahoma State University Institutional Review Board

Application Number: IRB-22-148
Proposal Title: Entrepreneurial Likelihood Pursuit Ratio

Principal Investigator: Matt w Rutherford
Co-Investigator(s): Robert King
Faculty Adviser:
Project Coordinator:
Research Assistant(s):

Status Recommended by Reviewer(s): Approved

Study Review Level: Exempt
Modification Approval Date: 09/14/2022

The modification of the IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46. The original expiration date of the protocol has not changed.

Modifications Approved:

Modifications Approved: Compensation Added: Ten (10) Amazon.com gift cards each with the value of \$25 will be awarded. These gift cards will total \$250.

Compensation Removed: For the Qualtrics survey, the payment of \$4 per accepted survey response is being removed with the change to the gift cards and the random drawing.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved.
2. Submit a status report to the IRB when requested
3. Promptly report to the IRB any harm experienced by a participant that is both unanticipated and related per IRB policy.
4. Maintain accurate and complete study records for evaluation by the OSU IRB and, if applicable, inspection by regulatory agencies and/or the study sponsor.
5. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Sincerely,

Oklahoma State University IRB
223 Scott Hall, Stillwater, OK 74078
Website: <https://irb.okstate.edu/>
Ph: 405-744-3377 | Fax: 405-744-4335 | irb@okstate.edu

APPENDIX I: Institutional Review Board Second Modification Approval Letter



Oklahoma State University Institutional Review Board

Application Number: IRB-22-146
Proposal Title: Entrepreneurial Likelihood Pursuit Ratio

Principal Investigator: Matt w Rutherford
Co-Investigator(s): Robert King
Faculty Adviser:
Project Coordinator:
Research Assistant(s):

Status Recommended by Reviewer(s): Approved

Study Review Level: Exempt
Modification Approval Date: 10/31/2022

The modification of the IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46. The original expiration date of the protocol has not changed.

Modifications Approved:

Modifications Approved: Compensation/Remuneration: Adding Extra Credit. There will be a 15 minute survey and the students will receive 0.5 SONA credits. Alternative Assignment is available.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved.
2. Submit a status report to the IRB when requested
3. Promptly report to the IRB any harm experienced by a participant that is both unanticipated and related per IRB policy.
4. Maintain accurate and complete study records for evaluation by the OSU IRB and, if applicable, inspection by regulatory agencies and/or the study sponsor.
5. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Sincerely,

Oklahoma State University IRB
223 Scott Hall, Stillwater, OK 74078
Website: <https://irb.okstate.edu/>
Ph: 405-744-3377 | Fax: 405-744-4335 | irb@okstate.edu

APPENDIX J: Literature Review

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Appraisal Tendency (F)	Foo (2011)	<i>Risk perception</i> (DV) <i>Emotions</i> (anger, fear, happiness, and hope) (IV)	Study 1 (<i>n</i> = 187) participants had lower scores whose emotions associated with certainty and control over those participants with emotions associated with an uncertain outcome and a lack of control Study 2 (<i>n</i> = 66) participants preferred higher value, but uncertain outcome had a positive relationship with the anger and happiness traits
Job Characteristics Model (T)	Schjoedt (2009)	<i>Job satisfaction</i> (DV) <i>Job characteristics</i> (autonomy, variety, task identity, and feedback) (IV)	Sample of 429 entrepreneurs and 118 non-founding managers. Entrepreneurs had greater job satisfaction than non-entrepreneurs. Job characteristics of autonomy, variety, and feedback were important the important characteristics to entrepreneurs.
Entrepreneurship-as-Emancipation (F)	Jennings, Jennings, & Sharifian (2016)	<i>Behavioral emancipation</i> (Works less than 40 hours per week; Puts limits on business-Related activities; Minimizes work-to-family interference; Overall behavioral emancipation) (DV) <i>Psychic benefits</i> (Satisfaction with work-life balance and family satisfaction; business satisfaction; Overall life satisfaction) (IV) <i>Gender</i> (IV)	Stratified sample of 163 Canadian SME owner-managers. Only 1 in 5 entrepreneurs had a significant departure from traditional corporate model. For those entrepreneurs that do depart, they are satisfied with their level of emancipation.

