

TALES FROM THE DARK SIDE  
OF ENTREPRENEURSHIP

by

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## **ABSTRACT**

This dissertation proposes that personality is a missing link in the intention-behavior relationship that can help explain why some individuals who have entrepreneurial intentions take entrepreneurial action, but others do not. My theory is grounded in Markman and Baron's (2003) person-entrepreneurship framework that posits individuals who have a personality that fits with the demands and tasks of entrepreneurship, and are guided by entrepreneurial intentions, are likely to enter into entrepreneurship and find success. Presumably, individuals who have entrepreneurial intentions are more likely to engage in entrepreneurial behaviors than individuals who do not have entrepreneurial intentions.

To evaluate my argument, I analyze data collected from MBA alumni of a university in the Southeastern region of the United States. I collected data over two time periods with a series of hierarchical linear regressions to test the intention-behavior relationship with narcissism, psychopathy, and ADHD as the moderating personality variables. Overall, results suggest that dark personalities do influence the intention-behavior relationship. The interaction of entrepreneurial intentions and psychopathy had a positive and significant relationship with both discovery behaviors and exploitation behaviors. The interaction of entrepreneurial intentions and ADHD was also positive and significant for discovery behaviors, but not for exploitation behaviors. Narcissism did not have a significant relationship as a main effect with either entrepreneurial behavior.

## **DEDICATION**

This thesis is dedicated to my wife, Sandrine Tucker, who helped me and was along my side through the trials and tribulations of creating this manuscript. In addition, my children, Zuri, Zadoc, Zivah, and Zoe, who enjoyed this ride until the very end.

## LIST OF ABBREVIATIONS AND SYMBOLS

<i>a</i>	Cronbach's index of internal consistency
<i>df</i>	Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
<i>F</i>	Fisher's <i>F</i> ratio: A ration of two variances
<i>M</i>	Mean: the sum of a set of measurements divided by the number of measurements in the set
<i>p</i>	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
<i>r</i>	Pearson product-moment correlation
<	Less than
=	Equal to

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## **CHAPTER 1**

### **INTRODUCTION**

Intentions often precede behaviors. This is evident across several domains of life, including the workplace where researchers are able to draw inferences about behavior from an individual's intentions (Jones, Davis, & Gergen, 1961). However, this relationship appears less so in entrepreneurship – the process of embracing risk and uncertainty while attempting to discover, evaluate, and exploit opportunities in order to create valuable socio-economic outcomes (Shane & Venkataraman, 2000). Considering the rewards associated with entrepreneurship, it is not surprising that many individuals intend to be an entrepreneur. Yet few do, and substantially fewer are successful. It takes a special person, and/or a special circumstance, to start a venture and be an entrepreneur (founder, owner, and manager of a small business) (Rauch & Frese, 2007). It takes someone who is willing to embrace the difficulties associated with entrepreneurship and press forward despite obstacles. Considering that intentions often lead to behaviors, entrepreneurship scholars have rightfully investigated intentions as an antecedent to entrepreneurship (Bird, 1988; Fayolle & Gailly, 2015). However, the assumption that intentions lead to behaviors in the context of entrepreneurship is not supported by strong evidence (Bird, Schjoedt, & Baum, 2012), suggesting that the intention-behavior relationship is less useful in the entrepreneurship context.

Research shows that individuals have intentions and some of these individuals subsequently engage in the intended behaviors (e.g., Kautonen, van Gelderen, & Fink, 2015). For example, when employing the theory of planned behavior (Ajzen, 1991), it is understood

that (1) attitude toward behavior, (2) subjective norms, and (3) perceived behavioral control can contribute to entrepreneurial intentions (Kolvereid & Isaksen, 2006; Schlaegel & Koenig, 2014). What exactly strengthens or weakens the intentions-behaviors relationship in the entrepreneurship context? While the intentions-behavior link might be especially weak concerning nascent entrepreneurs, it is also likely that a similar gap exists among practicing entrepreneurs. Just like individuals might intend to enter entrepreneurship, but never do, practicing entrepreneurs often intend to grow their business, and never do. Intention to grow is a strategic choice made by practicing entrepreneurs in light of their overall strategy (Ireland, 2007), and precedes behaviors associated with growth. Thus, at various stages in the entrepreneurial process, individuals are able to have intentions that they never actually convert into specific behaviors.

### **Personality Approach**

Among the approaches often employed to investigate entrepreneurship is the trait approach, specifically making use of personality as a factor in predicting entrepreneurial behaviors (Kets de Vries, 1977; Hisrich, Langan-Fox, & Grant, 2007). Personality refers to “an individual’s characteristic patterns of thinking, feeling, and acting” and it accounts for stable behavior patterns across time and situations (Lynam & Derefinko, 2006, p. 133). For nearly a century, scholars have examined the relationship between personality and entrepreneurship (Knight, 1921). Early scholars, such as McClelland (1961) and later Rotter (1966), took a psychological perspective, predicting that certain individual personality traits relate to becoming an entrepreneur. Scholars today affirm the importance of a psychological perspective because “entrepreneurship is fundamentally personal” (Baum, Frese, & Baron, 2007). To understand entrepreneurial behavior, entrepreneurship research has often focused on

personality traits (Rauch & Frese, 2007). Systematic reviews and meta-analyses indicate that personality has a significant influence on entrepreneurial endeavors, including intentions and, for those who are already entrepreneurs, firm performance (Zhao, Seibert, & Lumpkin, 2010). There is an ongoing interest in the role of personality in entrepreneurship (e.g., DeNisi, 2015; Klotz & Neubaum, 2016; Miller, 2015), conceptually (Galvin, Lange, & Ashforth, 2015; Navis & Ozbeck, 2016), and empirically (Akhtar, Ahmetoglu, & Chamorro-Premuzic, 2013; Verheul et al., 2015).

I submit that personality variables might help explain the intention-behavior relationship in entrepreneurship. While there are scholarly calls for personality in entrepreneurial scholarship (Baum et al., 2007; Klotz & Neubaum, 2016; Hisrich et al., 2007), existing studies have exclusively examined entrepreneurial intentions (Akhtar et al., 2013; Verheul et al., 2015), largely ignoring whether those intentions translate into action (Bird et al., 2012). The evidence concerning the link between entrepreneurial intentions and entrepreneurial behavior is weak (Bird et al., 2012; Kautonen et al., 2015) in contrast to the evidence supporting personality and entrepreneur behaviors (Becherer & Maurer, 1999; Collins, Hanges, & Locke, 2004). If researchers are going to understand how personality relates to entrepreneurship, it is necessary to look at both personality and intentions as they relate to entrepreneurial behaviors. That is, if individuals have entrepreneurial intentions and a personality geared towards entrepreneurship, they are more likely to persist and engage in entrepreneurial behaviors.

I therefore employ the person-entrepreneurship framework to analyze how personality predicts both entrepreneurial behaviors and changes the intention-behavior relationship (Markman & Baron, 2003). This framework posits that when an individual possesses

personality characteristics desirable for entrepreneurship, he or she is most likely to engage in entrepreneurship and be successful (Markman & Baron, 2003). Entrepreneurial intentions are important for this framework because entrepreneurial intent guides an individual's behavior towards entrepreneurship. The underlying premise of this research is that some individuals are more likely to start a business, no matter what difficulties they encounter, because of their personality characteristics. I investigate whether personality is a driver of entrepreneurial behavior alone or in tandem with entrepreneurial intentions. Within the context of entrepreneurship, Markman and Baron (2003) argue that some people are "better suited to exploit commercial opportunities or create new companies more than others" (Markman & Baron, 2003, p. 286). This framework is consistent with seminal works in the entrepreneurship literature that emphasize innovativeness (Schumpeter, 1942/2014), alertness (Kirzner, 1979), and tolerance for uncertainty (Knight, 1921) as the defining personality characteristics of entrepreneurs. More recent research has found that passion (Chen, Yao, & Kotha, 2009) and self-efficacy (Zhao, Seibert, & Hills, 2005) are also psychological drivers of entrepreneurship.

While entrepreneurial intentions might lead to entrepreneur behaviors, more recent evidence suggest that entrepreneurial intentions often do not lead to entrepreneurial behaviors (Kautonen et al., 2015). This is problematic when trying to understand precursors to entrepreneurship. If entrepreneurial intentions do not predict entrepreneur behaviors, understanding what entrepreneurs do and how new ventures come about remains a mystery for entrepreneurship scholars.

### **Personality & Entrepreneurship**

In contrast, personality is a predictor of entrepreneurial behaviors. However, personality predicts a wide variety of behaviors beyond entrepreneurship and, employing personality as a

driver of anything is often ubiquitous (Hogan, Hogan, & Roberts, 1996; Ozer & Benet-Martínez, 2006). Traits such as openness to experience and conscientiousness that have been linked to entrepreneurship are also associated with happiness (Diener & Lucas, 1999), physical and psychological health (Bogg & Roberts, 2004; Cyders, Flory, Rainer, & Smith, 2009), spirituality (Emmons, 1999), organizational citizenship behaviors (Greguras & Diefendorff, 2010; Organ, 1994) and identity at an individual level (Ozer & Benet-Martínez, 2006). Additionally, entrepreneur scholars have theorized that any one personality trait will never have a strong relationship with any outcome variables that pertain specifically to entrepreneurship (e.g., making a decision to become an entrepreneur) (Rauch & Frese, 2000). The decision to start up a firm is probably due to a whole range of personality characteristics and not just to one (Rauch & Frese, 2000). Traits that lead to risk-taking are linked to entrepreneurship, but these traits are also linked to other behaviors such as organizational citizenship behaviors (Bettencourt, Gwinner, & Meuter, 2001), and counter-productive work behaviors (Mount, Ilies, & Johnson, 2006).

In order to provide an explanation of how personality influences entrepreneurial behavior and also changes the intention-behavior relationship, I use a particular set of personality traits previously found to be associated with action-oriented behaviors, dark personality traits. Research finds that dark personalities are highly correlated with entrepreneurial intentions (Akhtar et al., 2013; Verheul et al., 2015) and might activate intentions such that entrepreneurial intentions convert to entrepreneurial behaviors. I leverage the person-entrepreneurship fit framework to investigate how dark personality traits influence the intention-behavior relationship. While individual's may intend to start a business or

similarly have intentions to grow, I propose that traits associated with dark personalities helps explain why intentions do or do not lead to behaviors.

### **Dark Personalities**

Dark personalities are personality traits considered deviant, aberrant, and toxic. At their core, dark personality traits are characterized by a motivation to elevate the self regardless of the impact on others (Paulhus & Williams, 2002). Dark personality is the middle ground between normal personality and clinical level pathology. Dark personalities deviate from normal personalities in interpersonal functions. On average, these traits manifest in enduring behavior that deviates markedly from the expectation of the individual's culture, is pervasive and inflexible, has onset in adolescence or early adulthood, is stable over time and can eventually lead to personal demise (Babiak & Hare, 2006). At subclinical levels, the abnormal behavior suggests that the person does not change even though trouble is likely to develop and persist with other people at work and in personal relationships (Hall & Benning, 2006).

**Dark Triad.** Among the dark personalities, the Dark Triad has received the most attention (Spain, Harms, & LeBreton, 2014). The Dark Triad consists of Machiavellianism, narcissism, and psychopathy. Machiavellianism is a manipulative personality, derived from questioning individuals on how much they agree with statements derived from Machiavelli's writings (Christie & Geis, 1970). Individuals high in Machiavellianism are characterized by a lack of empathy, low affect, and possess an unconventional view of morality – a willingness to manipulate, lie to, and exploit others, and focus exclusively on their own goals/agenda, not those of others' (Christie & Geis, 1970; Wu & LeBreton, 2011). Narcissism is defined as “a pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy” (DSM-IV). Narcissism emerged from Ovid's mythological tale of a young boy,

Narcissus, who was so madly in love with his appearance that he drowned attempting to kiss his reflection in a pond. Grandiosity, entitlement, dominance, and superiority are the hallmarks of narcissism. Narcissists have tendencies to engage in self-enhancement (Raskin, Novacek, & Hogan, 1991) and can therefore appear charming or pleasant in the short term. In the long term, however, narcissists have difficulty maintaining successful interpersonal relationships, lacking trust and care for others, and sometimes feel disdain for others (Morf & Rhodewalt, 2001). Central character elements of psychopathy include high impulsivity and thrill-seeking along with low empathy and anxiety (Paulhus & Williams, 2002). Research finds that a marker of psychopathy is a lack of self-conscious emotion, guilt, and an absence of conscience (Hare, 1999). Taken together, a central theme of individuals who might have any one of the Dark Triad traits is that they desire personal gain of some sort at the expense of others.

Personal gain can manifest itself in the form of something physical, such as sexual favors, or something less tangible such as affect (Cleckley, 1950/2015). However, extant research suggests that there can be productive outcomes associated with dark personality traits. For example, individuals who worked closely with Steve Jobs suggested that his general disregard for the feelings of others allowed him to have a surgical-like precision when discovering and exploiting ideas (Isaacson, 2011). My goal in this dissertation is to investigate to what extent these dark traits influence the intentions and subsequent behaviors of nascent and practicing entrepreneurs. While Machiavellianism is a member of the Dark Triad, I refrain from using Machiavellianism as a personality trait in this study because it does not exist as a disorder according to the DSM-IV and it has a high correlation with psychopathy (Vernon, Villani, Vickers, & Harris, 2008).

**ADHD.** Instead, I investigate ADHD, which is a neurological disorder that has been shown to relate to entrepreneurial intentions, ADHD (Verheul et al., 2015). The Diagnostic and Statistical Manual (DSM-5 [APA, 2013]) which is used for diagnosing mental disorders characterizes ADHD by inattentiveness and/or hyperactivity/impulsivity. It entails behavioral, cognitive, and affective difficulties that emerge in childhood and persist chronologically (APA, 2013). This includes the pervasive display of behaviors such as acting before thinking, failure to pay close attention to details, difficulty organizing tasks and activities, excessive talking, or an inability to persevere when facing routine tasks (APA, 2013; Barkley, 1997), which can make it difficult to meet the requirements of a typical work environment (Barkley & Murphy, 2010). Extant research using cross-sectional designs finds that ADHD is correlated with entrepreneurial intentions among university students (Verheul et al., 2015). Explanations are that individuals with ADHD-like symptoms are likely to benefit by an ability to rapidly develop ideas.

### **Understanding What Entrepreneurs Do**

Entrepreneur behaviors vary, and in order to understand what makes someone act entrepreneurial, it is important to examine behaviors associated with entrepreneurship. Gartner (1988) has proposed focusing on entrepreneurial behavior as the key to explaining entrepreneurship. Gartner's simple, yet elegant notion of focusing on behavior has in fact cut the "Gordian knot" entangling entrepreneurship trait theory and research (Herron & Sapienza, 1992). I examine two distinct entrepreneurial behaviors, discovery and exploitation behaviors. Discovery "is related to the identification and refinement of venture ideas. It is the conceptual aspect of the entrepreneurial process in which nascent entrepreneurs seek, encounter, or improve products or services to take advantage of a particular market" (Farmer, Yao, & Kung-

Mcintyre, 2011, p. 249). “Exploitation is the process in which entrepreneurs actually work on the venture idea by acquiring resources and entering or creating a market” (Farmer et al., 2011, p. 249). In the entrepreneurial contexts, action is of basic importance (Frese & Gielnik, 2014). The hallmark of entrepreneurship is bringing an organization into existence (Frese & Gielnik, 2014). Personality does not affect success directly, but only indirectly through the entrepreneurs’ behaviors (Frese & Gielnik, 2014). Examining how the interaction of dark traits and entrepreneurial intentions influences entrepreneurship behaviors can provide an explanation for what converts intention into action in the entrepreneurial context. To that end, the remaining chapters consist of an entrepreneurial intentions-behavior literature review, hypotheses development, methods and results, and, finally, a discussion and conclusion.

### **Summary of Study**

My theory is grounded in Markman and Baron’s (2003) person-entrepreneurship framework that posits individuals who have a personality that fits with the demands and tasks of entrepreneurship, and are guided by entrepreneurial intentions, are likely to enter into entrepreneurship and find success. I investigate how dark personality traits influence the intention-behavior relationship. Presumably, individuals who have entrepreneurial intentions are more likely to engage in entrepreneurial behaviors than individuals who do not have entrepreneurial intentions. To evaluate my argument, I analyze data collected from MBA alumni of a university in the Southeastern region of the United States. I collected data over two time periods in order to examine causality in the intention-behavior relationship. I conducted a series of hierarchical linear regressions to test the intention-behavior relationship with narcissism, psychopathy, and ADHD as the moderating variables. Overall, results suggest that dark personalities do change the intention-behavior relationship. The interaction of entrepreneurial

intentions and psychopathy had a positive and significant relationship with both discovery behaviors and exploitation behaviors. The interaction of entrepreneurial intentions and ADHD was also positive and significant for discovery behaviors, but not for exploitation behaviors. Narcissism did not have a significant relationship as a main effect with either entrepreneurial behavior, nor when interacting with entrepreneurial intentions. Overall, this suggests that entrepreneurial behaviors are correlated with dark personality traits exhibited by impulsivity and thrill-seeking.

### **Purpose of the Study and Contributions**

This dissertation contributes to the entrepreneurship literature through the use of dark personality traits as a moderator of the intention-behavior relationship. I propose that personality is a missing link in the intention-behavior relationship that can help explain why some individuals who have entrepreneurial intentions take entrepreneurial action, but others do not. In examining these relationships, I enter the current conversation concerning how dark personalities influence entrepreneurship (Klotz & Neubaum, 2016; Miller, 2015). Additionally, by measuring psychological antecedents prior to new venture formation, I can make stronger claims for a causal relationship between initial attributions and each individual's behaviors related to initiating entrepreneurship or entrepreneurial behaviors within an existing venture (intrapreneurship). Given all of the events and activities that occur between an individual's intentions to get into business and the actual start-up, the psychology of entrepreneurial individuals has important implications for future research and practice. More specifically, I offer that attributes associated with dark personalities influence the intention-behavior relationship in the entrepreneurship context. By including dark traits as a moderator of the

intention-behavior relationship, I hope to increase the extent to which we can explain when intentions will convert to behaviors.

## CHAPTER 2

### INTENTIONS AND BEHAVIORS – A LITERATURE REVIEW

#### **Entrepreneurial Intentions**

Intentions are an integral part of entrepreneurship in spite of the limited evidence showing entrepreneurial intentions lead to entrepreneurial behaviors. Before starting a new venture, it is assumed that individuals intend to start these ventures. However, not everyone who has entrepreneurial intentions acts on them. Entrepreneurial intentions are aimed at either creating a new venture or creating value in existing ventures (Bird, 1988). Entrepreneurial intentions are defined as “the self-acknowledged conviction by a person that they intend to setup a new business venture and consciously plan to do so in the future” (Thompson, 2009, p. 676). That point in the future might be imminent or indeterminate, and quite often may never be reached. On average, very few individuals start businesses although they may claim they have entrepreneurial intentions (Kautonen, et al., 2015). Those with entrepreneurial intent might not ever set up a new business because a myriad of personal circumstances and environmental factors may discourage individuals from doing so. Some with entrepreneurial intent may advance to actually starting a new venture, but this is often not the case (Bird, 1988; Bird, Leon, & Baum, 2012).