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Lazear's jack-of-all-trades theory (T)	Chen & Thompson (2016)	<p><i>Participant's experience accumulated up to the year before the first business venture of the associated founder (DV)</i></p> <p><i>Participant's transition to entrepreneurship (Yes/No) (DV)</i></p> <p><i>Number of functional experiences (job experience from six functional areas: (1) accounting and finance, (2) business administration, (3) marketing and sales, (4) R&D and engineering, (5) personnel, and (6) production) (IV)</i></p> <p><i>Number of prior employers (IV)</i></p>	Sample size of 409 entrepreneurs and 1,463 non-entrepreneurs. Findings were ambiguous.
Personality Theory (OL) and Attitude Theory (T)	Robinson, Stimpson, Huefner, & Hunt (1991)	<p><i>Attitude associated with entrepreneurship (DV)</i></p> <p><i>Achievement in business (IV)</i></p> <p><i>Innovation in business (IV)</i></p> <p><i>Perceived personal control of business outcomes (IV)</i></p> <p><i>Perceived self-esteem in business (IV)</i></p>	The purpose of this research was to develop the Entrepreneurial Attitude Orientation (EAO) Scale. For Study 1, the sample size was 63 introductory psychology students from Brigham Young University. For Study 2, the sample was 54 entrepreneurs and 57 non-entrepreneurs. Each study had a 91-item questionnaire with 75-items analyzed to be statistically significant. The results indicated that four attitude subscales were a valid means to measure an attitude associated with entrepreneurship.
Affect-as-Information theory (T) and the Affective Processing Principle (F)	Welpe, Spörrle, Grichnik, Michl, & Audretsch (2012)	<p>Entrepreneurial exploitation (DV)</p> <p>Probability of success (IV)</p> <p>Probability of profit (IV)</p> <p>Fear (IV)</p> <p>Joy (IV)</p> <p>Evaluation (IV-mediator)</p> <p>Exploitation tendency (IV)</p> <p>Manipulation checks (IV)</p>	For Study 1, the sample size was 138 MBA and entrepreneurship students. For Study 2, the sample size was 178 MBA and entrepreneurship students. The findings supported that evaluation does mediate the probability of success and profit to entrepreneurial exploitation. Fear decreased entrepreneurial exploitation. Fear, joy, and anger indicated successful moderation when meditating the relationship between probability of success and profit with entrepreneurial exploitation.

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Entrepreneurs' networks (F)	Semrau & Werner (2013)	<p><i>Resource access</i> (financial capital, information/knowledge, and additional business contacts) (DV)</p> <p><i>Network size</i> (IV)</p> <p><i>Relationship quality</i> (IV)</p>	Sample of 379 German nascent entrepreneurs. The average number was 14 contacts in a participant's network. The results were non-linear and showed that an participant's financial capital and information/knowledge was a function of the individual's network size and relationship quality in increased at a decreasing rate.
Configuration approach (Miller, 1987, 1990) (F)	Korunka, Frank, Lueger, & Mugler (2003)	<p><i>Business success</i> (based on four objective and two subjective criteria) (DV)</p> <p><i>Personality characteristics</i> (need for achievement, internal locus of control, risk-taking propensity, personal initiative, safety, and self-realization) (IV)</p> <p><i>Resources</i> (human capital and financial situation) (IV)</p> <p><i>Environment</i> (family restrictions, push, support (preparation), network importance, and positive role models) (IV)</p> <p><i>Organizing activities</i> (organization expenditure, information use, failure considerations, and startup troubles) (IV)</p>	Sample of 153 Austrian nascent entrepreneurs in the startup process. Identified three clusters: (1) nascent entrepreneurs against their will, (2) the "would be" nascent entrepreneurs, and (3) networking nascent entrepreneurs with risk avoidance patterns. The first cluster have low level of achievement, internal locus of control, and personal initiative. The second cluster had higher locus of control, personal initiative, personal initiative, safety, and self-realization. The third cluster was higher in achievement, locus of control, personal initiative, and self-realization.