The seminal work on entrepreneurial intentions began some 35 years ago by Shapero (Shapero, 1984; Shapero & Sokol, 1982). Entrepreneurial intent is often examined as a dependent variable under the guise of the theory of planned behavior (Ajzen, 1991). This theory posits that an individual’s attitude toward a behavior, subjective norms, and perceived

behavioral control account for why intentions are an immediate antecedent to behaviors. In the entrepreneurship context however, scholars have used this theory to examine how entrepreneurial intentions develop as opposed to actual entrepreneurial behaviors (Kolvereid & Isaksen, 2006). Research finds that, on average, individuals self-report high levels of entrepreneurial intentions when other factors, such as entrepreneurial self-efficacy are present. For example, students with high self-efficacy in practically-oriented entrepreneurship courses have higher entrepreneurial intentions than students in theory-oriented entrepreneurship courses (Piperopoulos and Dimov, 2015). Individuals who believe that they have career adaptability are likely to have higher entrepreneurial intentions than those without career adaptability, but even more so when they have high levels of entrepreneurial self-efficacy (Tolentino, Sedoglavich, Lu, & Garcia, 2014). Even in danger zones and war times, individuals are able to develop entrepreneurial intentions when high levels of resiliency and entrepreneurial self-efficacy are present (Bullough, Renko, & Myatt, 2014). Other factors such as an individual's identity or scarce employment opportunities have been shown to positively predict entrepreneurial intentions (Falck, Hebllich, & Luedemann, 2012; Vinogradov, Kolvereid, & Timoshenko, 2013). Among the big five personality traits, conscientiousness, openness to experience, emotional stability, and extraversion, are each positively related to intentions to become an entrepreneur (Zhao et al., 2010). Taken together, numerous predictors, often measured in conjunction with entrepreneurial self-efficacy, relate to entrepreneurial intentions.

Entrepreneurial intentions manifest throughout the venture's life. Founder intentions are most likely amplified prior to the birth of an organization when the influences of external stakeholders, corporate structure, and culture have not yet been established (Bird, 1988). However, research is increasingly finding that intentions at growth stages are as important as

the early stages of a venture, indicating that intentions in these stages (e.g., intentions to grow) are also critically important (Douglass, 2013; Gielnik, Zacher, & Frese, 2012; Yamakawa, Peng, & Deeds, 2015). While the founder's intentions determine the form and direction (e.g., grow, survive, exit) of an organization at its inception, organizational development, growth, success, and change can also follow from entrepreneurial intentions, which are either modified, elaborated, embodied, or transformed over time (Thompson, 2009). Entrepreneurs' intentions guide entrepreneurs' goal setting, communication, commitment, organization, and other kinds of work (Bird et al., 2012). Yet, while intentions are important, as outlined above, entrepreneurship requires action in order for ventures to start and grow.

### **Entrepreneurial Intentions & Entrepreneurial Behavior**

Scholars have concluded that the most important research challenges on entrepreneurial intentions are in the intention-behavior area (Fayolle & Liñán, 2014). Bird and colleagues's (2009, p. 327) claim that the need exists to empirically and theoretically investigate the intention-behavior link "more rigorous than what we currently have" still holds true today (Kautonen et al., 2015). Entrepreneurial behavior as an academic interest is the study of human behavior involved in finding and exploiting opportunities through creating and developing new venture organizations (Bird & Schjoedt, 2009). Entrepreneurial behavior eventually results in the creation of innovations, new competition, new jobs, and new revenue streams.

Entrepreneurial behaviors are consciously chosen by individuals with the intention of finding and exploiting an opportunity and forming an organization of human, financial, physical, social, and intellectual resources (Bird et al., 2012). The end of all the cognition and motivation of entrepreneurs is to take some action, and by doing so, give rise to a venture, organization, or something new within an existing organization (Bird & Schjoedt, 2009).

**Extant Literature.** The small number of studies that have examined the intentions-behavior relationship in entrepreneurship have predominantly employed the theory of planned behavior framework (TPB) (Schlaegel & Koenig, 2012). A recent study by Kautonen, van Gelderen, and Fink (2015) undertook an examination of the intentions-behavior relationship in the entrepreneurship context using the theory of planned behavior as a framework. They operationalized the dimensions of the theory of planned behavior along three factors (attitude, subjective norms, and perceived behavioral control). Attitude refers to the individual's evaluation (favorable or unfavorable) of the target behavior; subjective norms capture the opinions of social reference groups (such as family and friends) regarding whether the individual should engage in the behavior; and perceived behavioral control (PBC) denotes the perceived ease or difficulty of performing the behavior (Ajzen, 1991). These three factors jointly explain 59% of the variation in intention, which is more than the 30-45% typical in previous studies of entrepreneurial intentions (Kolvereid, 1996; Liñán & Chen, 2009; van Gelderen et al., 2008). Intention and perceived behavioral control explain 31% of the variation in subsequent behavior, which is in line with results of meta-analyses in other behavioral domains (Armitage & Conner, 2001; Sheeran, 2002), as well as on a par with the closest comparable studies in entrepreneurship (Goethner et al., 2012). However, the three factors associated with TPB are more aptly used to predict a behavior as opposed to the numerous behaviors found in entrepreneurship.

While there is very little evidence on the intention-behavior relationship in the entrepreneurship literature, meta-analytic evidence from other research domains supports the predictive power of intentions for subsequent behavior. For example, intentions account for 21% of the variance in exercise behavior (Downs & Hausenblas, 2005). Down and

Hausenblas's meta-analysis found that (a) exercise was most strongly associated with intention and perceived behavioral control; (b) intention was most strongly associated with attitude; and (c) intention predicted exercise behavior, and attitude and perceived behavioral control predicted intention. In another study using a sample of undergraduate students to examine the intentions-behavior relationship, scholars found intentions predicted a significant number of behaviors (e.g., taking a walk, eating an apple, taking a nap, taking vitamins) (Warshaw & Davis, 1985). Scholars have also found a positive and significant intention-behavior relationship concerning voting. Granberg and Holmberg (1990), using data from 10 U.S. and 7 Swedish national election surveys, found that the level of consistency between intention and behavior was very high in both nations concerning an individual's intention to vote for a particular candidate and their subsequent vote for that candidate. The intention-behavior relationship regarding condom use has also been examined in which scholars found a positive and significant relationship (Randall & Wolff, 1994). However, these studies often test intentions predicting a single behavior (e.g., taking medicine, using contraceptives, or voting) (Armitage & Conner, 2001; Sheeran, 2002). In contrast, the iterative process of starting a new venture requires multiple behaviors, at different time periods, unlike voting or taking medicine (Armitage & Conner, 2001; Shane & Venkataraman, 2000).

TPB is too parsimonious and does not explain as much as it could if personality were taken into account. TPB offers that at some point intentions are an antecedent to behaviors because of attitude, subjective norms, and perceived behavioral control (Kautonen et al., 2015). Given the small relationship between intentions and behaviors in this context, what is not known is what else might trigger intentions into action.

**Iterative Process of Entrepreneurship.** Outside of the 2015 study by Kautonen et al., research has yet to show a strong link between entrepreneurial intentions and entrepreneurial behavior. As mentioned earlier, entrepreneurship consists of a variety of stages - discovery, evaluation, and exploitation (Shane & Venkataraman, 2000). These stages can be divided into varying steps. For example, an individual may discover an opportunity to realize that he or she must refine it repeatedly before it is a marketable opportunity. In addition to these stages, there are the necessary behaviors that entrepreneurs must enact as they attempt to grow their venture. For example, mobilizing human, financial, and technological resources (Austin, Stevenson, & Wei-Skillern, 2006). Entrepreneurship covers a variety of behaviors in contrast to taking a walk, voting, or taking a nap. Given the iterative nature of entrepreneurship, it is not surprising that the entrepreneurial intention and entrepreneurial behavior relationship is weak.

Additionally, entrepreneurship differs from these other behaviors in terms of time between intention and the subsequent behavior. An individual who intends to eat an apple or take a nap likely intends to do so the same day that they have that respective intent. The same cannot be said of individuals with entrepreneurial intent. An individual may have entrepreneurial intent, but it is nearly impossible for him or her to engage in all of entrepreneurship within the same day. However, individuals with entrepreneurial intent are able to engage in behaviors associated with entrepreneurship (e.g., reading a book on how to discover opportunities). Thus, the iterative process of entrepreneurship further strains the entrepreneurial intention and entrepreneurial behavior relationship.

### **Predicting Behavior From Intentions**

Generally, researchers seek to predict behavior as opposed to intentions, treating behavior as a dependent variable. The important point about willful behaviors such as

entrepreneurial behaviors is that their occurrence is a direct result of deliberate attempts made by an individual. A person forms an *intention* to engage in a certain behavior (Ajzen, 1988). Intentions are assumed to capture the motivational factors that have an impact on a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior (Ajzen, 1988). Assuming that the behavior is in fact under volitional control (freewill), the attempt will produce the desired act. This implies that the disposition most closely linked to a specific action is the intention to perform the action under consideration. In other words, when dealing with volitional behavior, people can be expected to do what they intend to do. Expressions of behavioral intention should thus permit a highly accurate prediction of corresponding volitional action.

Intentions are thus closely linked to volitional actions and can predict them with a high degree of accuracy (Ajzen, 1988). This is not to say, however, that a measure of intention will always correlate strongly with the corresponding behavior (Ajzen, 1988). Clearly, intentions can change over time; the longer time interval, the greater the likelihood that unforeseen events will produce changes in intentions. A measure of intention obtained before the changes took place cannot be expected to predict behavior accurately. It follows that accuracy of prediction will usually decline with the amount of time that intervenes between measurement of intention and observation of behavior.

There are also more broad explanations that may shed light on the intention-behavior relationship in variety of contexts. For example, across a range of behaviors, including entrepreneurship, the strength of the intention may or may not drive action (Ajzen, 1991). Those with weaker intentions are less likely to take action. Intentions may lack stability or elaboration, and they might not enthruse the individual sufficiently to lead to action initiation

(Gollwitzer, 1999). Another possibility is that some people's preferences change along with their personal and professional circumstances, with the result that their initial entrepreneurial intentions are no longer valid (Kautonen et al., 2015). It may also be the case that people deliberately postpone taking action: for example, until after they have saved some capital or gained some experience (Kim, Aldrich, & Keister, 2006).

In some cases, demographic variables that reflect human capital and individual differences such as homemaker status, sex, and prior experience are used to predict self-reported behaviors (e.g., preparing business plans, choosing a location, or seeking funding) (Orser, Riding, & Manley, 2006; Singh & Lucas, 2005; Ucbasaran, Westhead, & Wright, 2008). This approach has been applied in the strategic entrepreneurship domain. For example, DeTienne and Chandler (2007), using sex and human capital as predictors, asked CEOs of young firms to choose among four sequences of actions those they themselves or their organization took in finding and acting on their start-up opportunity. In other cases, categories of context such as organizational age, size, board composition, need for strategic decision making, or operations predict CEO behavior such as bringing issues to the board of directors (Fiegener, 2005), deciding to open foreign operations (Cloninger & Oviatt, 2007), or predicting bootstrapping behaviors (Ebben & Johnson, 2006). Findings from these studies illustrate that behavior plays a significant role in strategic decision making and firm outcomes. However, bringing issues to the board, deciding to open foreign operations, and bootstrapping behaviors all begin with some intent on the part of the decision-maker.

The scarcity of studies investigating the entrepreneurial intention-behavior relationship is somewhat surprising. After all, entrepreneurship is about actions rather than mere intentions. It is important to look at the intention-behavior relationship because it will tell whether to trust

prior research on intentions, and it will help future research when behaviors available to measure. Moreover, the existence of a sizeable intention-behavior gap points to the importance of studying additional factors rather than mere intentions for predicting and explaining entrepreneurial behavior (Kautonen et al., 2015). I propose that personality is a key factor that plays a significant role in the intentions and behaviors relationship. In particular, I focus on dark personality traits. Forming an intention might be motivational (i.e., what people want to achieve) whereas another factor translates the intention into a behavior. Personality is considered one such factor (DeNisi, 2015). Dark traits are often among the personalities traits where action and behavior is prioritized over thought and reflection (e.g., ADHD, narcissism, psychopathy) (Paulhus, 2014). For example, individuals with ADHD are likely to engage in behaviors where observers can see that they are hyperactive or impulsive.

### **Personality (Traits)**

Studies on personality go as far back as Theophrastus (c. 371- c. 287 BC). Additionally, Western conceptualizations of individual differences in personality can be traced back at least 2,000 years to the ancient typologies of Hippocrates and Galen. Although Bruce's (1908) *The Riddle of the Personality* occurred earlier, personality psychology became an identifiable discipline in the social sciences with the journal, *Character and Personality*, appearing in 1932 and having a formal arrival within the social sciences in 1937 with Allport's (1937) *Personality: A Psychological Interpretation*. Personality refers to a person's distinctive interpersonal characteristics that determine the fundamental pace and mood of a person's actions (Buss & Plomin, 1975; Hogan et al., 1996). The concept of *personality* has been used to denote consistent patterns of thought and attitude that manifest in expressive or stylistic behavior (Winter, John, Stewart, Klohnen, & Duncan, 1998). These consistent patterns are

otherwise known as traits (Buss, 1989). Personality traits are enduring characteristics of the individual that are consistent when responding to the environment (Allport, 1937; Costa & McCrae, 1992; Goldberg, 1993).

It is common practice for psychologists and laypersons alike to explain human behavior by reference to the stable underlying dispositions of personality traits (Heider, 1958).

Dispositional explanations of behavior have a long and distinguished history in personality and social psychology (Ajzen, 1988). Personality traits are latent, hypothetical characteristics that can only be *inferred* from external, observable cues (Ajzen, 1988). The most important such cues are the individual's behavior, verbal or nonverbal, and the context in which the behavior occurs (Heider, 1958; Jones & Davis, 1965; Kelley, 1971).

**Personality Traits.** A personality trait is defined as “a characteristic of an individual that exerts pervasive influence on a broad range of trait-relevant responses” (Ajzen, 1988, p. 2). Assumed to be behavioral manifestations of an underlying trait, people's responses are taken as indications of their standing on the trait in question. As an example, consider this item from a perfectionism scale, “if I do not do as well as other people, it means I am an inferior human being” (Frost, Marten, Lahart, & Rosenblate, 1990). An individual who rates high on this item can be considered to have a high level of this perfectionism trait. Personality characteristics are expected to find expression in behavior (Hogan et al., 1996). Thus, the individual who scores high on the perfectionism item is, on average, likely to attempt to do better than other people in order to avoid feeling like an inferior human being. Personality traits are thus assumed to predispose overt behavior relevant to the trait or attitude under consideration (Ajzen, 1988). Dispositional explanation of human behavior presupposes a degree of coherence among thoughts, feelings, and actions (Ajzen, 1988).

**Traits.** Traits are dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions. Traits are the public, observable element of personality, the consistencies of style readily noticed by other people (Winter, 2003). They reflect the language of “first impression,” the adjectives and adverbs of everyday language that we use to describe other people. The essence of traits is consistency of behavior (across situations and over time) (Winter, 2003). Traits have motivational features, serving to energize, direct, and select behavior (Allport, 1961). Individual differences in personality traits are especially predictive of behavior among persons who are low in self-monitoring. These are the people who are relatively oblivious to the demands of situations and, therefore, more likely to act in accord with inner dispositions. When trying to describe and predict how an individual acts on average, researchers should use traits (Fleeson, 2004). Traits are very useful for predicting and describing a person’s average behavior in a larger time period (Fleeson, 2004). Researchers have long attempted to understand the nature of the entrepreneur and the phenomena behind his or her actions. Most studies addressing the issue have examined which personality types are more likely to become entrepreneurs (Gartner, 1988).

Overall, personality is most evident in and consequential for social interaction because people are social beings and it is during interaction that human nature is primarily expressed (Hogan et al., 1996). Consequently, what people do – their behavior – is a function of the kind of people they are – their personalities. Psychology and organizational scholars use behavior to interpret and evaluate other peoples’ personalities (Hogan et al., 1996). Personality theorists agree that an individual’s personality predicts his or her behavior (Funder, 1994). It follows, then, that the personality traits of entrepreneurs may have important implications for discovery

and exploitation behaviors and how they link to entrepreneurial intentions. In light of this, researchers have viewed personality as an influential driver of entrepreneurial behavior.

**Personality and Entrepreneurship.** The Five Factor Model (FFM) of personality is the most common personality categorization in both psychology and organization studies (Judge, Heller, & Mount, 2002). The FFM provides a parsimonious yet comprehensive taxonomy of personality. Each personality dimension describes a broad domain of psychological functioning that is composed from a set of more specific and narrow traits. The five dimensions are (1) neuroticism, (2) extraversion, (3) openness to experience, (4) agreeableness, and (5) conscientiousness. Neuroticism is the tendency to show poor emotional adjustment in the form of stress, anxiety, and depression. Extraversion represents the tendency to be sociable, dominant, and positive (Watson & Clark, 1997). Individuals who score high on openness to experience are creative, flexible, curious, and unconventional (McCrae, 1996). Agreeableness consists of tendencies to be kind, gentle, trusting and trustworthy, and warm. Finally, conscientious individuals are achievement-oriented and dependable (Barrick & Mount, 1991), as well as orderly and deliberate (Costa & McCrae, 1992). The FFM brings together over 40 years of research on the emotional, interpersonal, experiential, attitudinal, and motivational, style of an individual. The cross-cultural generalizability of the five-factor structure has been established through research in many countries (McCrae & Costa, 1997) and evidence indicates that the FFM is heritable and stable over time (Costa & McCrae, 1988; Digman, 1989). FFM traits have been found to be relevant to many aspects of life, such as subjective well-being (e.g., DeNeve & Cooper, 1998) and even longevity (Friedman et al., 1995).