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Theory of Planned Behavior (T)	Kolvereid (1996)	<p><i>Self-employment intentions</i> (career as self-employed or as employed in organizations) (DV)</p> <p><u>Variables that Favor Organizational Employment</u></p> <p><i>Employment attitude</i> (IV)</p> <p><i>Security</i> (IV)</p> <p><i>Workload</i> (IV)</p> <p><i>Social environment</i> (IV)</p> <p><i>Avoid responsibility</i> (IV)</p> <p><i>Career opportunity</i> (IV)</p> <p><u>Variables that Favor Self-Employment</u></p> <p><i>Self-employment attitude</i> (IV)</p> <p><i>Economic opportunity</i> (IV)</p> <p><i>Challenge</i> (IV)</p> <p><i>Autonomy</i> (IV)</p> <p><i>Authority</i> (IV)</p> <p><i>Self-realization</i> (IV)</p> <p><i>Participate in the whole process</i> (IV)</p>	Sample of 128 Norwegian undergraduate business students. The purpose of this study was to predict employment status choice intentions based on understanding if the individual intended to pursue an entrepreneurial opportunity. A 39-item survey was used on the sample. All IVs contributed significantly to the DV indicating that the theory of planned behavior does apply to the employment status choice intentions.
Entrepreneurial investment decisions (OL)	Cassar & Friedman (2009)	<p><i>Nascent entrepreneur</i> (Yes/No) (DV)</p> <p><i>Ratio of individual's capital investment into the business divide by the individual's household wealth</i> (DV)</p> <p><i>Entrepreneurial Self-Efficacy</i> (IV)</p>	From the Panel Study of Entrepreneurial Dynamics (PSED) dataset, selected a subsample of 830 nascent entrepreneurs. ESE plays a significant role in decision relating to entrepreneurial entry, capital sources of entrepreneurial ventures, personal labor allocation, and investment. Entrepreneurs with higher ESE will give a greater proportion of their time and wealth to the entrepreneurial investment.

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Cognition literature (OL)	Brinckmann & Kim (2015)	<p><i>Business planning activities</i> (whether the individuals have engaged in business planning activities and whether these business planning activities produce either unwritten or written results) (DV)</p> <p><i>Cognitive characteristics</i> (Entrepreneurial self-efficacy and entrepreneurial perseverance) (IV)</p> <p><i>Human capital</i> (professional and educational experience) (IV)</p>	<p>From the PSED II dataset, selected a subsample of 479 single-owner ventures (founders). Findings indicate that an individual's cognition can lead to planning activities and startup behaviors can be affected by cognition. Forty-five percent of subsample engaged in business planning activities and 33 percent complete a written business plan. Of the founders who engaged in business planning activities, about 28 percent did not produce any written documents.</p> <p>Individuals with higher ESE are more likely to develop more formal business plans. Nascent entrepreneurs with lower ESE perceive business planning to be challenging and less likely to engage in this activity. Individuals with higher education will more likely conduct business planning.</p>
Person-Environment Fit Theory (T)	Wiklund, Yu, Tucker, & Marino (2016)	<p><i>Entrepreneurial preference/startup</i> (DV)</p> <p><i>Business Startup</i> (yes/no) (DV)</p> <p><i>Entrepreneurial performance</i> (DV)</p> <p><i>ADHD</i> (inattentiveness symptoms, hyperactive symptoms) (IV)</p> <p><i>Impulsivity</i> (sensation seeking, lack of premeditation, lack of perseverance, and urgency) (IV)</p>	<p>Survey data was collected in four rounds with each round six month apart of MBA alumni from a USA university. Round 1 had 545 individuals complete the survey. Rounds 1, 2, and 4 surveys (mostly based on Round 1 responses) had 164 startup a business and 376 that did not. In Rounds 1, 3, and 4 surveys. 78 participants of the 545 participants in Round 1 indicated to have been diagnosed with ADHD. Inattention was negatively associated with entrepreneurial preference/startup, which indicates that those with ADHD can better detect and respond to an environment that is dynamic and fast changing. Hyperactivity was positively related to entrepreneurial preference/startup. The results indicate that people with ADHD may have a better fit with entrepreneurship than traditional jobs.</p>