The FFM has also been applied in the entrepreneurial contexts. Research finds that entrepreneurs differ from others (e.g., managers) on four of the five fundamental dimensions of personality (not neuroticism) (Zhao & Seibert, 2006). The personality construct with the strongest relationship to entrepreneurship was conscientiousness (Zhao & Seibert, 2006). The two facets of conscientiousness, need for achievement and dependability also showed different results. Need for achievement had a large effect size (0.52) while the effect size of dependability was not significantly different from zero (0.01) (Zhao & Seibert, 2006). Based on these findings, it has been suggested that examining the role of narrow traits in the entrepreneurial contexts is a productive avenue for future research (Zhao & Seibert, 2006). Unsurprisingly, entrepreneurs scored significantly higher than managers on Openness to Experience. However, another study found a negative relationship between the entrepreneur's openness and long-term venture survival (Ciavarella, Buchholtz, Riordan, Gatewood, & Stokes, 2004) suggesting that personality traits influence behaviors for better or worse at different stages of entrepreneurship or the behaviors associated with those stages. Individuals with certain personality traits may find entrepreneurial activities more satisfying and fulfilling than do others without those traits, and thus these individuals may persist long enough to actually establish the new venture and become an entrepreneur (Zhao & Seibert, 2006).

The seminal work on personality and entrepreneurship began with McClelland's (1961) work in his book, *The Achieving Society*. He found entrepreneurs are (1) high on need for achievement, (2) desire to take personal responsibility for decisions, (3) prefer decisions involving a moderate degree of risk, (4) are interested in concrete knowledge of the results of decisions, and (5) dislike repetitive, routine work. Later studies began to evaluate the influence of other personality characteristics on entrepreneurship. Personality has been found to highly

correlate with business success (Rauch & Frese, 2007). Positive affect influences the introduction of product/service innovations through creativity (Baron & Tang, 2011). Further, positive affect positively influences effort on entrepreneurial tasks beyond what is immediately required for the start-up (Foo, Uy, & Baron, 2009). Similar, negative affect may have positive functions in entrepreneurship (Frese & Gielnik, 2014). Foo (2011) showed that negative affect in the form of anger may have positive effects for opportunity evaluation (Frese & Gielnik, 2014). Entrepreneurs who are highly confident have a lower likelihood of survival (Koellinger, Minnit, & Shade, 2007) while overconfidence has a curvilinear relationship with subjective firm performance, suggesting that overconfidence has a negative effect on performance after an inflection point (Simon & Schrader, 2012). Other studies show that being proactive and persistent in developing social networks is associated with business success (Zhao et al., 2010).

The question as to whether entrepreneurship is influenced by personality has been put to rest (Zhao & Seibert, 2006). A substantial number of studies have found personality influences both success and failure, at different stages, in entrepreneurship. The majority of studies investigating personality and entrepreneurship have employed the FFM model of personality. While the FFM taxonomy has offered considerable insight concerning entrepreneurs, there are qualities of entrepreneurs that, at times, appear so uncommon to the general population, it is worth investigating how other personality traits influence entrepreneurship (Hisrich et al., 2007). These uncommon behaviors are generally antisocial, and compel others to categorize such individuals as misfits compared to the general man or woman. These behaviors manifest through relationships with others who are not always aware of the antisocial nature of the entrepreneur, but may very well experience its consequences. At times, individuals with these personality traits are manipulative, cold, impulsive, and self-enhancing. At other times, these

individuals are emotionally intelligent, charming, able to rapidly develop ideas, and make big and bold decisions. While these individuals are likely to have sour relationships with others, they are also likely to be successful in the workplace as managers and CEOs and also as entrepreneurs. These individuals are considered to possess dark personalities.

**Dysfunctional Personalities in Management & Entrepreneurship.** As early as 1961, scholars who were considering the entrepreneurial personality theorized that the entrepreneur might have a dark side, an individual who feels displaced and seems a misfit in his or her particular environment (McClelland, 1961; Kets de Vries, 1977). This was a departure from the extant literature that examined personality traits considered more prevalent in the general population (e.g., FFM). McClelland attributed the dark side of entrepreneurship to high need for achievement coupled with inner-directedness. Other work has suggested that entrepreneurs are characterized by a need for control, a sense of distrust, a desire for applause, and defense mechanisms such as splitting (Kets de Vries, 1996), that is, seeing the world as all good or all bad (American Psychiatric Association, 2000). This may have a catastrophic effect not only on entrepreneurs themselves but on communication, decision making, morale, and productivity within their firms (Kets de Vries, 1985, 1996). Kets de Vries (1977) considered the entrepreneur to be an “individual who utilizes innovative rebelliousness as an adaptive mode with occasional lapses toward delinquency, ways of demonstrating his ability to break away, to show independence of mind” (p. 35). Additionally, Kets de Vries considered the entrepreneur as the kind of “person who demonstrates a remarkable resilience in the face of setbacks, with the ability to start all over again when disappointments and hardships come his way” (p. 36). Winslow and Solomon (1988) described entrepreneurs as mildly sociopathic. They “break the mold” by rejecting society’s prevailing norm of seeking employment with another organization

or person (Teal & Carroll, 1999). Case studies from the 1980s indicated that the behavior of a number of entrepreneurs counteracts feelings of low self-esteem, inferiority, and helplessness through excessive control and activity. It also seems that many of these people cannot function in structured situations. They dislike authority and like to be in control (Kets de Vries, 1996).

Despite considerable progress, there are several important dysfunctional psychological characteristics of entrepreneurs that have received little attention (Klotz & Neubaum, 2016). The result is a limited number of findings and consequently evidence that can inform theory and practice, and guide future research. However, these dysfunctional characteristics, have been studied in management literature, most often in strategy or organizational behavior studies as dark personality characteristics. Narcissism has often been examined in the strategy domain while psychopathy has been examined in the organizational behavior domain.

**Narcissism.** Studies of narcissism and management have often been examined in the strategy literatures as researchers have attempted to investigate how narcissistic CEOs influence firm level outcomes. Chatterjee and Hambrick's (2007) examined 111 CEOs in the computer hardware and software industries in 1992-2004 to understand whether and how CEO narcissism influenced firm performance. They found that CEO narcissism had a positive relationship with strategic dynamism and grandiosity, as well as the number of and size of acquisitions. Additionally, they found that narcissistic CEOs favor bold actions that attract attention, resulting in big wins or big losses, but that, in these industries, their firm's performance is generally no better or worse than firms with non-narcissistic CEOs (Chatterjee & Hambrick, 2007). While research examining CEOs was already in full swing by this time, Chatterjee and Hambrick's paper made headlines in both academia and the popular press by

suggesting that individuals at the highest level of the organization might have negative personality traits that could significantly influence and effect firms.

Hambrick followed this study with other examinations of narcissistic CEOs. With colleagues, Hambrick found that narcissistic CEOs had a higher propensity for adopting discontinuous technologies (“a novel method for creating and capturing value that dramatically shifts from the norm of continuous incremental innovation”, Hambrick et al., 2014, p. 260). Adopting discontinuous technologies allows the narcissistic CEO to be perceived as taking bold and risky actions, which in turn attracts the attention of others, the ultimate goal of narcissists. With Chatterjee again, Hambrick (2011) found that narcissistic CEOs were highly responsive to media praise as it influenced their risk taking. Additionally, they found that narcissistic CEOs paid larger acquisition premiums after having receiving media praise. The academic curiosity for understanding how narcissistic CEOs influence firm performance has remained. Zhu and Chen (2015) found that CEO narcissism limits directors’ influence over corporate strategy and influences CEOs learning and information processing in making strategic decisions. Specifically, narcissistic CEOs are influenced by corporate strategies that they witnessed at other firms much more than other CEOs without narcissistic tendencies. In a related study, Zhu and Chen (2015) found that narcissistic CEOs favor new directors (of boards) who are similar in narcissistic tendency or have prior experience with other similarly narcissistic CEOs. In an examination of 75 CEOs of Major League Baseball organizations over a 100-year period, researchers found that narcissism was negatively related to contingent reward leadership (Resick, Whitman, & Weingarden, & Hiller, 2009). In another study examining CEO narcissism, researchers found that firm-level entrepreneurial orientation partially mediated the relationship between CEO narcissism and firm performance (Wales,

Patel, & Lumpkin, 2013). Because entrepreneurial orientation is a mechanism for facilitating significant changes in the organization, entrepreneurial orientation is viewed as a positive for firm performance (Lumpkin & Dess, 1996; Lumpkin & Dess, 2001; Patel, Kohtamäki, Parida, & Wincent, 2015; Richard, Barnett, Dwyer, & Chadwick, 2004; Wiklund & Shepherd, 2003). The authors implied that narcissistic CEOs have a higher propensity for entrepreneurial orientation for firms that they lead, suggesting that firms led by narcissistic CEOs can appear to be on the path to success as they employ an entrepreneurial orientation for the firm (Wales et al., 2013). Narcissistic CEOs have also been found to influence corporate social responsibility (CSR). Petrenko, Aime, Ridge, & Hill (2016) found that there was a positive relationship between CEO narcissism and corporate social responsibility. Further, their results indicated that narcissistic CEOs emphasized activities associated with CSR, but avoided actions that would raise CSR concerns (Petrenko et al., 2016). Additionally, they found that CEO narcissism weakened the relationship between CSR and firm performance. This implies that narcissistic CEOs are likely to engage in CSR for personal needs for attention and image reinforcement and that, in such cases, CSR initiatives may be less strategic in terms of financial performance for their organizations (Petrenko et al., 2016). A study investigating the darker outcomes of CEO narcissism found a positive relationship between CEO narcissism and fraud with a sample of S&P 500 CEOs from 1992-2008 (Rijsenbilt & Commandeur, 2013).

At the individual level, recent scholarship has shown that leader narcissism, when tempered with leader humility, can have a positive and significant effect on followers in terms of employee job engagement and perceived leader effectiveness (Owens, Walker, & Waldman, In Press). In a study of 667 direct reports of leaders from 13 different industries, scholars found that leader narcissism moderated the relationship between leader charisma and follower

psychological empowerment such that when leaders possess a more constructive and less destructive narcissistic personality, their charisma has a stronger positive relationship with follower psychological empowerment (Sosik, Chun, & Zhu, 2014). Judge, LePine, and Rich (2006) found that narcissism was related to enhanced self-ratings of leadership with a sample of graduate management students.

Overall, studies examining narcissism in the management domain evidence that narcissism is not a categorically negative personality trait. In contrast, individuals with attributes of narcissism are likely to influence others and/or the organization in a positive or negative manner. The implications of these findings can be extended to entrepreneurship where extant literature has shown that personality influences entrepreneurship.

**Psychopathy.** The theoretical speculation and clinical projections of psychopathy in the workplace has not been met with empirical corroboration (Smith & Lilenfeld, 2013). Few studies have investigated psychopathy in the workplace as a positive. The studies that have investigated psychopathy have shown the negatives of psychopathy in the workplace. For example, Mathieu, Neumann, Hare, and Babiak (2014) found that employee ratings of their supervisor's psychopathy had a positive and significant relationship with their own psychological distress and a negative and significant relationship with employee work-family conflict. This is not surprising given that one of the fundamental characteristics of a psychopath is callousness towards others. In another study, organizational scholars found that groups characterized by higher levels of psychopathy tended to have interactions that, overall, were characterized by decreased group member contributions in terms of suggestions about how to perform tasks, attention and interest in group tasks, and interests in the thoughts and opinions of others (Baysinger, Scherer, & LeBreton, 2014). Psychopathy has also been positively

associated with charisma and negatively associated with being a team player and management skills (Babiak, Neumann, & Hare, 2010). Psychopaths have also been shown to be unethical decision makers. Stevens et al., (2012) found in their study that successful psychopaths have a tendency to respond unethically to ethical dilemmas in a business context. In another study, scholars found that, with a sample of 42 U.S. presidents, fearless dominance (a trait of psychopathy) was associated with better rated presidential performance, leadership, persuasiveness, crisis management, and Congressional relations (Lilienfeld, Waldman, Landfield, Watts, Rubenzer, & Faschingbauer, 2012). However, impulsivity (a trait of psychopathy) was negatively related to job performance. Similar to narcissism, implications from studies examining psychopathy in organizations suggest that psychopathy might also influence entrepreneurial outcomes.

I refrain from using *Machiavellianism* as a personality trait in this study because studies have shown it to be highly correlated with psychopathy (Giammarco & Vernon, 2014; Jones, 2013; Paulhus & Williams, 2002; Rauthmann, 2012). Scholars believed the personality constructs to be conceptually similar (Smith, 1978, 1985; Smith & Griffith, 1978; Fehr & Samsom, 2013) and empirical findings added strength to these conceptual beliefs (Pederson & Magaro, 1982; Ray & Ray, 1982; Widiger et al., 1996). McHoskey, Worzel, and Szyarto (1998) went so far as to say that “[Machiavellianism] and psychopathy are essentially the same personality construct” and that scholars have been studying them under different names (p. 192). While Machiavellianism is a member, along with narcissism and psychopathy, of the Dark Triad, it has received such attention along with psychopathy that some scholars have considered Machiavellianism and psychopathy as the “malicious two” (Rauthmann & Kolar, 2012). Machiavellianism has historically been investigated in social psychology literature,

whereas psychopathy was first addressed by clinicians (McHoskey et al., 1998) and is now being investigated more in social psychology and management literatures (Akhtar et al., 2013; Stevens et al., 2012). This is one factor that has likely contributed to the separation of the literatures at their inception. Among the factors that are known to overlap between Machiavellianism and psychopathy are a lack of concern with conventional morality, antisocial behavior, superficial charm, as well as callousness and a lack of empathy (McHoskey et al., 1998).

**ADHD.** ADHD has been researched by scholars within many different fields and the ADHD disposition has been conceptualized in several ways including physiological brain differences, chemical imbalances of neurotransmitters, and deficits in executive functioning. Adults with ADHD are less likely to be professionals and more likely to be unemployed or to occupy lower-level positions in organizations (Kessler et al., 2007). Their underrepresentation in higher-level positions may be explained by the primary deficits related to ADHD symptoms pertaining to specific activities such as organizing, prioritizing, and commencing tasks, and focusing (Nadeau, 1997).

However, prominent entrepreneurs have publicly credited their ADHD symptoms as a driver of their decision to become self-employed. The *Economist* recently published a short article addressing the suitability of self-employment for people who experience ADHD symptoms. Prior research shows evidence of a positive relation between ADHD and individual creativity (Abraham, Windman, Siefen, Daum, & Güntürkün, 2006; Shaw & Brown, 1991; White & Shah, 2006). The lower inhibitory control associated with ADHD (Barkley, 1997) has been found to be conducive to creative thinking (Carson, Peterson, & Higgins, 2003). Additionally, adults who exhibit behaviors associated with ADHD perform better at tasks that

require divergent thinking (White & Shah, 2006), demonstrate higher originality in performing tasks, and have a higher preference for generating ideas compared with idea clarification or idea implementation (White & Shah, 2011). Because they seem to be more creative and prefer to engage in non-repetitive, idea-generating tasks, adults who exhibit ADHD-like behavior are more likely to pursue occupational activities that will enable them to exploit their creativity (Verheul et al., 2015). At the same time, creating something new is a common motive for having entrepreneurial career (Carter, Gartner, Shaver, & Gatewood, 2003; Cassar, 2007), and it also distinguishes entrepreneurs from non-entrepreneurs (Carland, Hoy, Boulton, & Carland, 1984).

Overall, these studies suggest that individuals with narcissism, psychopathy, or ADHD-like symptoms are likely to find a fit with the entrepreneurship vocation as opposed to other types of employment. These personality traits are not a pre-condition for entrepreneurial entry, but their behavioral manifestations correlate with the behaviors appreciated in the entrepreneurship vocation. For this reason, I submit that individuals with narcissistic, psychopathic, or ADHD-like tendencies will find a fit with the entrepreneurship vocation by engaging in entrepreneurial behaviors.

### **Dark Personalities and Entrepreneurship**

Dark personality traits are of particular interest to entrepreneurship because the traits associated with dark personalities are also consistent with traits associated with entrepreneurship (Klotz & Neubaum, 2016; Strenger & Burak, 2005). Second, although dark personality traits are often cast in a negative light, and rightfully so, organizational scholars have theorized that certain contexts might allow for a positive side of dark personalities to emerge. Entrepreneurship is one such context (Miller, 2015). The start-up experience is filled

with anxiety, enthusiasm, frustration, and hard work. The failure rate is high because of competition, poor sales, restricted capital, and lack of managerial ability (Hisrich et al., 2007). Financial and emotional risk can also be high. It takes a complex personality to survive the troubled waters of new venture creation. Entrepreneurs' personality quirks and mix of creative and irrational impulses may be responsible for their drive, energy, and success. While the number of studies examining dark personalities and entrepreneurship is rather low, there are some studies that have examined relationships in this context.

In a study of 435 working adults, researchers found a moderate correlation between psychopathy and entrepreneurial tendencies (Akhtar et al., 2013). Similarly, with a sample of 10,040 university students, scholars found that ADHD had a high correlation with entrepreneurial intentions (Verheul et al., 2015). ADHD has also been shown to be related to entrepreneurial orientation. In a study involving French small firm owners, it was found that ADHD related to individual level entrepreneurial orientation (Thurik et al., In Press). ADHD, specifically the hyperactivity dimension, has also been shown to influence self-employment (Verheul et al., In Press). While traits commonly associated with the neurological disorder, ADHD, are impulsivity, risk-taking, and the like, we find these same traits associated with and sometimes necessary in entrepreneurship. Individuals with dark personalities are thought to have a willingness to take initiative, tolerate risk and uncertainty, be persistent in the face of challenge, and act with daring and energy (Paulhus & Williams, 2002; Jonason, Webster, Schmitt, Li, & Crysel, 2012; Paulhus, 2014). The same can be said of entrepreneurs (Akhtar et al., 2013; Miller, 2015). For example, celebrated entrepreneurial leaders, such as Bill Gates and Steve Jobs have been variously portrayed to be ruthless in their dealings with competitors, partners, and employees alike (e.g., Isaacson, 2011; Manes & Andrews, 1993). I consider the

dark personality traits and ADHD as potential triggers of the entrepreneurial intention-behavior link because they influence decision making related to self-gain (e.g., self-enhancement) and also compel behavior (e.g., impulsivity). In addition, individuals with these personality traits are sometimes considered misfits in society because they go against the norm of society (O'Boyle et al., 2012). The same is also said of entrepreneurs (Hisrich et al., 2007). For individuals with these traits, entrepreneurship is a context where their behaviors may lead to positive consequences (starting a new venture) and sometimes successful outcomes (e.g., venture profit and growth).

I submit that personality can manifest in many different career options that “fit” with the same traits (Kristof-Brown, 2000). Entrepreneurial intentions help determine whether the personality is likely to move someone in the entrepreneurship direction. Entrepreneurial intentions without personality are less likely to manifest into entrepreneurial behaviors. Personality without entrepreneurial intentions will result in behaviors, but not necessarily entrepreneurial behaviors. For these reasons, I investigate how intentions are activated by personality to affect entrepreneurial behavior. The interaction between individuals' characteristics and situational conditions should predict entrepreneurial behavior better than any one of these factors alone (Magnusson & Endler, 1977). The primary focus of this study is to investigate and discover whether high levels of particular personality traits convert entrepreneurial intentions into two entrepreneurial behaviors, discovery and exploitation.

### **Summary of Literature Review**

My approach is to examine the main effect of entrepreneurial intentions on entrepreneurial behaviors and the main effect of dark personality traits on entrepreneurial behaviors. Research shows that personality matters in the entrepreneurship, but personality

predicts a wide variety of behaviors. Additionally, research finds that intentions relate to entrepreneurship, but do not necessarily trigger entrepreneurial behaviors. I submit that we need to look at them together. While neither of these factors alone might sufficiently explain entrepreneurial behavior, research finds that “certain aspects of the personality of entrepreneurs have a very considerable impact on the strategies, structures, and performance of firms – particularly smaller firms in uncertain environments, which are common venues for entrepreneurs” (Miller, 2016, p. 21). More important, and central to this study is the moderating effect of dark personality traits on the intention-behavior relationship. Thus, I employ ADHD, narcissism, and psychopathy as moderating variables in the intention-behavior relationship.

Research finds that there is an assumption that intentions lead to behaviors in the entrepreneurship context (Bird et al., 2012), this assumption is often inaccurate (Kautonen et al., 2015), and that intentions typically form in conjunction with another factor such as a personality trait that can subsequently regulate the intention-behavior relationship (Akhtar et al., 2013). Additionally, dark personality traits have been found to relate to entrepreneurial intentions (Mathieu & St-Jean, 2013). In light of these findings, I propose that a gap exists that does not consider how dark personality traits moderate the intention-behavior relationship. My study attempts to fill this gap by proposing that the variance in the intention-behavior relationship is a result of attributes associated with dark personality characteristics such as impulsivity (e.g., ADHD), self-enhancement (e.g., narcissism), and a desire to get ahead rather than get along (e.g., psychopathy).

## CHAPTER 3

### PERSON-ENTREPRENEURSHIP FIT & HYPOTHESES

Research finds that entrepreneurs differ from non-entrepreneurs on a number of characteristics. For example, entrepreneurs and nonentrepreneurs differ on cognitive biases (Baron, 1998; Busenitz & Barney, 1997), intuition (Allinson et al., 2000), risk taking propensity (Stewart & Roth, 2001), and taste for variety (Åstebro & Thompson, 2011). Some of these characteristics are beneficial and assist entrepreneurs in their ventures. These characteristics enable some individuals to rise above challenges in entrepreneurship, embrace the risks and uncertainty associated with new venture formation, and also possess a confidence that they are able to successfully start and run a business. Taken together, the characteristics that assist and benefit entrepreneurs in successful venture formation and growth suggest that some individuals are not only more fit to be entrepreneurs, but their personality is congruent with the attributes of the entrepreneurship vocation. Markman and Baron (2003) proposed that this fit between personality and the entrepreneurship vocation can be viewed as a person-entrepreneurship (P-E) fit that explains why some individuals enter and are more successful at entrepreneurship than others.

#### **Person-Entrepreneurship (P-E) Fit**

The P-E framework is a derivative of the person-environment fit literature that discusses the antecedents and outcomes of compatibility between a person and his or her work environment (Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005; Markman & Baron, 2003). According to the person-environment fit perspective, people are attracted to

work environments that present work cultures, values, requirements, and demands that match their own personalities, needs and skills. The underlying premise is evaluating congruence between people and their environment. People are attracted to vocations whose perceived characteristics and requirements are congruent with their personalities. For example, *person-organization fit* may refer to the congruence of personal and organizational values, while *person-job fit* may refer to congruence between the skills and/or knowledge of an employee and the job requirements (Cable & DeRue, 2002). As a derivative of this literature, the person-entrepreneurship fit conceptual framework offers insight into the congruence between an individual and their engagement in entrepreneurial activity.

P-E fit posits that individuals have control in managing their aspired career paths, and hence seek opportunities based on aspirations, endowments, and, most importantly, fit and congruency. Individuals choose to become entrepreneurs when they sense that they possess the required skills and traits to be successful in this environment. Markman and Baron (2003) argued that there is a relationship between person-entrepreneurship fit and success: the greater the person-entrepreneurship fit, the higher the probability of entrepreneurial success. For example, perseverance and the ability to overcome adversity might effect why some individuals are more successful than others in the entrepreneurship vocation. Personal characteristics that are associated with persistent effort and resilience to adversity therefore make some aspiring entrepreneurs more likely to continue exerting effort despite the adverse circumstances. In a similar manner, “investigative types” will perceive themselves as curious and will enjoy performing scientific and mathematical activities. Therefore, they will be likely to choose vocations that reward curiosity and provide opportunities for solving challenging problems such as scientists and statisticians (Holland, 1997).

P-E fit has received some attention in the entrepreneurship literature. Brigham, De Castro and Shepherd (2007) examined intentions to exit entrepreneurship among existing entrepreneurs, suggesting that the fit or misfit between owner-manger's preferred decision-making style and the level of formal structure influenced entrepreneurs' exit intentions. Masculine characteristics were found to be more congruent with the entrepreneurship vocation among men and women, suggesting that, on average, entrepreneurship fit might be influenced by gender characteristics (Gupta, Turban, Wasti, & Sikdar, 2009). Additionally, ADHD-like tendencies, which might result in rapid creativity and idea generation, were found to be a fit with entrepreneurial intentions among university students (Verheul et al., 2015). These studies offer evidence that fit does indeed influence entrepreneurial intentions. However, investigating entrepreneurship, and in particular entrepreneur behavior, requires scholarship to examine more than an individual's intentions (Bird et al., 2012). Entrepreneurial intent is only one aspect of a broader process of entrepreneurial activity (Schlaegel & Koenig, 2014).

In light of the evidence that personality plays a significant role in the entrepreneurship vocation, I employ the P-E fit framework to examine how dark personalities and one neurological disorder (i.e., ADHD) strengthen the intention-behavior relationship. In some respects, the P-E fit framework assumes that intention-behavior relationship exists, regardless of how weak it is. It has been suggested that not all behaviors that eventually lead to a start-up are intended as such when they are performed (Bhave, 1994). However, while individuals may stumble upon an opportunity, an intent must be formed in order for the individual to take the deliberate steps of investigating or exploiting an opportunity. It can even be argued that intent is the *sine qua non* ("without which is not") of entrepreneurship. Put simply, intent is a necessary antecedent to entrepreneurship.

Psychologists (e.g., Begley & Boyd, 1987; McClelland, 1961) proposed theories in which entrepreneurship is a function of stable characteristics possessed by some people and not others. According to this perspective, enduring human attributes – such as need for achievement (McClelland, 1961), willingness to bear risk (Brockhaus & Horowitz, 1986), self-efficacy (Chen, Greene, & Crick, 1998) internal locus of control, and tolerance for ambiguity (Begley & Boyd, 1998) – lead some people and not others to choose entrepreneurship. In short, psychological theories explicitly or implicitly assume that (1) fundamental attributes of people, rather than information about opportunities, determine who becomes an entrepreneur; and (2) this process depends on people’s ability and willingness to take action. The P-E fit framework is a guide for this chapter as I analyze how personality influences the intention-behavior relationship.

### **Entrepreneurial Intentions & Entrepreneurial Behavior**

Entrepreneurial intentions are the starting point for this study because intentions have been found to be the immediate antecedent to behavior. As already noted however, this is less so in the entrepreneurial context. One of the reasons why entrepreneurial intentions are less likely to predict entrepreneurial behavior is because entrepreneurship involves various behaviors at different time periods. Entrepreneur scholarship has provided evidence that entrepreneurship is anything but linear and might involve a time period that is longer than frequently studied in intention-behavior relationships, such as voting or taking medicine (Granberg & Holmberg, 1990; Warshaw & Davis, 1985).

### **Entrepreneurial Behaviors**

Without the occurrence of “action by individual entrepreneurs, there would simply be no entrepreneurship and no new ventures” (Baron, 2007, p. 167). There are however obstacles

inhibiting entrepreneurial action. Initially, these largely relate to uncertainty and inertia. Uncertainty is inherent in entrepreneurial opportunity (Knight, 1921, McMullen & Shepherd, 2006). This means entrepreneurial action requires an individual with relatively less concern for calculative expected value or logical prospection. Furthermore, there is also individual inertia and uncertainty in what to do. Entrepreneurship requires an individual to do something novel (McMullen & Shepherd, 2006). Thus, some deviation from or disregard for conventional logic favors entrepreneurial action, which allows individuals to overcome the chasm of uncertainty and inertia. In essence, the would-be entrepreneur must be sufficiently uninhibited and act somewhat more on impulse than others (Lerner, 2016). The behaviors generally associated with entrepreneurship are discovery and exploitation (Shane & Venkataraman, 2000), and it is these behaviors that individuals are likely to engage in if they act on their impulses. Discovery and exploitation are stages of the entrepreneurial process that correspond to an entrepreneur and his or her venture's maturity in the entrepreneurial process (Shane & Venkataraman, 2000).

**Discovery Behaviors.** The discovery process is conceptualized as consisting of deliberate and action-oriented behaviors in hopes of coming upon an idea that one can transform into a profitable business opportunity (Alvarez & Barney, 2007). Examples of discovery behaviors are engaging in deliberate and systematic searches for an idea or new business or trying to define the market opportunity for a business. In this research tradition, individuals – acting alone or in groups – are thought to identify competitive imperfections in product or factor markets that they then seek to exploit in an effort to generate economic profits (Casson, 1982). In order to explain why entrepreneurs associated with an industry or market are willing and able to exploit opportunities while non-entrepreneurs are not, it is assumed that entrepreneurs who discover opportunities are significantly different from others in their ability

to either see opportunities or, once they are seen, to exploit these opportunities (Kirzner, 1973; Shane, 2003). The process of discovery describes how individuals acting alone, or within firms, perceive of a previously unseen or unknown way to create a new means-ends framework.

**Exploitation Behaviors.** The opportunity exploitation process involves the development and enactment of strategic plans. The idea that entrepreneurs exploit opportunities to create economic wealth is an old one (Cantillon [1755] 1959; Smith, 1776; Knight, 1921; Schumpeter, 1939; Kirzner, 1997). Opportunity exploitation refers to resource gathering and building efficient, full-scale operations for products or services created by, or derived from, a business opportunity. For most entrepreneurs, opportunity exploitation is a necessary step to generate revenues and thus create a successful business (Block & MacMillan, 1985; Schoonhoven, Eisenhardt, & Lyman, 1990). The decision to exploit an opportunity represents a commitment to market entry. Entrepreneurs who decide to begin exploitation must commit to a number of key factors that will lead to success within the competitive environment (Slater, 1993).

Individuals might intend to pursue the entrepreneurship vocation only to find that they cannot engage in the behaviors required of entrepreneurship. They may intend to develop an idea or product, and sell it at profit in the market. However, doing something novel in the entrepreneurial context is easier said than done. In addition to time, other factors such as the strength of the intention are likely to regulate the entrepreneurial intention-behavior relationship. For this reason, I offer a baseline hypothesis that entrepreneurial intentions will have a small positive relationship with entrepreneurial behaviors. Stated formally –

*Baseline Hypothesis. Entrepreneurial intentions will have a positive relationship with discovery behaviors.*

*Baseline Hypothesis. Entrepreneurial intentions will have a positive relationship with exploitation behaviors.*

Entrepreneurship is an iterative process wherein individuals recognize, evaluate, and exploit opportunities (Pryor, Webb, Ireland, & Ketchen, 2016). The entrepreneurial process presents various difficulties for a number of reasons and complications within the entrepreneurial process can be dependent upon several factors such as current financial resources, socio-economic background (Koellinger et al., 2007), or individual cognition (Baron & Ensley, 2006; Shepherd, Williams, & Patzelt, 2015). Personality characteristics also contribute to the individual's ability to recognize, evaluate, and exploit opportunities (Hisrich et al., 2007). Dark triad personality traits influence everyday decision-making and can be expected to influence the decision-making of entrepreneurs in the entrepreneurial process.

Recent conversations within the entrepreneurial personality literature highlight how important dark personalities are to entrepreneurship (DeNisi, 2015; Klotz & Neubaum, 2016; Miller, 2015). For example, "the act of creating a firm may be indicative of narcissistic tendencies" (Grijalva & Harms, 2014, p. 121). Some scholars have gone so far as to argue that many entrepreneurs are motivated by narcissistic tendencies (Kets de Vries, 1996). Alternatively, Akhtar and colleagues (2013) found that psychopathy is moderately correlated with entrepreneurial intentions.

### **Dark Personalities**

Dark personalities are inflexible traits, usually with an onset in adolescence or early adulthood that manifest in antisocial behavior (Paulhus, 2014). Conventional wisdom dictates that the hallmark of dark personality traits is that they cause harm in interpersonal relationships (Babiak & Hare, 2006). The most well-known of dark personality traits consists of personalities known as the Dark Triad. These personalities are Machiavellianism, narcissism, and

psychopathy. Machiavellianism is associated with manipulation for personal gain. Narcissism is characterized by self-aggrandizement, and a need for praise and admiration from others. Psychopathy manifest through impulsivity, callousness towards others, and thrill-seeking behaviors. While these personalities certainly live up to their names as dark, organizational scholars have begun to theorize and speculate about the upside of these personalities in their subclinical forms (O'Boyle et al., 2012). For example, individuals with attributes of psychopathy are less likely to give up and exhibit a coolness under pressure. Anecdotal and empirical evidence suggest that individuals with attributes of these traits are often found in the upper echelons of organizations (Chatterjee & Hambrick, 2007; Chatterjee & Hambrick, 2011; Gerstner, König, Enders, & Hambrick, 2013). These personalities have also been theorized as congruent with the tasks and demands associated with entrepreneurship (Miller, 2015). For example, forging ahead in the face of challenges is a positive and perhaps necessary attribute in the entrepreneurship vocation. I use narcissism and psychopathy in this study as drivers of discovery and exploitation behaviors and also as triggers for the intention-behavior relationship. While conceptually distinct, I do not employ Machiavellianism in this study as numerous studies have shown that it is highly correlated with psychopathy (Ali, Amorim, & Chamorro-Premuzic, 2009; Lee & Ashton, 2005; McHoskey Worzel, & Szyarto, 1998).

While not considered a dark personality trait, ADHD is a neurological disorder that has been shown to correlate with entrepreneurial intentions (Verheul et al., 2015). Individuals with ADHD are characterized by hyperactivity, a short attention span, and an inability to focus and remain attentive. While these symptoms are negative and may cause stress for an individual with ADHD and those interacting with him or her, ADHD might also provide benefits in the entrepreneurial context. For example, individuals with ADHD are likely to have rapid ideation

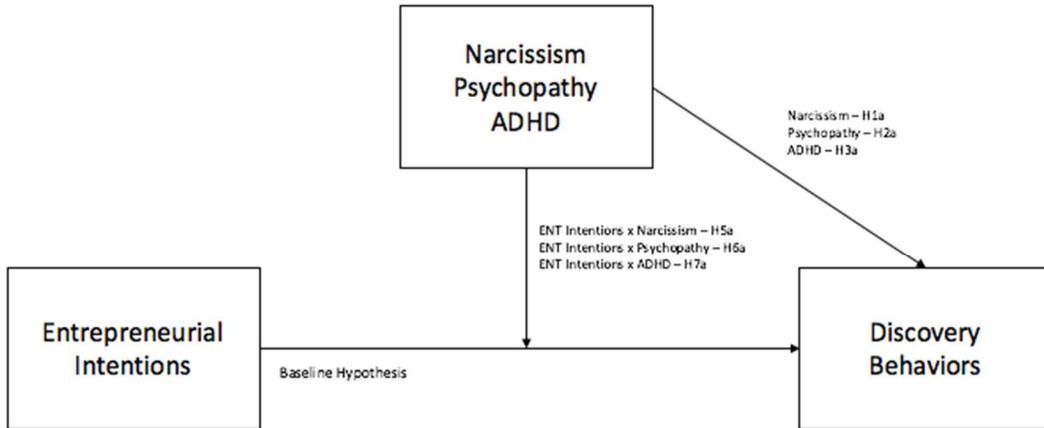
abilities. This can be beneficial in the early stages of new venture formation as an entrepreneur or founding team attempt to conceptualize opportunities. Of course, ADHD is not a requirement for rapid ideation. However, there is a potential upside to ADHD, particularly in the entrepreneurial context.

Both the dark personalities and ADHD are behavioral traits. They manifest in behaviors that are observable by others. This is important because entrepreneurship is also behavioral. While intentions are important to entrepreneurship, entrepreneurs are defined by what they do. Entrepreneurship is not constrained to intentions. Entrepreneurship is best illustrated by the verbs associated with its most common definition – discovery, evaluation, and exploitation (Shane & Venkataraman, 2000). Since dark personalities and ADHD are characterized by their behavioral manifestations, similar to the entrepreneurship vocation, it is likely that researchers can predict how dark personalities might influence entrepreneurial behaviors.

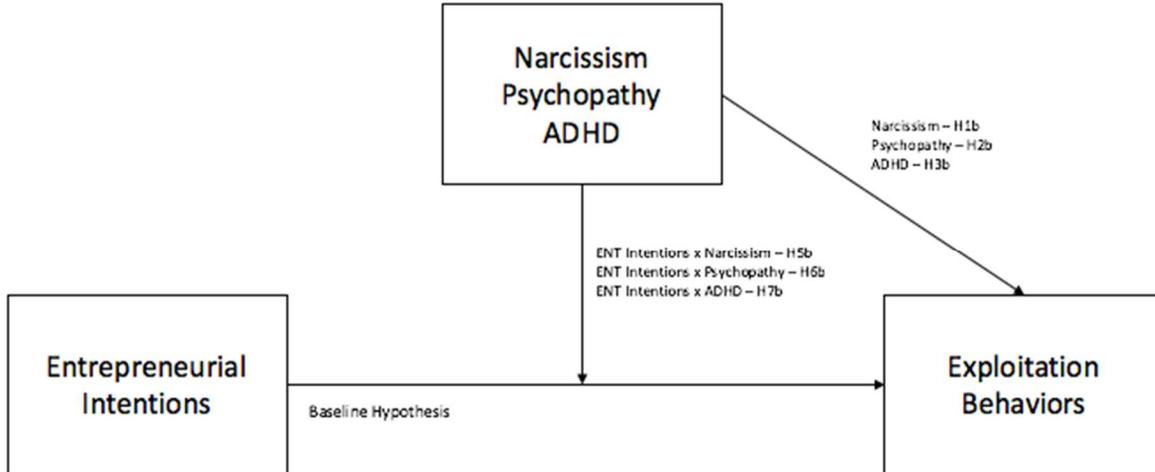
Dark personalities and entrepreneurship are relevant to examine for a number of reasons. First, it is behavioral in nature and allows examining the impact of differences in what entrepreneurial actors do. Second, it presents a double-edged sword of relevance at the individual level. On the positive side, it facilitates creativity, exploration and initiating action under uncertainty; more ambiguously, it is associated with non-conformance and even disregard for existing norms/rules. On the negative side, it presents difficulties in self-organizing and self-regulation (White & Shah, 2006; White & Shah, 2011). Third, it fits with prototypical conceptions of entrepreneurs, and may be romanticized for entrepreneurship (Miller, 2015). Additionally, the congruence between dark personalities and the tasks and demands of entrepreneurship suggest that individuals with attributes of dark personalities are likely to find a fit with the entrepreneurship vocation. This fit is likely to be exhibited by these

individuals engaging in behaviors associated with entrepreneurship, discovery and exploitation. Figure 1 and Figure 2 depict the hypothesized relationships.