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Entrepreneurship theory (OL)	Lerner (2016)	<i>Inferences of generative qualities (DV)</i> <i>Inferences of administrative qualities (DV)</i> <i>Perceived likelihood of venture success (DV)</i> <i>Interest in supporting (joining) venture (DV)</i> <i>Extraversion (IV)</i> <i>Agreeableness (IV)</i> <i>Conscientiousness (IV)</i> <i>Emotional stability (IV)</i> <i>Openness to experience (IV)</i> <i>Uncertainty aversion (IV)</i> <i>Disinhibition (IV)</i>	<p>Sample of 134 undergraduate business students. Participants were given two conditions over four data collection efforts. The first condition described the first entrepreneur (randomized between two disinhibition conditions) and the associated entrepreneurial idea pursued (two different opportunities). The second condition described the second entrepreneur (counterbalanced) and the associated entrepreneurial idea pursued (counterbalanced). The third data collection effort was estimating the likelihood of venture success. The fourth data collection included questions about individual difference measures and other information. The behavioral disinhibition was significant and indicated that it may impact pursuit of an entrepreneurial opportunity.</p>
Theory of Entrepreneurial Alertness (T)	Kaish & Gilad (2014)	<i>Alertness scale (alertness to the opportunities in the environment)</i>	<p>Sample was 51 founders of companies (entrepreneurs) in New Jersey and 36 executives of a very large financial conglomerate (non-executives). The focus of the paper was to compare the alertness of opportunities for entrepreneurs to non-entrepreneurs. Significant differences were found in five of the nine measures, including non-verbal “search,” immediate sources, untraditional sources, risk cues, and economic cues where the entrepreneurs were more sensitive than the non-entrepreneurs.</p>
Hofstede’s Cultural Dimensions	Mueller & Thomas (2001)	<i>Entrepreneurial orientation (DV)</i> <i>Locus of control (IV)</i> <i>Innovativeness (IV)</i> <i>Culture (IV)</i> <i>Uncertainty avoidance (IV)</i> <i>Individualism (IV)</i>	<p>Pre-test sample was on approximately 400 undergraduates at an American university. The sample for the study was on a large data set of third- and fourth-year students at 25 universities in 15 countries. The survey instrument consisted of 18 items for innovativeness and locus of control. Some cultures were identified to be more conducive than others. Individualism increased the likelihood of locus of control leading to greater likelihood for entrepreneurial orientation. Innovativeness was equally as likely in low uncertainty avoidance cultures as high uncertainty avoidance cultures.</p>

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Social Cognitive Theory (T) and Institutional Theory (T)	Boudreaux, Nikolaev, & Klein (2019)	<i>Entrepreneurship</i> (opportunity-motivated entrepreneurs and necessity-motivated entrepreneurs) (DV) <i>Economic freedom</i> (IV) <i>Socio-cognitive traits</i> (entrepreneurial self-efficacy, alertness to new business opportunities, and fear of failure) (IV)	Sample was from the Global Entrepreneurship Monitor and Economic Freedom of the World index of 45 countries from 2002 to 2012. The research was to examine how economic freedom of a country moderates a participant's perceived self-efficacy, alertness to opportunities, and fear of failure as they pertained to pursuing an entrepreneurial opportunity. Finding suggest that pro-market institutions positively affect entrepreneurship opportunities. This relationship enhances the socio-cognitive traits.
Expectancy Theory (T)	Laffineur, Barbosa, Fayolle, & Montmartin (2020)	<i>Effort</i> (subjective effort, work focus, and hours devoted to the business) (DV) <i>Managerial knowledge</i> (IV) <i>Self-accomplishment</i> (IV) <i>Arduousness</i> (IV) <i>Instrumentality</i> (IV-moderator) <i>Effort-Performance</i> (IV-moderator)	Sample of 1214 nascent entrepreneurs using merged data from the US Panel Study of Entrepreneurial Dynamics II (PSED) and from the O*NET database compiled by the Department of Labor's Occupational Information Network over 2005 and 2006. An individual could make the career choice to become an entrepreneur if a good business opportunity is presented or by necessity due to lack of employment opportunities. Also, an individual could make the career choice to become an entrepreneur without the good business opportunity or the necessity. Additionally, a individual's managerial knowledge and self-accomplishment positively influences the pursuit of an entrepreneurial opportunity.
Social Learning Theory (T) and Expectancy Theory (T)	Chen, Greene, & Crick (1998)	Entrepreneurial decision (likelihood of being an entrepreneur) (DV) Entrepreneurial self-efficacy (IV) Locus of control (IV) Background variables (IV)	For Study 1, the sample size of approximately 140 MBA students from a large northeastern U.S. university. For Study 2, the sample size was 175 small business owners and executives from a county chamber of commerce in a northeastern U.S. state where 59% of the respondents were the founders of their businesses and 20% were less than 5 years old. From Study 1, the participant's ESE and LoC were significantly related to entrepreneurial decision. For Study 2, the business founders had higher ESE in innovation and risk taking and higher LoC.

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Society of Associated Researchers of International Entrepreneurship (OL)	Carter, Gartner, Shaver, & Gatewood (2003)	Self-realization Financial success Roles Innovation Recognition Independence	Sample of 558 (384 nascent entrepreneurs and 174 comparison group of non-entrepreneurs) participants from the Panel Study of Entrepreneurial Dynamics (PSED) database. The analysis compared the results of the nascent entrepreneurs' responses to the comparison group's responses. Entrepreneurs had similar results to the non-entrepreneurs in rating independence, financial success, and self-realization higher than recognition, innovation, or roles. The results did not indicate a difference between the two groups on career choice decisions which for the entrepreneurs was different than the beliefs that entrepreneurs pursued entrepreneur opportunities for financial success, recognition, and self-actualization.
Triarchic Theory of Intelligence (T) and Theory of Mind (T)	Kier & McMullen (2018)	<i>Idea quality (DV)</i> <i>Creative imaginativeness (IV)</i> <i>Social imaginativeness (IV)</i> <i>Practical imaginativeness (IV)</i> <i>Idea quantity (IV-moderator)</i>	Sample of 506 individuals from the general working population across the U.S. with varied entrepreneurial experience (272 participants stated that they had attempted at least one entrepreneur venture). Study was to develop a measure of creative, social, and practical imaginativeness. Conducted interviews with 16 entrepreneurs whose feedback was used in the wording of the 77-item survey. Content validity was tested by 21 subject matter experts. The revised 40-item survey was given to 210 respondents through a Qualtrics online panel. Through confirmatory factor analysis, the survey was reduced to 18-items. The 18-item survey was administered to the 506 individuals to demonstrate convergent validity. The results showed that creative imaginativeness, social imaginativeness, and practical imaginativeness were positively and significantly related to idea quality. These findings are perceived to benefit understanding entrepreneurial imaginativeness to new venture ideation.