**Figure 1. Intent & Dark Personality Traits on Discovery Behaviors**



**Figure 2. Intent & Dark Personality Traits on Exploitation Behaviors**



**Narcissism**

The term “narcissism” is derived from the myth of Narcissus, who, according to legend, fell in love with his own image in a reflecting pool. So moved was Narcissus by his own reflection that he did not eat, drink, or sleep, resulting in his demise. Today, narcissism is

comprised of grandiosity, entitlement, and a need for praise and admiration from others (Judge, Piccolo, & Kosalka, 2009). Narcissists are self-aggrandizing and self-absorbed, yet easily threatened and overly sensitive to feedback from others (Patel & Cooper, 2014). This fragility drives narcissists to seek continuous external self-affirmation from interpersonal relationships (O'Boyle et al., 2012). Yet, because narcissists are characteristically insensitive to others' concerns and social constraints, and often take an adversarial view of others, their self-construction attempts often misfire (Morf & Rhodewalt, 2001). Thus, although narcissistic strategic efforts generally help maintain self-esteem and affect short-term goals, they negatively influence their interpersonal relationships and in the long run ironically undermine the self they are trying to build (Grijalva & Harms, 2014).

Narcissist demand attention and admiration but respond to threats to their ego with rage, defiance, shame, and humiliation (Morf & Rhodewalt, 2001). Narcissistic grandiosity also promotes a sense of entitlement (Bushman, Bonacci, van Dijk, & Baumeister, 2003), even aggression, if that grandiosity is threatened (Bushman & Baumeister, 1998; Jones & Paulhus, 2010). Additionally, grandiosity leads narcissistic individuals on a never-ending quest for ego-reinforcement (Morf & Rhodewalt, 2001), often resulting in self-destructive behaviors (Vazire & Funder, 2006). Rather than deliberate, the cognitive processes of narcissists are self-deceptive; they seem to believe their boasts even when an outsider can verify that they exaggerate their competence (Paulhus & Williams, 2002).

**Narcissism & Discovery Behaviors.** The self-enhancing nature of an individual with narcissistic tendencies is likely to influence discovery behaviors (Grijalva & Harms, 2014). For the narcissists to discover an opportunity, the primary motivation is to be seen, not only as competent and entrepreneurial by others, but the most competent and entrepreneurial by others

(Chatterjee & Hambrick, 2007). Discovery behaviors will be self-serving and unashamedly ego enhancing. With a reliance on their ego as a guide for everything, narcissists are likely to engage in discovery behaviors that they hope will be validated by others.

The appeal of discovery for an individual with narcissistic tendencies is two-fold. First, the discovery behaviors themselves may warrant praise and admiration from others. For example, these individuals might move to a geographic location that is well known for start-up activity (i.e., Silicon Valley) in hopes of connecting with individuals in that location to discover an opportunity. This is a bold move and a large risk that others, on average, are not willing to take. Second, individuals with narcissistic tendencies are aware that if they discover a viable opportunity, there is the potential that others will lavish them with praise and admiration. The drive to self-enhance will compel individuals with narcissistic tendencies to engage in discovery behaviors.

*Hypothesis 1a Narcissism is positively related to discovery behaviors.*

**Narcissism & Exploitation Behaviors.** Narcissism will also have a positive relationship with exploitation behaviors. A narcissist's tendency towards overconfidence (Campbell, Goodie, & Foster, 2004) and feelings of superiority (Jonason et al., 2012) will likely prevent him or her from obtaining information about opportunities and instead rely on his or her instincts to make decisions. This, paired with feelings of superiority, could cause a narcissist to believe any action will be successful; therefore, they may believe that time should not be wasted on planning, but instead be used for action.

Narcissists are often consumed by thoughts of power and success (Morf & Rhodewalt, 2001). Exploitation is appealing to a narcissist as a means to project visions of grandeur and set goals that draw the attention of others. This could provide a significant benefit to venture

growth as they provide an inspiration to those involved to achieve lofty goals in pursuing the entrepreneur's vision of grandeur. It also aligns with Maccoby's (2000) perspective of productive narcissists as visionary leaders. In this setting, the visionary leader is an entrepreneur inspiring those around him or her to advance the growth of the venture. A narcissist's continual pursuit of affirmation from achievements will likely be a strong motivator for engaging in exploitation behaviors in order to develop and maintain a high performing venture. Based on these factors, I hypothesize that narcissism will have a positive relationship with exploitation behaviors.

Hypothesis 1b. *Narcissism is positively related to exploitation behaviors.*

### **Psychopathy**

Psychologists define psychopathy as a particular constellation of antisocial behaviors and emotions, including shallow affect, low remorse, low fear, low empathy, egocentrism, impulsivity, aggression, and criminality (Babiak & Hare, 2006; Cleckley, 1950/2015). Early researchers (Cleckley, 1950; Hare, 1970) pointed to two key elements of psychopathy – deficits in affect (i.e., callousness) and self-control (i.e., impulsivity). The self-control deficit has remained central to criminal (Hare & Neumann, 2008) as well as non-criminal conceptions of psychopathy (Babiak & Hare, 2006). Consequently, psychopaths manifest their callousness in a short-term fashion (Jones & Paulhus, 2014). For example, they lie for immediate rewards, even if those lies compromise long-term interests (Cleckley, 1950/2015). A lack of empathy for others and impulsivity converge to form a bold and disinhibited behavior (Hare & Neumann, 2008).

**Psychopathy & Discovery Behaviors.** Psychopaths are likely to engage in discovery behaviors because of their desire to get ahead rather than get along (O'Boyle et al., 2012).

Extant research suggests that psychopaths often have higher levels of education than the general population (Stevens et al., 2012). Additionally, in business settings, psychopaths are often found in executive suites, on boards, and positions of power (Babiak & Hare, 2006). The impulsive nature of psychopaths is likely a positive rather than a negative in the entrepreneurial context because individuals with psychopathic tendencies will act upon their impulsivities with superior knowledge and information from their education and position. This array of information suggests that psychopaths are prone to discovery behaviors because of their education, impulsivity, and propensity for risky decisions (O'Boyle et al., 2012). However, psychopaths are likely to be less rational when engaging in discovery behaviors. Psychopaths are beset by impulsivity (Paulhus & Williams, 2002) and are prone to take action before considering the outcomes (Babiak & Hare, 2006).

In short, impulsivity will likely influence individuals with psychopathic tendencies to engage in discovery behaviors, particularly if the opportunity is wrapped in a feeling of excitement and adventure seeking (Babiak & Hare, 2006). Psychopaths forge ahead. They move from thrill to thrill and entrepreneurship provides a fit for individuals who are looking to discover opportunities. Put simply, individuals with psychopathic attributes are likely to engage in discovery behaviors because they are more motivated to do so.

*Hypothesis 2a. Psychopathy is positively related to discovery behaviors.*

**Psychopathy & Exploitation Behaviors.** The entrepreneur with psychopathic tendencies is highly likely to engage in exploitation behaviors. This is due to a psychopath's often erratic, impulsive, and callous nature (Williams, Paulhus, & Hare, 2007). A psychopath's tendency towards erratic behavior (Williams et al., 2007) and lack of diligence (O'Boyle et al., 2012) will likely encourage exploitation behaviors. Generally speaking, psychopaths seek to

exploit others in interpersonal relationships. This trait is likely to carry over in the entrepreneurial context where exploitation is considered a desirable trait.

The thrill-seeking associated with psychopathy is theoretically relevant to entrepreneurship. Entrepreneurship involves novelty, uncertainty, and action deviating from the status quo (McMullen & Shepherd, 2006). Would-be entrepreneurs must act more on impulse than entrepreneurs not considering entrepreneurship because opportunities are subject to exploitation by other agents (Shane & Venkataraman, 2000). For an individual with psychopathic tendencies, time is of the essence and they often rely on their education and past experiences to guide their short-term outlook. Psychopathy facilitates exploiting opportunities, including those in the entrepreneurship context, as thrill-seeking and a need for stimulation compel these individuals to act on novel opportunities (Cleckley, 1950/2015). For these reasons I predict that psychopathy will positively predict exploitation behaviors.

*Hypothesis 2c. Psychopathy is positively related to exploitation behaviors.*

**Attention Deficit Hyperactivity Disorder (ADHD).** ADHD is a neurodevelopmental disorder characterized by attention-deficit and hyperactivity (Doshi et al., 2012). These symptoms begin at an early age, are displayed across environments, and continue throughout life (Pelham, Foster, & Robb, 2007). ADHD is associated with deficiencies that may hamper an individual's activities, including acting before thinking, a short attention span, difficulty organizing work, a lack of persistence when facing routine tasks, a lack of memory, and problems with decision making (Brown, 2005). These deficiencies arise from a poorly performing behavioral inhibition system in the brain, which is considered the central deficiency in individuals with ADHD (Barkley, 1997). The persistence of these symptoms often translates into workplace-related problems such as a greater number of job terminations, disciplinary

actions, job changes, absenteeism, lower income, poorer performance, work-related accidents and injuries, lower likelihood of full-time employment, poorer self-evaluations of functioning in teams, and a greater reliance on teammates without an associated acceptance of that reliance (Coetzer & Trimble, 2009).

Individuals who display ADHD-like symptoms may find it difficult to meet the requirements of a regular work environment (Barkley & Murphy, 2010). Irrespective of whether adults with ADHD-like behavior are more independent out of necessity or because of a clear preference, they are more likely to be attracted to occupations in which they can work independently, in their own pace and without having to report to someone higher in hierarchy. At the same time, a high level of freedom and autonomy is generally seen as a universal reason for entrepreneurial intentions and new venture creation (Shane, Kolvareid, & Westhead, 1991) and among the most cited factors for preferring to found a venture over working for a boss (Douglas & Shepherd, 2002; Kolvareid, 1996).

There is much anecdotal evidence about a relationship between attention deficit hyperactivity disorder (ADHD) symptoms and entrepreneurship. The popular press, such as *The New York Times* and *USA Today*, has highlighted many examples of renowned entrepreneurs who claim to have benefited from their diagnosed or presumed ADHD while successfully creating and developing their companies. Prominent examples include David Neeleman (JetBlue airlines) and Paul Orfalea (Kinkos, now FedEx Office). There is also circumstantial evidence: ADHD symptoms have been related to entrepreneurial characteristics, including opportunity recognition and innovative achievement (White & Shah, 2011), risk taking (Mäntylä, Still, Gullberg, & Del Missier, 2012), action orientation (Flach, 1997), and entrepreneurial intentions (Verheul et al., 2015). However, research has not found any

systematic evidence on the direct link between ADHD symptoms and entrepreneurial behaviors.

The present study builds on the perspective that ADHD symptoms can be viewed as personal traits with both “bright” (i.e., desirable) and “dark” (i.e., undesirable) sides. The bright side of ADHD often surfaces in a flexible work environment where adults are able to determine their own tasks and work at their own pace (Biederman, 2005; Goldstein, 2005). In such a work environment, ADHD symptoms can be associated with high levels of risk taking, innovativeness, a high tolerance of uncertainty and proactiveness (Coetzer & Trimble, 2009; Corman & Hallowell, 2006; White & Shah, 2006). Although they are unable to focus on or persist in repetitive or uninteresting tasks, adults with ADHD symptoms have the ability to sustain rare levels of intensity and focus on activities and projects that capture their interest and can be infectiously enthusiastic and passionate about those interests (White, 1999).

**ADHD & Discovery Behaviors.** When we view ADHD symptoms through the entrepreneurial lens, hyperactivity becomes a desire to imagine and discover unexplored terrains, and impulsivity becomes a trigger of risk taking (Verheul et al., 2015). That is why an entrepreneurial work environment in which discovery and risk taking traits may thrive (Macko & Tyszka, 2009) may be suitable for people with ADHD symptoms. In such contexts, entrepreneurs are often motivated to do what they like, discover unexplored terrains, and dare to pursue risky activities and venture into the unknown (McMullen & Shepherd, 2006).

Hypothesis 3a. *ADHD is positively related to discovery behaviors.*

**ADHD & Exploitation Behaviors.** Entrepreneurship not only fits well with the behavior associated with ADHD because of the absence of a rigid and formally structured work environment, it also requires characteristics and skills commonly attributed to individuals who

exhibit ADHD-like behavior. The APA (2000, p. 86) notes that adults with ADHD are easily distracted when fulfilling “boring, repetitive” tasks and tend to perform better when working in novel settings or engaging in activities that they are passionate about. Because they seem to be more creative and prefer to engage in non-repetitive, idea-generating tasks, adults who exhibit ADHD-like behavior are more likely to pursue occupational activities that will enable them to exploit their creativity. At the same time, creating something new is a common motive for having entrepreneurial intentions and pursuing an entrepreneurial career (Carter et al., 2003; Cassar, 2007), and it also distinguishes entrepreneurs from non-entrepreneurs (Carland et al., 1984).

Hypothesis 3b. *ADHD is positively related to discovery behaviors.*

I hypothesize that individuals with attributes of these traits are likely to enter entrepreneurship by engaging in these behaviors. My aim is to investigate whether these dark personality traits will predict entrepreneurial behaviors. To summarize, a career in entrepreneurship appears to show a relative good fit with individuals who exhibit higher levels of narcissism, psychopathy, and ADHD-like behavior. I therefore submit that they are more likely to engage in both discovery and exploitation behaviors. While I hypothesize that these relationships are positive, I believe an individual’s personality not only allows them have a fit with the entrepreneurship vocation, but that their personality will trigger the intention-behavior relationship such that when narcissism, psychopathy, and ADHD are present, individuals are more likely to engage in these entrepreneurial behaviors.

### **Moderating Effect of Personality**

Intentions alone have been shown to be a weak predictor of entrepreneurial behavior (Kolvereid et al., 2006) while personality alone has been shown to predict a variety of

behaviors (Klotz & Neubaum, 2016). I argue that intentions and dark personalities together offer a parsimonious explanation for a strong intention-behavior relationship. Specifically, when dark personalities are present, the intention-behavior relationship is strengthened. For example, individuals who intend to engage in entrepreneurship or be an entrepreneur are more likely to do so when their personality is made up of characteristics associated with some attributes of dark personalities – impulsivity, thrill-seeking, or engaging in bold and risky behaviors in order to receive praise and admiration from others. These attributes regulate intentions such that the individual will move from intentions to actual behaviors (discovery and exploitation). In this way, these individuals will find a fit with the entrepreneurship vocation because of their personality because it strengthens the intentions-behavior relationship. I hypothesize that each dark personality trait and ADHD will strengthen the intention-behavior relationship.

### **Narcissism & Entrepreneurial Intentions**

**Discovery Behaviors.** As analyzed and hypothesized above, individuals with entrepreneurial intentions are likely to engage in entrepreneurial behaviors. However, for a host of reasons (i.e., timing, risk, uncertainty), the intention-behavior relationship, while positive, is weak. For example, a propensity to take risks or stay the course in uncertainty are traits associated with many other behaviors (e.g., pursue the CEO position) outside of entrepreneurship (Simsek, 2007). Given that these individuals do intend to be an entrepreneur at some point in their future, there is reason to believe that the individuals who have narcissistic tendencies might be more likely to engage in discovery behaviors. The need for self-enhancement is served by discovering an opportunity that others have not seen. This can occur if an individual is engaged in behavior that allows him or her to discover something useful,

rare, or otherwise potentially profitable. There is no praise and admiration for simply engaging in discovery behaviors. However, a narcissistic individual is fueled by the reward at the end of discovering an opportunity – attention from others.

Narcissism is likely to trigger intentions into discovery behaviors when the narcissist has entrepreneurial intent. In some respects, an individual with narcissistic tendencies is able to control the praise and admiration received from others so as long as he or she engages in enough behavior to discover an opportunity. Regardless of how audacious, impossible, or outlandish the opportunity, an individual with narcissistic tendencies will have enjoyed the fruit of his or her labor.

*Hypothesis 4a. Narcissism will moderate the intention-discovery behavior relationship, such that as narcissism increases, the strength of the intention-discovery behavior relationship will increase.*

**Exploitation Behaviors.** If all narcissists were baseball players, they would swing for the fences at every bat. The tendency to attempt a homerun at each turn fuels the narcissist in such a way that he or she will only swing if there is an opportunity for a homerun. In the entrepreneurial context, this means that narcissists will engage in exploitation behaviors (Hypothesis 1a), but much more so when working in conjunction with entrepreneurial intentions. Again, entrepreneurial intentions guide the behavior of the narcissist towards entrepreneurship where action is necessary and outcomes are risky and uncertain (Knight, 1921). While this may deter others, the narcissist is not inhibited by fear of risk or uncertainty (Mathieu & St-Jean, 2013), but is rather emboldened, believing that bold and risky decisions alone (Chatterjee & Hambrick, 2007) will garner praise and admiration (Grijalva & Harms, 2015), more so if the outcomes are fruitful (Petrenko et al., 2016).

An individual's psychopathic tendencies is likely to sustain their intentions in the entrepreneurial context and their intentions can guide their psychopathic personality in a particular direction (i.e., entrepreneurship). In short, entrepreneurial intentions direct the personality and the psychopathic personality triggers the intentions into exploitation behaviors.

*Hypothesis 4b. Narcissism will moderate the intention-exploitation behavior relationship, such that as narcissism increases, the strength of the intention-exploitation behavior relationship will increase.*

### **Psychopathy & Entrepreneurial Intentions**

**Discovery Behaviors.** There is some evidence, but primarily anecdotal and theoretical conjecture that individuals with psychopathic tendencies have a laser-like focus and this serves them in their pursuits of thrill-seeking (O'Boyle et al., 2012). For example, Steve Jobs is considered to have had this laser-like precision when discovering new product lines at Apple (Isaacson, 2012). It is hard to argue with this because of the success of Apple, but also the relatively few product lines that Apple has. Further, the cold nature of psychopaths, in addition to the desire to get ahead rather than get along, suggest that psychopaths have a propensity for discovery behaviors. Whether it be for thrill-seeking or some other form of self-gain, psychopaths are fueled by a desire to act in their self-interest toward self-directed goals.