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Atkinson's Theory of Achievement Motivation (T)	Brockhaus & Horwitz (1986)	Wallach's and Kogan's 12-item choice dilemmas questionnaire	Sample of three groups (size of each group was not stated). The first group were 31 entrepreneurs who were within three months of ending employment with their employers to starting new business ventures. The other two groups were transferred managers and promoted managers who were similar to entrepreneurs. Gave Wallach's and Kogan's (1959, 1961) choice dilemmas questionnaire (CDQ) to assess risky decision-making behavior to each group. The CDQ consisted of 12 hypothetical situations where each question is scored between 1 and 10 and a maximum score of 120. The results indicated that entrepreneurs were no more of risk-takers than the employed managers.
Real Options Theory (T)	Raffiee & Feng (2014)	<p><i>Entry path into self-employment from paid employment</i> (Path 1 – hybrid entrepreneurship, Path 2 – full-time self-employment, and Path 3 – no entry) (DV)</p> <p><i>Risk aversion</i> (IV)</p> <p><i>Core self- evaluation</i> (IV)</p> <p><i>Cognitive ability</i> (IV)</p> <p><i>Number of full self-employment experience</i> (IV)</p> <p><i>Number of hybrid self-employment experience</i> (IV)</p>	<p>Samples were from the U.S. National Longitudinal Survey of Youth, 1979 cohort data. Sample 1 consisted of 5,299 participants representing 31,919 paid job spells, and Sample 2 consisted of 1,093 participants representing 2,198 full-time self-employment job spells.</p>

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Organizational theory (OL)	Sørensen (2007)	<i>Measurement of entrepreneurship</i> (DV) <i>Measurement of bureaucracy</i> (IV) <i>Female</i> (IV) <i>Danish born</i> (IV) <i>Age</i> (IV) <i>Married</i> (IV) <i>Children present</i> (IV) <i>Labor force experience</i> (IV) <i>Salary income</i> (IV) <i>Non-salary income</i> (IV) <i>Debts</i> (IV) <i>Assets</i> (IV) <i>Parents self-employed before 1990</i> (IV) <i>Employer's number of establishments</i> (IV) <i>Employer diversified</i> (IV) <i>Employer age</i> (IV) <i>Employer size</i> (IV)	Sample from the Danish Integrated Database for Labor Market Research where 282,911 individuals were included from the years 1980 until 1989. In the sample about 6.8 individuals per 1000 person-years was a company that was from startup to 2 years old. Results indicated that participants in more bureaucratic organizations are less likely to pursue entrepreneurial opportunities.
Whole Trait Theory (T), Social Cognitive Theory (T), and Control Theory (T)	Gielnik, Bledow, and Stark (2019)	<i>Business ownership</i> (DV) <i>Entrepreneurial self-efficacy</i> (IV) <i>Entrepreneurial intentions</i> (IV-moderator)	Two universities in East Africa conducted an entrepreneurship program consisting of 426 university students. Longitude study including 12-week repeated measure assessments (this was a training class). At the end of the 12 weeks, a cross-sectional survey was given. The second assessment was given 12 months after the end of the first 12 weeks. During the 12 weeks, between 231 and 346 questionnaires were collected each week. For the first cross-sectional survey, 241 participants submitted usable surveys, and for the second cross-sectional survey, 190 participants submitted usable surveys. ESE and entrepreneurial intentions was higher at the end of the 12 weeks than at the beginning. The relationship between ESE and Business Ownership followed an inverted u-shape.