Psychopathic attributes permit these individuals to pursue courses of action such as discovery behaviors because they are, in essence, attempting to find something that others have not found. As extant literature has found psychopathy is highly correlated with entrepreneurial intentions, it is highly probable that these two factors work together to trigger entrepreneurial action. For these reasons, I argue that not only do psychopaths engage in discovery behaviors (Hypothesis 2a), but that psychopathy strengthens the relationship between entrepreneurial intentions and discovery behaviors.

Hypothesis 5a. *Psychopathy will moderate the intention-discovery behavior relationship, such that as psychopathy increases, the strength of the intention-discovery behavior relationship will increase.*

**Exploitation Behaviors.** The behavioral manifestations of psychopathy suggest impulsivity and thrill-seeking. However, unlike other dark personalities such as Machiavellianism, psychopaths are not known for being as calculating or strategic (Steve Jobs may be the exception). Taken together, this suggests that psychopaths are likely to have a propensity to engage in exploitation behaviors, particularly when guided by entrepreneurial intentions. For the psychopath, most, if not all opportunities, will appear as something to exploit. This is both a negative and a positive for individuals with psychopathic tendencies. It is a positive because entrepreneurship is a context where the often undesirable trait of impulsivity can potentially be desirable. On the negative side, attempting to exploit every opportunity is inefficient, tiresome, and not helpful for the venture.

Hypothesis 5b. *Psychopathy will moderate the intention-exploitation behavior relationship, such that as psychopathy increases, the strength of the intention-exploitation behavior relationship will increase.*

## **ADHD & Entrepreneurial Intentions**

**Discovery Behaviors.** The hyperactivity that characterizes ADHD suggest that individuals with ADHD-like symptoms will engage in discovery behaviors where they are able to search for opportunities that will satiate their arousal needs. However, ADHD is characterized by traits that appear to be a double-edged sword in the entrepreneurial context. First, ADHD symptoms are comprised of hyperactivity, forms of impulsivity, a lack of focus, and a short attention span (Brown, 2005). However, other symptoms include an ability to hyperfocus when interested in the subject matter at hand and ability for rapid ideation. I predicted that individuals with ADHD-symptoms would engage in discovery behaviors

(Hypothesis 3a), and I affirm this by arguing that it is even more pronounced when guided by entrepreneurial intentions.

*Hypothesis 6a. ADHD will moderate the intention-discovery behavior relationship, such that when ADHD is present, the strength of the intention-discovery behavior relationship will increase.*

One negative about ADHD, particularly in the entrepreneurship context is that it will likely prevent individuals with symptoms from remaining focused for very long. What this suggests is that these individuals might engage in discovery behaviors, but not for very long. Even when guided by entrepreneurial intentions, it is not known how long entrepreneurial intentions will have their attention.

**Exploitation Behaviors.** Similar to discovery behaviors, exploitation behaviors provide a context where individuals with ADHD-like symptoms will be able to act on impulse. As mentioned earlier, anecdotal evidence suggest that is a very real possibility as some of the most successful venture founders today attribute some of their success to their ADHD-like symptoms. Overall, I hypothesize that ADHD will trigger entrepreneurial intentions into action via exploitation behaviors.

*Hypothesis 6b. ADHD will moderate the intention-exploitation behavior relationship, such that when ADHD is present, the strength of the intention-exploitation behavior relationship will increase.*

### **Temporal Component of Entrepreneurship**

The iterative process of entrepreneurship increases the difficulty associated with conceptualizing and understanding the intention-behavior relationship. Ventures take time to create, with many interrelated events and processes, each with different time demands, weaving together during organizational emergence (Bird, 1992). One solution offered by scholars is to examine the intention-behavior relationship with a temporal component. There are critical time

lag issues in translating intentions into behavior and behavior into results (Bird & Schjoedt, 2009). For example, how long do intentions linger before they become a behavior? Things happen between the formation of an intention and action based on that intention, especially when dealing with complex behaviors such as discovering or exploiting an opportunity (Kautonen et al., 2015). Scholars suggest that gaps between intentions and behaviors should be shorter, such as 6 months, for individuals “who form an intention and are likely to act upon it rapidly” (Kautonen et al., 2015, p. 669). For the reasons outlined above, I employ a lagged design in this study. I offer hypotheses concerning the baseline relationship between entrepreneurial intentions at Time 1 and entrepreneurial behaviors at Time 2, dark personalities at Time 1 and entrepreneurial behaviors at Time 2, and also the moderating effects of ADHD, narcissism, and psychopathy on the intention-behavior relationship collected at Time 1.

### **Summary of Chapter**

The relationships hypothesized in this chapter are all positive. I hypothesize that entrepreneurial intentions will predict discovery and exploitation behaviors. I also predict that narcissism, psychopathy, and ADHD will predict discovery and exploitation behaviors. Finally, I predict that the relationship between entrepreneurial intentions and these entrepreneurial behaviors is strengthened by these presence of narcissism, psychopathy, and ADHD. In order to know if my hypotheses hold, I test them. To that end, I now turn to Chapter 4, *Methods*, where I outline my methodology for testing these hypotheses.

## **CHAPTER 4**

### **METHODS**

#### **Participants and Procedures**

To test the hypotheses regarding the impact of entrepreneurial intentions and dark personalities on entrepreneurial behaviors and their interaction with entrepreneurial behaviors, I collected data from respondents at two different time periods. Doing so allowed me to examine the relationship between entrepreneurial intentions and dark personalities on entrepreneurial behaviors. I sampled 252 MBA Alumni from a Southeastern university in the United States. I reached out to a program assistant in the MBA Alumni program who helped facilitate the data collection using University-owned mailing lists. She sent the initial email contacting 4,541 MBA Alumni inviting them participate in the study. This email included a link to a survey that was found on Qualtrics for Wave 1 of the data collection process.

The initial survey was sent on September 1, 2015. A reminder email was sent on September 10, 2015 and a final email reminder was sent on September 16, 2015. I received a total of 565 responses from MBA Alumni (13% response rate). Out of the 565 responses, 540 responses were usable responses. Wave 1 respondents were 88.3% Caucasian, 33% female, and the mean respondent age was 40.72 years. Respondents had, on average, 17.78 years of work experience. 165 respondents had previously started a business. Additionally, 540 respondents provided an email address in the first wave of the survey to be contacted for the second wave of the survey. The time between Wave 1 and Wave 2 was six months.

The data collection process for Wave 2 began on March 31, 2016 as I sent out an email with a link to the Qualtrics survey to 540 respondents from Wave 1. An email was sent to 540 respondents instead of 565 respondents because 25 respondents did not provide their email address. Reminder emails were sent on a weekly basis over a two-week process after the initial email. The Wave 2 data collection yielded 252 responses. I used pairwise deletion to handle missing data, a technique that provides more accurate results than listwise deletion (Leslie, Manchester, Park, & Mehng, 2012; Roth & Switzer, 1995; Switzer, Roth, & Switzer, 1998).

While each respondent was scored on both discovery and exploitation behaviors it is important to note that a large percentage of respondents had no intentions of starting a business. For example, 77.8% of the respondents who reported scores for discovery behaviors had no intention of starting a business while 79.3% of those who reported scores for exploitation behaviors had no intention of starting a business.

## **Measures**

Independent variable and dependent variable items can be found in Appendix A.

### *Variables at Time 1*

**Entrepreneurial Intentions.** The entrepreneurial intentions measure was collected using a 4-item scale developed by Zhao et al. (2005). This measure has been validated in other studies (e.g., Gupta, Turban, & Bhawe, 2008). As there are many paths to reaching the entrepreneurial vocation, we asked respondents how interested they were in engaging in four prototypical entrepreneurial activities (starting a business, acquiring a small business, starting and building a high-growth business, and acquiring and building a company into a high-growth business) within the next 5 to 10 years. The four items were averaged to form an overall composite measure. A 5-point Likert scale was used, ranging from 1 (*very little*) to 5 (*a great*

*deal*). These four items were found to have high levels of internal consistency with a Cronbach's alpha score of 0.94.

**Narcissism.** Narcissism was measured using a brief 12-item scale developed by Schoenleber, Roche, Wetzel, Pincus, & Roberts (2015). Alternative measures of narcissism have been found to be inconsistent (Corry, Merritt, Mrug, & Pamp, 2008; del Rosario & White, 2005) and or too lengthy for survey measurement (Schoenleber et al., 2015). For example, one often-used measure of narcissism consisted of 52 items, prohibiting its inclusion in many projects (Schoenleber et al., 2015). Six of the items measured grandiose narcissism and six of the other items measured vulnerable narcissism. Grandiose narcissism is characterized by expressions of superiority and self-importance (Wink, 1991). Vulnerable narcissism is associated with feelings of entitlement because of fragility, suspicion, and hypersensitivity (Ronningstam, 2009). Empirical studies examining narcissism and entrepreneurial intentions have relied on grandiose narcissism (Mathieu & St. Jean, 2013) while conceptual articles have also employed grandiose narcissism (Galvin et al., 2015; Navis & Ozbek, 2016). This study investigated the grandiose form of narcissism and for this reason, the 6-item grandiose narcissism measure was employed. Representative items of the grandiose scale are "I often fantasize about accomplishing things that are probably beyond my means" and "I like to have friends who rely on me because it makes me feel important." A 7-point Likert scale was used, ranging from 1 (*not at all like me*) to 7 (*very much like me*). The four items were averaged to form an overall measure. The reliability for grandiose narcissism had a Cronbach's alpha of 0.84.

**Psychopathy.** Psychopathy was measured using a 26-item measure by Levenson, Kiehl, & Fitzpatrick (1995). This measure of subclinical psychopathy is suitable for evaluating MBA

alumni because of its focus on non-institutionalized populations (Akhtar et al., 2013; Levenson et al., 1995). The measure consists of two scales – primary psychopathy (16 items, including 5 reverse coded items) and secondary psychopathy (10 items, including 2 reverse coded items). Sample items from primary psychopathy include “success is based on survival of the fittest; I am not concerned about the loser” and “I enjoy manipulating other people’s feelings.” Cronbach’s alpha for primary psychopathy was high ( $\alpha = 0.83$ ). Sample items for secondary psychopathy include “Love is overrated” and “When I get frustrated, I often ‘let off steam’ by blowing my top. Cronbach’s alpha for secondary psychopathy was 0.72, sufficient by psychometric standards (Nunnally, 1978). Both primary and secondary scales were used to form a composite measure of psychopathy. A 5-point Likert scale was used, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The four items were averaged to form an overall measure. The Cronbach’s alpha for the composite measure was ( $\alpha = 0.83$ ).

**ADHD.** ADHD symptoms were measured by the six-question World Health Organization adult ADHD self-report scale. Specifically, I used the the 6-item ADHD Self-Report Screener (ASRS-6) (Kessler et al., 2005). The six-item screener shows a strong concordance with clinical diagnoses. Representative items include “How often do you have trouble wrapping up the fine details of a project, once the challenging parts have been done?” and “How often do you fidget or squirm with your hands or your feet when you have to sit down for a long time?” To capture the level of ADHD symptoms, I calculated the average score of the ASRS-6. Cronbach’s  $\alpha$  for the ASRS-6 scale amounts to .60, which relatively low, but close to the alphas (0.63-0.72) reported in Kessler’s et al. (2007) study of the validity of this 6-item screener. Additionally, this 6-item screener scale outperforms the longer 18-item ASRS-v1.1 (Kessler et al., 2005; Das, Cherbuin, Anstey, Abhayaratna, & Eastel, 2014).

**Control Variables.** I controlled for a variety of individual characteristics in order to rule them out as alternative explanations of the variation in entrepreneurial intentions. If not controlled, they could create bias and artificially inflate the results in my study. First, I asked respondents to indicate their age because entrepreneurs' decision policies may change with age (Bird, 1989). I also controlled for gender, and entrepreneurial experience. I assessed entrepreneurial experience by asking the participants whether they had previously started a business. They received a score of "1" if they answered "No" to both questions and a score of "2" if they answered "Yes." General self-efficacy (GSE) was also included as a control variable as GSE has been shown to be a meaningful difference between entrepreneurs and non-entrepreneurs (Markman, Balkin, & Baron, 2002).

#### *Variables at Time 2*

**Entrepreneur Behaviors.** Prior research has offered a number of different conceptualizations or typologies of gestational behaviors (Brush, Manolova, & Edelman, 2008; Katz & Gartner, 1988). However, in light of Shane and Venkataraman's definition of entrepreneurship which specifies discovery, evaluation, and exploitation, entrepreneurship scholars have specifically called for behavior measures that capture these entrepreneur behaviors, and in particular discovery and exploitation (Davidsson, 2006). Discovery processes refer to the initial conception and further development of a venture idea, while exploitation concerns the decision to act upon a new venture idea and the behaviors that are associated with this (Farmer, Yao, & Kung-Mcintyre, 2011). The discovery/exploitation dimensionalization of of entrepreneurial activity is perhaps the most theoretically well-grounded (Shane & Venkataraman, 2000) and so offers a chance of more useful comparisons across different studies. Accordingly, my operationalization of entrepreneurial behaviors utilizes this

conceptualization of the entrepreneurial process as characterized by discovery and exploitation behaviors (Davidsson, 2003, 2004; Shane & Venkataraman, 2000).

Discovery behaviors were measured with an index of nine behaviors developed by Farmer, Yao, and Kung-Mcintyre (2011). Sample items include “I have taken some classes or seminars on how to start a new business” and “I have had discussions with people other than those mentioned above with regard to a new business.” Exploitation was measured with an index of 7 behaviors. Exploitation is defined as “the decision to act upon a new venture idea and the behaviors that are undertaken to achieve its realization. The exploitation process deals primarily with resource acquisition, coordination, and market making (Davidsson, 2006). Sample items include “I have asked financial institutions for funds for a new business idea” and “I (alone or with others) have applied for a patent, copyright, or trademark related to the business.”

For both indexes, respondents were asked to check whether they have engaged in each of the particular behaviors in the past eight months either in starting a new independent venture or in the course of their current jobs. My reliance on working adults in existing ventures is not uncommon to management research. As early as 1985 (Pinchot) introduced a hybrid form of entrepreneurship to the management literature – intrapreneurship. The primary motives of intrapreneurs are independence and ability to advance in the corporate setting and receiving corporate rewards (Hisrich, 1990). The characteristics of entrepreneurs and intrapreneurs overlap with one of the most fundamental differences being that they operate in different settings.

Responses were scored 0 (did not engage) or 1 (did engage), and responses were summed to form the index. These measures are formative (Diamantopoulos & Sigauw, 2006)

because the items are independent behaviors that together result in discovery or exploitation. Components of such measures need not be correlated, and inter-item reliability (Cronbach's alpha) and dimensionality (e.g., factor analysis) tests are not relevant (Diamantopoulos & Sigawaw, 2006; Rossiter, 2002). Instead, construct validity is assessed by the breadth of domain coverage and the extent to which the construct relates to other constructs in an expected manner (Diamantopoulos & Sigaway, 2006). Discovery behaviors and exploitation behaviors related to other constructs as expected. Discovery behaviors had correlations with entrepreneurial self-efficacy ( $r = .20$ ), entrepreneurial passion ( $r = .19$ ), and entrepreneurial identity aspiration ( $r = .28$ ), and entrepreneurial intentions ( $r = .20$ ) in an expected manner. Similarly, exploitation behaviors had expected correlations with entrepreneurial self-efficacy ( $r = .21$ ), entrepreneurial passion ( $r = .20$ ), entrepreneurial identity aspiration ( $r = .25$ ), and entrepreneurial intentions ( $r = .20$ ). Additionally, these correlations were significant at the 0.01 level.

### **Analytical Procedures**

I conducted hierarchical regression analyses to test my hypotheses. First, I included control variables in Step 1 to minimize the spurious effects. In Step 2, I included entrepreneurial intentions, followed by a personality variable (narcissism, psychopathy, and ADHD) in Step 3. I repeated Step 3 for each personality variable. Finally, in Step 4, the interaction term (Entrepreneurial Intentions X Narcissism, Entrepreneurial Intentions X Psychopathy, Entrepreneurial Intentions X ADHD) were entered. I repeated Step 4 for each interaction. All of the hypotheses tests were conducted via SPSS 23.0 statistical software. Table 1 shows the means, standard deviations, and correlations for the study variables. I ran a

measurement model with all of the model variables in *R* 3.3. The fit could be improved ( $\chi^2 = 3031.812$ ,  $df = 1580$ ,  $CFI = .71$ ,  $NNFI = .70$ ,  $RMSEA = .06$ ,  $p < .05$ ).

**Power Analysis.** I used *R* 3.3 statistical software to conduct a post-hoc power analysis. I entered a linear model, with a size of 252, eight predictor variables (i.e., one independent, one mediator, and 6 control variables) and an alpha of 0.05. The recommended effect sizes used for this assessment were as follows: small ( $f^2 = .02$ ), medium ( $f^2 = .15$ ), and large ( $f^2 = .35$ ) (Cohen, 1977, 1988). The post hoc analysis revealed statistical power for this study was .29 for detecting a small effect, whereas the power exceeded .99 for the detection of a moderate to large effect size. Thus, there was more than adequate power at the medium to large effect size level, but less than adequate statistical power at the small effect size level.

## **CHAPTER 5**

### **RESULTS**

In this chapter, I provide results from analysis of this study. I offer several tables and figures where I attempt to show both the significant and non-significant findings. I begin with Table 1 which shows the means, standard deviations, and correlations for the measures used in this study. Following, I offer regression results in tables for the control variables, main effects, and the interaction effects. I also offer a full model where all 10 predictor variables (including the three interaction terms) are employed to understand relationships with either discovery or exploitation behaviors.

I also offer graphs of the interaction effects for each personality trait and entrepreneurial behavior. Thus, I have a figures for entrepreneurial intentions and narcissism, entrepreneurial intentions and psychopathy, and entrepreneurial intentions and ADHD predicting discovery behaviors. I then offer graphs for the same interactions on exploitation behaviors.

**Table 1. Means, Standard Deviations, and Correlations**

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Discovery Behaviors	.4220	.338	-											
2. Exploitation Behaviors	.1753	.225	.554**	-										
3. Age	40.72	12.99	-.091	-.026	-									
4. Gender	1.66	.473	.125*	.139*	.222**	-								
5. Race	3.79	.739	-.014	.041	.063	.037	-							
6. Work Experience	17.784	13.5111	-.045	-.003	.958**	.211**	.089*	-						
7. Previously an Entrepreneur?	1.30	.457	.225**	.345**	.259**	.203**	-.007	.293**	-					
8. General Self-Efficacy	4.2938	.48523	.001	.027	-.004	.084*	.081	.022	.053	-				
9. Entrepreneurial Intentions	2.6309	1.27290	.201**	.196**	-.275**	.257**	-.045	-.242**	.218**	.150**	-			
10. Narcissism	4.0853	1.23811	-.061	.007	-.383**	.001	-.019	-.365**	.114**	-.039	.145**	-		
11. Psychopathy	1.9335	.41141	.068	.185**	-.173**	.140**	-.102*	-.167**	.030	-.166**	.074	.272**	-	
12. ADHD	2.5360	.52439	.041	.150*	-.194**	.046	-.016	-.187**	-.011	-.161**	.091*	.290**	.362**	-

\*Correlation is significant at  $p < .05$

\*\* Correlation is significant at  $p < .01$

## Results of Main Effects

Table 2 shows the regression results for independent variables and discovery behaviors.

**Table 2. Regression Results for Discovery Behaviors**

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Age	-.563***	-.517*	-.571**	-.603**	-.513* - .452* - .517 - .566*
Gender	.121	.095	.106	.112	.093 .094 .095 .104
Race	-.015	-.011	-.011	-.014	-.010 -.017 -.011 -.022
Work Experience	.404	.393	.399	.418	.393 .327 .393 .429*
Entrepreneurial Experience	.230***	.207**	.202**	.208**	.206** .205** .207** .207**
General Self-Efficacy	-.031	-.041	-.048	-.052	-.039 -.021 -.041 -.047
Entrepreneurial Intentions		.090	.094	-.157	.091 -.538‡ .090 -.591
Narcissism			-.127‡	-.282*	
Entrepreneurial Intentions x Narcissism				.316	
Psychopathy				.011	-.279
Entrepreneurial Intentions x Psychopathy					.722*
ADHD					-.003
Entrepreneurial Intentions x ADHD					-.293*
$R^2$	.100	.106	.119	.125	.106 .121 .106 .124
$\Delta R^2$		.006	.014	.005	.000 .015 .000 .018
Adjusted $R^2$	.078	.080	.091	.092	.076 .088 .077 .091
F Change	4.548	1.657	3.751‡	1.507	.032 4.189* .002 4.984*

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Table 3 shows the regression results for independent variables and exploitation behaviors.

**Table 3. Regression Results for Exploitation Behaviors**

Variable	Model 1	Model 2	Model 3	Model 4	Model 5			
Age	-.200	-.163	-.167	-.180	-.117	-.012	-.133	-.156
Gender	.096	.075	.076	.078	.042	.045	.062	.066
Race	.046	.051	.051	.049	.064	.052	.050	.045
Work Experience	.059	.050	.051	.059	.043	-.069	.049	.066
Entrepreneurial Experience	.361***	.342** *	.342** *	.345** *	.332	.329**	.339** *	.339** *
General Self-Efficacy	-.006	-.014	-.015	-.016	.014	.045	.009	.006
Entrepreneurial Intentions		.074	.074	-.035	.080	-1.004**	.070	-.261
Narcissism			-.010	-.077				
Entrepreneurial Intentions x Narcissism				.137				
Psychopathy					.159*	-.341*		
Entrepreneurial Intentions x Psychopathy						1.244**		
ADHD							.130*	-.011
Entrepreneurial Intentions x ADHD								.373
$R^2$	.145	.149	.149	.150	.171	.217	.164	.169
$\Delta R^2$		.004	.000	.001	.023	.046	.016	.004
Adjusted $R^2$	.124	.125	.121	.119	.144	.188	.137	.138
$F$ Change	6.882** *	1.148	.023	.296	6.601 *	14.023** *	.016*	.004

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Table 4 shows regression results of a full model for independent variables and discovery behaviors.

**Table 4. Full Model Regression Results for Discovery Behaviors**

<b>Variable</b>	<b>Model 6</b>
Gender	.107
Race	-.021
Age	-.573*
Work Experience	.393‡
Entrepreneurial Experience	.199**
General Self-Efficacy	-.034
Entrepreneurial Intentions	-.845*
Narcissism	-.176
Psychopathy	-.125
ADHD	-.207
Entrepreneurial Intentions x Narcissism	.078
Entrepreneurial Intentions x Psychopathy	.595
Entrepreneurial Intentions x ADHD	.404
<i>R</i> <sup>2</sup>	.145
<i>Adjusted R</i> <sup>2</sup>	.098

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001

Table 5 shows regression results of a full model for independent variables and exploitation behaviors.

**Table 5. Full Model Regression Results for Exploitation Behaviors**

<b>Variable</b>	<b>Model 6</b>
Gender	.04
Race	.051
Age	.016
Work Experience	-.091
Entrepreneurial Experience	.322***
General Self-Efficacy	.064
Entrepreneurial Intentions	-.896*
Narcissism	.029
Psychopathy	-.409*
ADHD	.144
Entrepreneurial Intentions x Narcissism	-.166
Entrepreneurial Intentions x Psychopathy	1.354***
Entrepreneurial Intentions x ADHD	-.083
$R^2$	.229
<i>Adjusted R<sup>2</sup></i>	.187

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

**Entrepreneurial Intentions.** The baseline hypothesis predicted a negative relationship between entrepreneurial intentions at time 1 and entrepreneurial behaviors measured at time 2. The regression results show that entrepreneurial intentions was not significant as a predictor of discovery behaviors ( $\beta = .09$ , n.s.) or exploitation behaviors ( $\beta = .074$ , n.s.). Thus, the baseline hypothesis is not support.

**Narcissism.** Hypothesis 1a predicted a positive relationship between narcissism and discovery behaviors. The regression results show that narcissism was negative and significant in its relationship with discovery behaviors ( $\beta = -.127$ ,  $p < .10$ ). Thus, Hypothesis 1a is not supported. Hypothesis 1b predicted a positive relationship between narcissism and exploitation behaviors. The regression results show that narcissism was negative ( $\beta = -.01$ , n.s.), but not significant, in its relationship with exploitation behaviors. Thus Hypothesis 1b is not supported.

**Psychopathy.** Hypothesis 2a predicted a positive relationship between psychopathy and discovery behaviors. The regression results show that psychopathy was positive, but not significant ( $\beta = .011$ , n.s.), for discovery behaviors. Thus, Hypothesis 2a is not supported. Hypothesis 2b predicted a positive relationship between psychopathy and exploitation behaviors. The regression results show that psychopathy was positive and significant ( $\beta = .159$ ,  $p < .05$ ) for exploitation behaviors. Hypothesis 2b is supported.

**ADHD.** Hypothesis 3a predicted a positive relationship between ADHD and discovery behaviors. ADHD was found to be negative and not significant ( $\beta = -.003$ , n.s.) for discovery behaviors. Thus, Hypothesis 3a is not supported. Hypothesis 3b predicted a positive relationship between ADHD and exploitation behaviors. Results show that ADHD was positive and significant ( $\beta = .130$ ,  $p < .05$ ) as a predictor for exploitation behaviors. Thus, hypothesis 3b is partially supported.

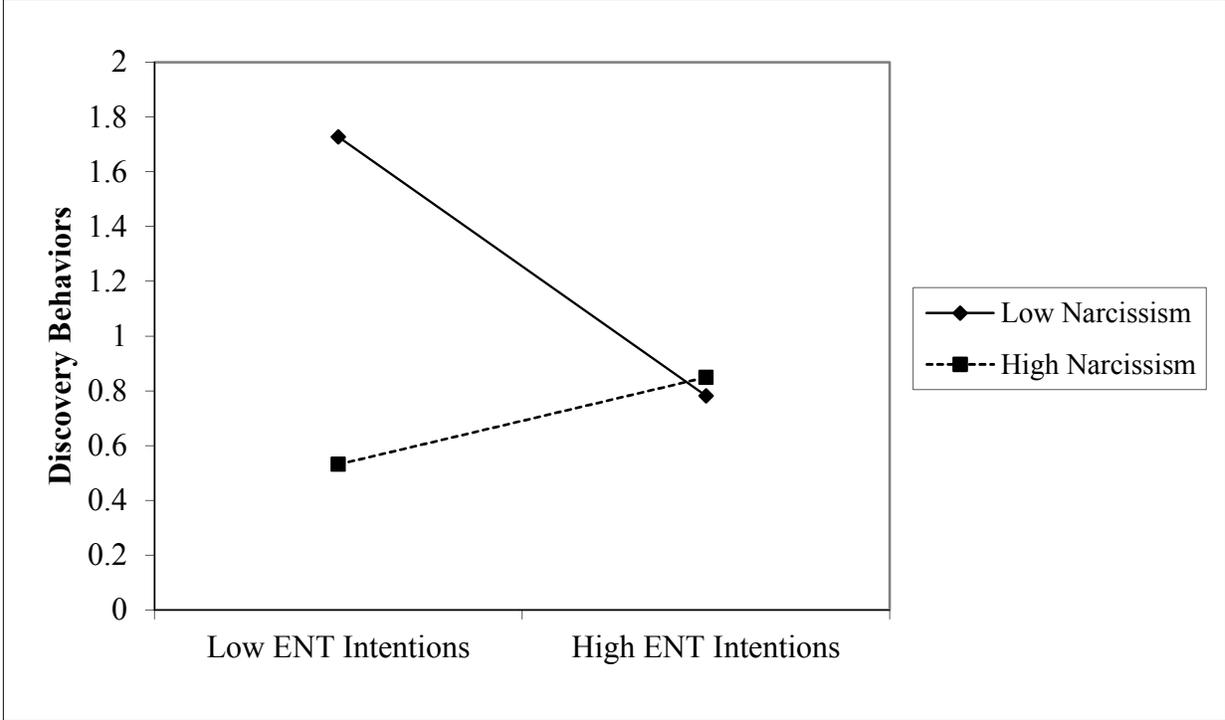
### **Moderation Effects**

I next present the results of my moderation hypotheses (Hypotheses 4a-6b), which identified narcissism, psychopathy, and ADHD as key moderating variables of the intention-behavior relationship in the entrepreneurship context. Moderated regression involves the hierarchical regression of the dependent variable on the independent variable, the moderating variable, and the product of the independent and moderator variable. To evaluate the potential moderating effect of dark personality traits on the relationship between entrepreneurial intentions and entrepreneurship behaviors, moderated regression was used (Cohen & Cohen, 1975; Arnold, 1982). If the interaction term contributes significantly to  $R^2$  for the regression, an interaction effect has been identified or, in this case, there is an interaction between entrepreneurial intentions and personality traits in their effect on entrepreneurial behaviors

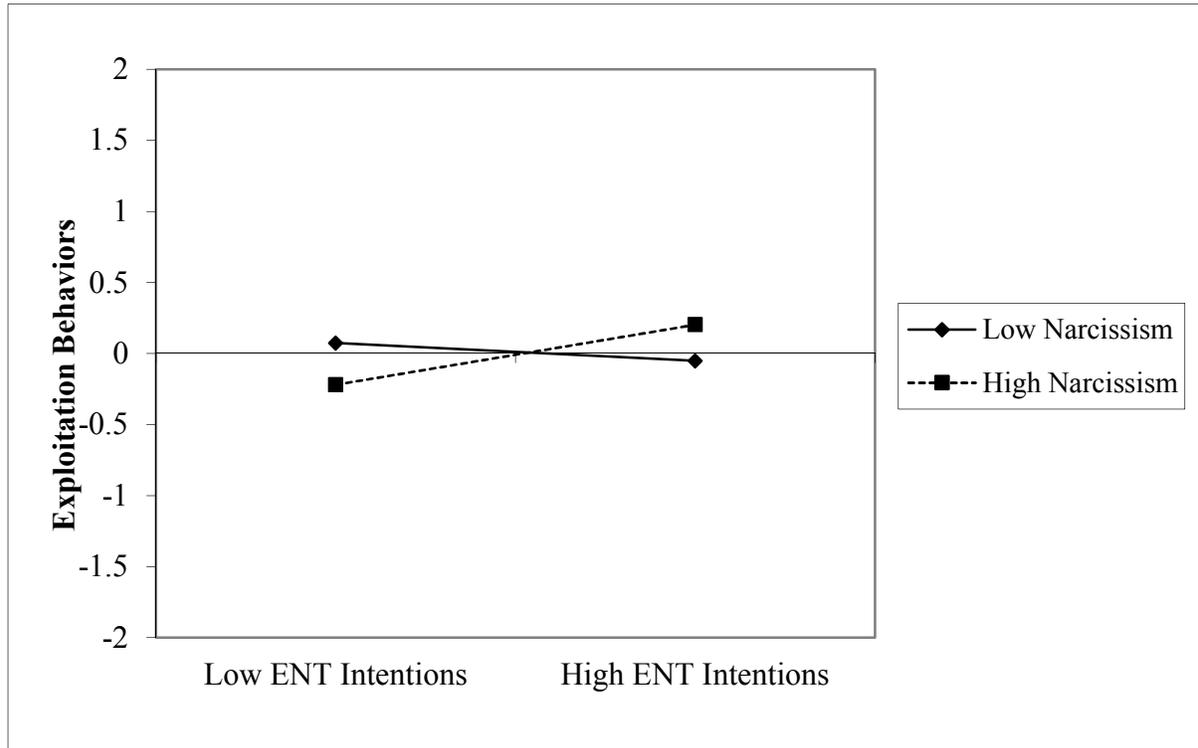
(Podsakoff, Todor, & Skov, 1982). Moderation is supported when the addition of the interaction term results in a statistically significant coefficient and a significant increase in the variance explained (Shalley, Gilson, & Blum, 2000). Results for the effect of interaction terms on discovery behaviors are shown in Table 2 and for exploitation behaviors in Table 3.

**Entrepreneurial Intentions & Narcissism.** Hypothesis 4a predicted that narcissism moderates the intention-discovery behavior relationship, such that as narcissism increases, the strength of the intention-discovery behavior relationship would increase. Surprisingly, there was not a significant interaction ( $\beta = .316$ , n.s.). Hypothesis 4b predicted that narcissism moderates the the intention-exploitation behavior relationship, such that as narcissism increases, the strength of the intention-exploitation behavior relationship will increase. This interaction was also not significant ( $\beta = .137$ , n.s.). The plots of these interactions can be seen in Figure 3 and Figure 4.

**Figure 3. Intentions & Narcissism Interaction on Discovery Behaviors**

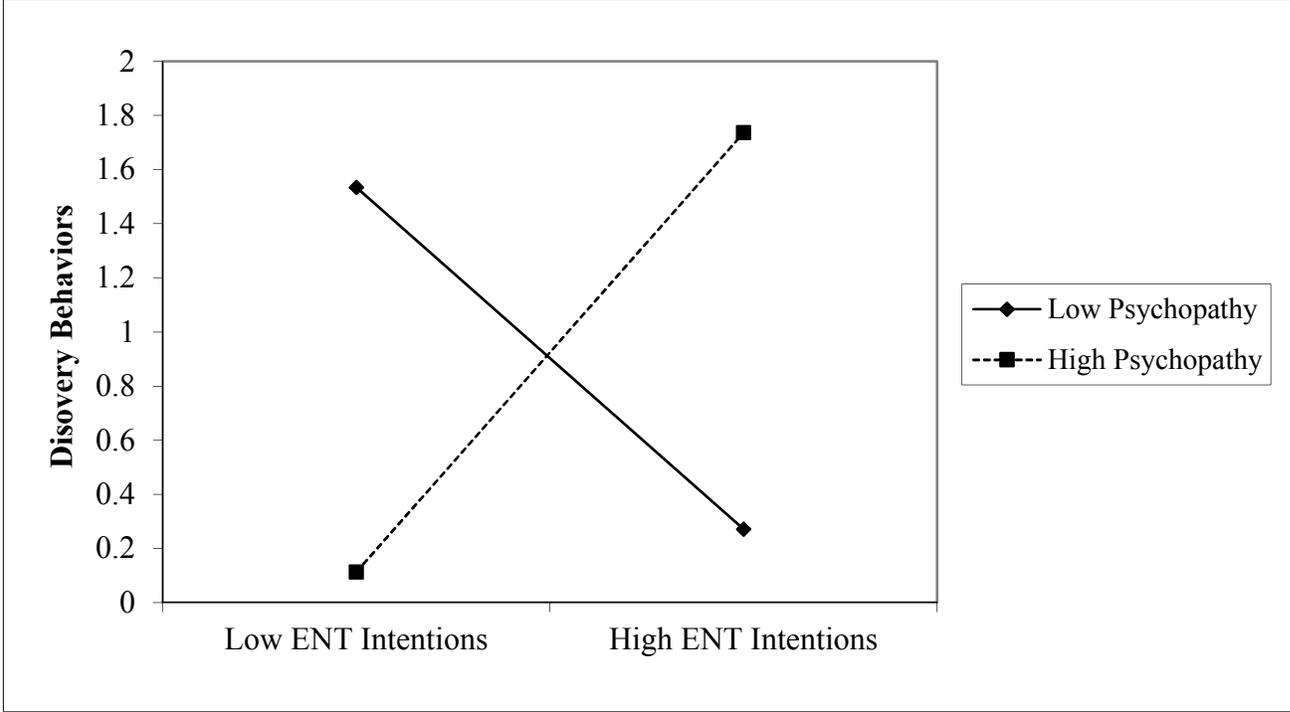


**Figure 4. Intentions & Narcissism Interaction on Exploitation Behaviors**

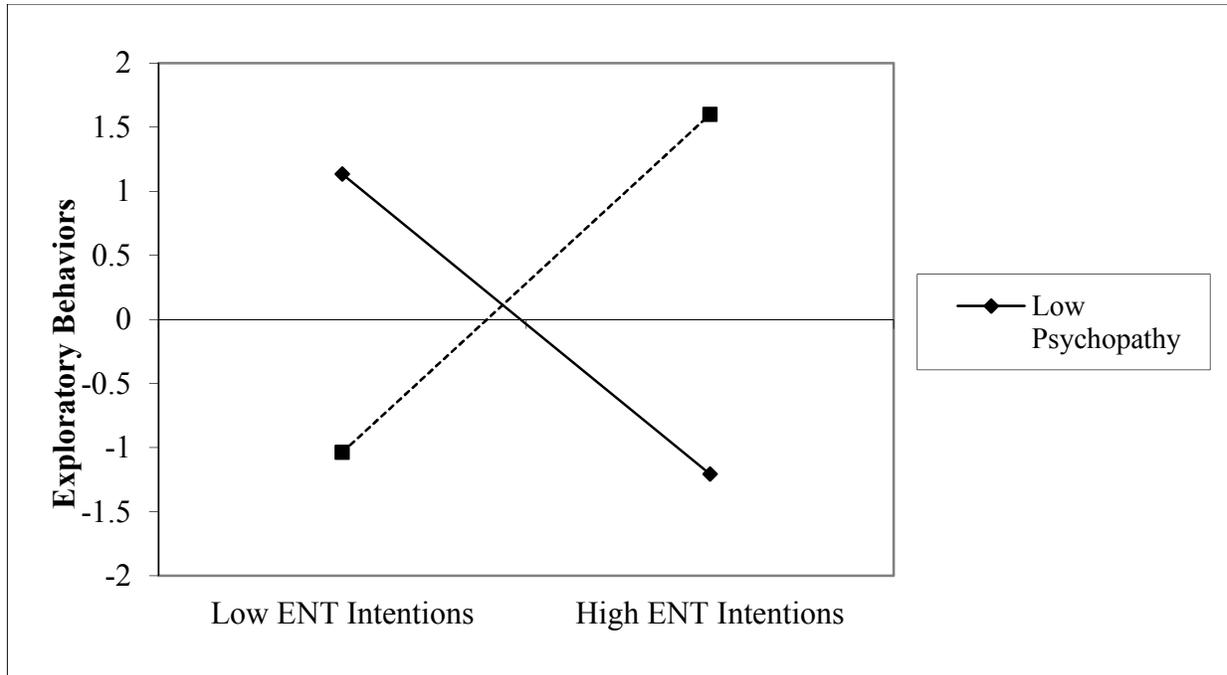


**Entrepreneurial Intentions & Psychopathy.** I repeated the same procedures for Hypotheses 5a and 5b in which I predicted that psychopathy moderates the intention-behavior relationship, such that as psychopathy increases, the strength of the intention-behavior relationship would increase. For discovery behaviors (Hypothesis 5a), the interaction was significant ( $\beta = .722, p < .05$ ). The interaction was also significant ( $\beta = 1.244, p < .01$ ) for exploitation behaviors (Hypothesis 5b). Thus, hypotheses 5a and 5b are supported. The plots of these interactions can be seen in Figure 5 and Figure 6.