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
None stated	Cooper & Dunkelberg (1986)	Path to ownership (starting, purchasing, or inheriting) (DV) Motivations (managerial goals and craftsman goals) (IV) Attitudes and perceptions (IV) Prior supervisory level (IV) Prior organization less than 100 employees (IV) Major reasons for leaving prior organization (pushed out) (IV) Similarity of business to that of incubator (IV) Full-time partners present (IV) Reliance upon personal savings for initial financing (IV) Moved when becoming owner (IV)	Sample of 1756 owner-managers where 23% had owned the business for 3 years or less. Five paths to business ownership (degree of entrepreneurship) were measured, including (1) started the business, (2) purchased the business (not from family), (3) inherited the business, or purchased from family member, (4) promoted or brought in by other owners, and (5) other. Only the first four paths were measured. Study results were descriptive statistics and Page's L statistical showing the percentages relative to each path. Those who inherited a business were more craftsman-like and less managerial in their motivations and attitudes, and starters were more managerial.
Life Course Theory (T) and Human Capital Theory (T)	Forbes (2005)	Decision speed (strategic decision making) (DV) Firm age (number of months) (IV) Firm size (number of employees) (IV) Decision centralization (IV) Entrepreneur's age (years) (IV) Decision type (IV) Did entrepreneur have a prior venture (IV) Firm (line of business) (IV) Firm closure (IV)	Data was collected in three stages of questionnaire surveys. Stage 1 had 98 participants. Stage 2 had the same participants from Stage 1 plus a randomly selected subset (20%) of nonrespondent firms from the original sample. Stage 3 had the same participants from Stage 2 plus 10 additional 13% of colleague firms. Follow-up happened 4 years later with the original 98 participants. Firm size, decision centralization, and entrepreneur's age had a significant relationship with decision speed. Older entrepreneurs with prior entrepreneurial experience made faster decisions. As a counter, indications were that faster decision making led to a higher probability of firm closure.

Theory (T), Framework (F), or Other Logic (OL)	Studies	Model Variables	Key Findings / Arguments
Individual-Opportunity Nexus (T)	Dencker & Gruber (2015)	Sales revenue (DV) Opportunity riskiness (IV) Managerial experience (IV) Industry experience (IV)	Sample of 451 business founders in the Munich metropolitan area of Germany. Results showed that the characteristics and the structure of the opportunity has a positive relationship with managerial experience, yet industry experience did show any significant impact.
None stated	Lafuente & Salas (1989)	Cluster of entrepreneurs (craftsman, risk-oriented, family-oriented, managerial) (DV) Education (IV) Prior startup (IV) Experience source (government employee, employee at a big/small firm, at home from your parents, at school) Reason for pursuing opportunity (dismissal from prior firm, reached crucial point in life, attractive opportunity) (IV) How acquired firm (founded, bought, inherited) (IV) Founder's age when founded firm (IV)	Sample from 360 owner-managers of private Spanish firms where 49.6 of the firms were less than 5 years old. Built upon Cooper's and Dunkelberg's (1986) work in which the results of Lafuente's and Salas' study confirms that of Cooper and Dunkelberg. Individuals most likely become entrepreneurs through inheritance. Financial opportunity influences individuals to become entrepreneurs.

VITA

Robert J. King

Candidate for the Degree of

Doctor of Philosophy

Dissertation: ESTABLISHING A MEASURE OF THE LIKELIHOOD TO PURSUE
AN ENTREPRENEURIAL OPPORTUNITY

Major Field: Business Administration

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Business Administration at Oklahoma State University, Stillwater, Oklahoma in December, 2022.

Completed the requirements for the Master of Science in Finance at University of Houston-Clear Lake, Houston, Texas in 2005.

Completed the requirements for the Bachelor of Science in Industrial Engineering at Texas A&M University, College Station, Texas in 1997.

Experience:

Primetrics Performance Intelligence, LLC (2018-Present) – Principal
Baylor University (2019-2022) – Adjunct Lecturer, Management
Texas A&M University (2017) – Lecturer, Industrial and Systems Engineering
Universal Weather and Aviation, Inc. (2006-2016) – Senior Manager
H.E. Butt Grocery Company, Inc. (1998-2004) – Senior Business Analyst

Professional Memberships:

Academy of Management
Project Management Institute
Institute of Supply Management