**Figure 5. Intentions and Psychopathy Interaction on Discovery Behaviors**

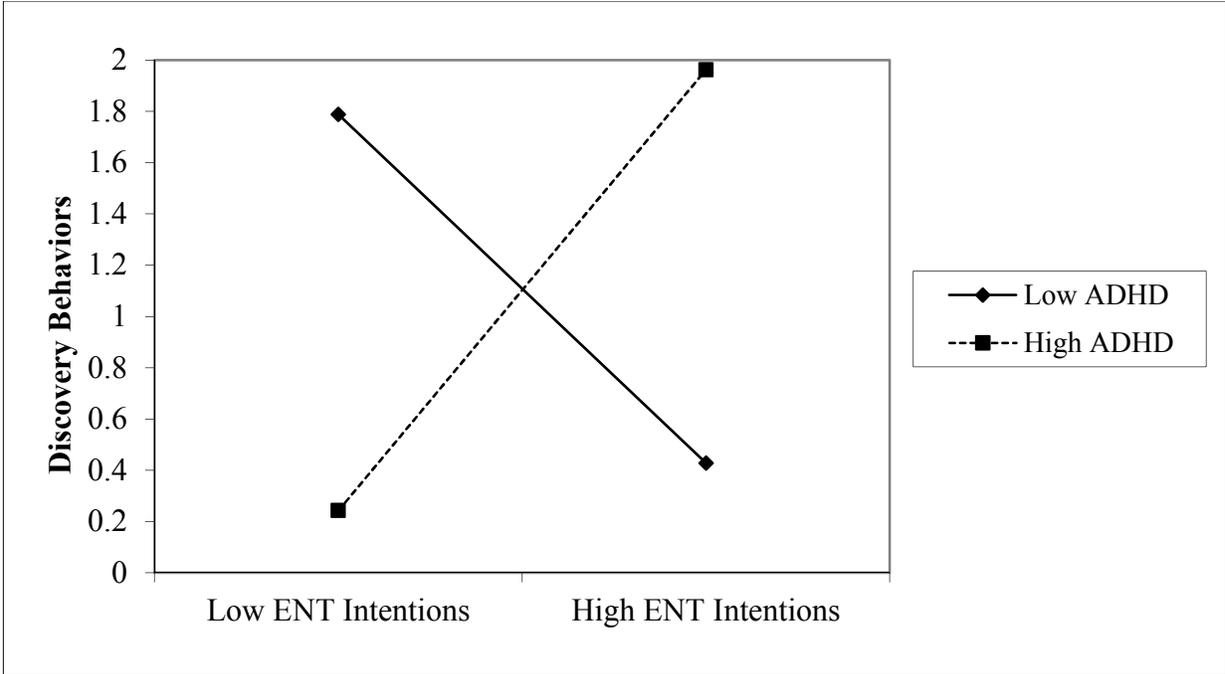


**Figure 6. Intentions and Psychopathy Interaction on Exploitation Behaviors**

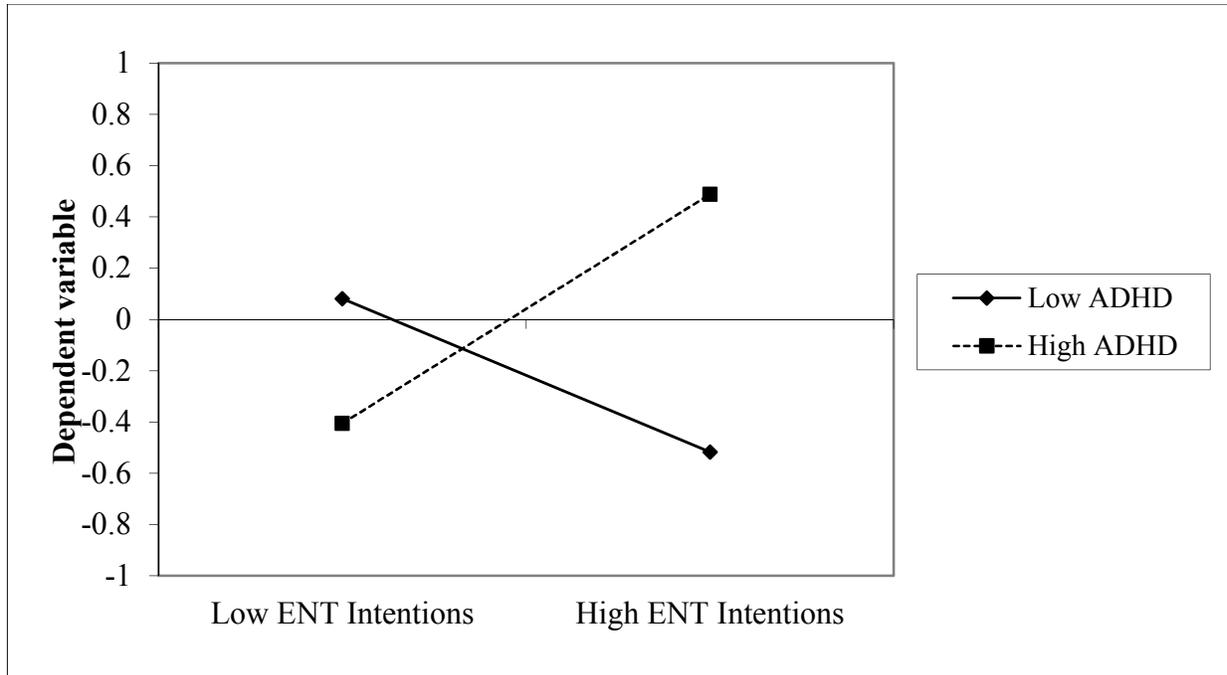


**Entrepreneurial Intentions & ADHD.** The final hypotheses predicted that ADHD moderates the intention-entrepreneurial behavior relationship, such that when ADHD is present, the strength of the intention-entrepreneurial behavior relationship will increase. There was a significant interaction ( $\beta = .770, p < .05$ ) for discovery behaviors (Hypothesis 6a), but not for exploitation behaviors (Hypothesis 6b) ( $\beta = .373, n.s.$ ). The plots of these interactions can be seen in Figure 7 and Figure 8.

**Figure 7. Intentions & ADHD Interaction on Discovery Behaviors**



**Figure 8. Intentions & ADHD on Exploitation Behaviors**



**Post-Hoc Analysis.** I ran further analysis to find results that might help explain the oddities of individuals who were both low on entrepreneurial intentions and personality variables as the most likely to engage in entrepreneurial behaviors. First, it is necessary to clarify that my sample consisted of individuals who did intend to start a business, start a branch or department or something similar in an existing organization, and finally those who expressed that they did not intend to start a business or anything within an existing venture. Additionally, I did not account for the fact some individuals in my sample are not employed nor currently operating a business while some are currently operating a business. I wanted to know whether individuals who had intentions to start a business are more likely to do so when they have at least one of three personality characteristics. However, by including individuals in my sample who expressly stated they did not intend to do either, my results were perhaps skewed.

I attempted to rectify this in my post-hoc analysis by sub setting my sample among those who (1) intend to start a business, (2), intend to start a new branch or department within an existing venture, and (3) those who do not intend to do either. This item was part of my Wave 2 data collection. Those who intended to start a business were 34 in number (Group 0) while 14 intended to start a new branch or department within an existing venture (Group 1). The number of respondents who did not intend to do either were 275 in number. However, this is perhaps where I can correct my analysis in future research. Of those who did not intend to do either, I did not account for how many of them were actually currently running business.

I ran the regression models again by each group. Admittedly, the power for Group 0 and Group 1 are too low simply because there are not enough observations (34 and 14, respectively). I refrain from even offering results for these two groups for these reasons. However, I did find interesting results for Group 2 for discovery behaviors. Although this group had a mean of 1.90 (out of 5) for psychopathy, there was a significant entrepreneurial intentions and psychopathy interaction ( $p < .05$ ) for discovery behaviors. In contrast to discovery behaviors, entrepreneurial behaviors was found to be significantly related to more personality variables within the study. Entrepreneurial intentions, narcissism, the entrepreneurial intentions and narcissism interaction, psychopathy, and the entrepreneurial intentions and psychopathy interaction were all significant at  $p < .05$  or lower.

Further the mean scores for behaviors by group reflect that individuals who intend to start a business or venture-like within an existing business engaged in entrepreneurial behaviors. For discovery behaviors, Group 0 had a mean score .74, Group 1 had a mean score of .80, and Group 2 had a mean score of .35. The results were even more forthcoming for exploitation behaviors where Group 0 had a mean score of .39, Group 1 had a mean score of

.43, and Group 2 had a mean score .13. These scores were calculated on an index of behaviors where individuals marked 0 (did not engage in behavior) or 1 (engaged in behavior) in the last 8 months.

Overall, this suggest that I should distinguish individuals in my sample by asking them if they currently intend to start a business. Ironically, my sample consist largely of individuals with no intentions to start a business, yet they engage in entrepreneurial behaviors (e.g., discovery or exploitation, or both).

## CHAPTER 6

### DISCUSSION AND CONCLUSION

The premise of this study was to investigate how personality might trigger entrepreneurial intentions into entrepreneurial behaviors – discovery and exploitation. Researchers have sought to understand what influences individuals to engage in entrepreneurship and, specifically, entrepreneur behaviors (Bird et al., 2012). Intentions are considered an immediate antecedent of behavior (Ajzen, 1991). However, this relationship is weak in the entrepreneurial context and warrants further study as to what converts entrepreneurial intentions into entrepreneurial behaviors. While extant literature has examined psychological influences such as entrepreneurial intentions, entrepreneurial self-efficacy, and entrepreneurial passion as influences of entrepreneurship, there remained little understanding on what influences someone to engage in entrepreneurial behavior. For example, Bird and co-authors (2012) noted in their review of the entrepreneurial behavior literature that there is still a scarcity of literature and understanding concerning what influences individuals to engage in entrepreneurial behavior. I invoked the person-entrepreneurship fit framework in this study to propose that the symptoms of dark personality characteristics, which are often considered antisocial, trigger entrepreneurial intentions into entrepreneurial behaviors. In this chapter, I will discuss my findings, contributions, directions for future research, and the limitations of my research.

**Entrepreneurial Intentions.** Entrepreneurial intentions are an immediate antecedent entrepreneurial behaviors (Krueger, Reilly, & Carsrud, 2000; Liñán & Chen, 2009; Thompson,

2009), but this is rarely supported by empirical evidence (Kautonen et al., 2015). I offered a baseline hypothesis that entrepreneurial intentions would predict entrepreneurial behaviors given a six-month difference between an individual's entrepreneurial intent and their engagement in entrepreneurial behaviors. I did not find support for my baseline hypotheses that entrepreneurial intentions predicted entrepreneurial behaviors six months later. This non-finding contradicts the study by Kautonen and colleagues (2015) that entrepreneurial intentions do predict behaviors. Notably, Kautonen and colleagues used a one-year time frame to investigate the lagged effect of entrepreneurial intentions on entrepreneurial behaviors. Overall, this finding suggest that entrepreneurial intentions are not an immediate antecedent to behaviors as several other factors not only influence the intention-behavior relationship, but that time is likely a variable that individuals contend with. The study by Kautonen et al. (2015) suggest that studies of the entrepreneurial intentions-behavior relationship needs a long time frame, and 6 months does not seem to be enough. If lags are longer, it is likely that stronger effects might be found. The length of time it takes an individual to start a venture likely influences this relationship beyond what entrepreneurship scholars have previously understood.

Recent evidence indicates that other personalities, such as dark personalities, highly correlate with entrepreneurship. In order to better understand how entrepreneurial intentions influence entrepreneurial behaviors, I investigate whether personality might strengthen the intention-behavior relationship.

### **Dark Personalities**

Mental disorders and dark personality traits are, by definition, dysfunctional. Otherwise they would not be a disorder that is assessed and treated by medical doctors. At the same time, what is functional or dysfunctional depends on context. Scholars have started researching

whether certain mental disorders and dark personality traits are potentially less dysfunctional or even advantageous in the entrepreneurial context. It may be that the very traits that make it difficult to fit into most regular vocations provide good fit with the high uncertainty environment and lack of established routines that define entrepreneurship. In particular, there is research to suggest that entrepreneurship exerts a pull on people with dark personality traits or ADHD-like symptoms (e.g., Verheul et al., 2015).

**Narcissism.** Narcissism is a personality trait characterized by self-aggrandizement and a perpetual need for praise and admiration. While individuals with narcissistic tendencies are likely to follow several pursuits that can garner them praise and admiration, the entrepreneurial context is one such context (Kets de Vries, 1985). Research finds that narcissism has a positive correlation with entrepreneurial intentions and qualitative evidence supports the notion that many entrepreneurs are narcissistic (Kets de Vries, 1996). In this study, I predicted that narcissism has a positive relationship with entrepreneurial behaviors and, separately, that it strengthens the entrepreneurial intention-entrepreneurial behavior relationship. I did not find support for my hypothesis that narcissism predicts discovery behaviors or exploitation behaviors. Contrary to expectations, the current results do not show a significant relationship between narcissism and entrepreneur behaviors. This undermines the notion that narcissism as a dark personality trait is relevant for entrepreneurship.

One reason for the lack of support for my hypotheses might be that narcissists are motivated by self-grandeur and the behaviors associated with entrepreneurship, on average, are not perceived as bold and risky enough to warrant attention from others. The extant literature supporting the positive relationships between CEO narcissism and executive decision making is important here as a point of reference. First, CEO narcissism, as the term implies, suggest that

individuals engage in bold and risky decision-making (behaviors) when they occupy a position of prominence (CEO) and their decisions have large implications for the firm (an established organization) (Chatterjee & Hambrick, 2007). The entrepreneurship context is different. On average, individuals engaged in entrepreneur behaviors are not yet in positions of prominence and their decisions have smaller implications than they would at a firm. The lack of a prominent position and the potential for smaller venture implications is not attractive outlet for narcissists.

In addition to main effects, I predicted that the interaction of entrepreneurial intentions and narcissism would predict both discovery behaviors and exploitation behaviors. I did not find support for these hypotheses. Entrepreneurial intentions in this interaction serve as a guide for the narcissistic behavior. One explanation for a lack of support for my hypotheses is that even as a guide towards entrepreneurship, individuals with narcissistic tendencies might have entrepreneurial intentions ( $r = .145^{**}$ ), but they are not moved enough by self-aggrandizing desires to engage in entrepreneurial behavior. Another explanation is that, at their core, individuals with narcissistic tendencies do not see these behaviors as avenues in which they can draw the attention of others. The idea of “making it big” is appealing, but there is a lot of tedious and difficult “in the shadows” work that is needed before one gets there, and narcissists might not be willing to do that first.

**Psychopathy.** Psychopathy manifest as a antisocial personality trait with exhibitions of callousness towards others, manipulation, impulsivity, thrill-seeking, and a general disregard for keeping the status quo. Similar to narcissism, psychopathy has been found to have positive and significant correlations with entrepreneurial intentions (Akhtar et al., 2013). Yet, there has been little systematic research on whether psychopathy actually influences entrepreneurial

behavior. In turn, research and popular press has conjectured that many entrepreneurs, successful ones at that, have psychopathic tendencies. Therein lies the rub. Scholarship finds that psychopathy is correlated with entrepreneurship (i.e., intentions), and there is anecdotal evidence that some celebrity entrepreneurs have psychopathic characteristics. In turn, entrepreneur scholars draw inferences about entrepreneurship from anecdotal evidence and conclude that psychopathy is a benefit in entrepreneurship because it appears to be associated with some successful entrepreneurs. Yet, we do not know if individuals with psychopathic tendencies engage in entrepreneurial behaviors.

I predicted in this study that psychopathy would have positive relationship with entrepreneurial behaviors. While I did not find support for a significant relationship between psychopathy and discovery behaviors, I did find support for a positive relationship between psychopathy and exploitation behaviors. Individuals with psychopathic tendencies are likely to engage in behaviors that produce a short-lived thrill. The thrill of entrepreneurship is probably best expressed through exploitation. Exploitation behaviors require action as do discovery behaviors, but exploitation behaviors are more directed towards a goal. Discovery behaviors are open-ended in that they may or may not lead to discovery of an opportunity. For an individual with psychopathic tendencies, there is less likely to be a thrill when attempting to discover an opportunity and, consequently, these individuals will avoid these behaviors. Future research might find different results for a few reasons. For example, by using a larger sample than the one in this study. Or, by employing different measures such as behaviors concerning venture crowdfunding or intrapreneurial intentions.

In contrast, exploitation behaviors are likely more of a fit for the individual with psychopathic tendencies. Exploitation behaviors imply that, by engaging in them, an individual

with move forward in whatever context the exploiting is performed. In the entrepreneurial context, exploitation refers to behaviors that signify entrepreneurial entry such as gathering resources and defining the market. My results suggest that these behaviors are more conducive to the personality of an individual with psychopathic tendencies.

In addition to the main effect, I examined how the interaction of entrepreneurial intentions and psychopathy influences entrepreneurial behaviors. I found support for my hypotheses that this interaction predicted both discovery behaviors and exploitation behaviors. As noted earlier, individuals with psychopathic tendencies have been noted to have high correlations with entrepreneurship. This may be a result of the risks and uncertainty associated with entrepreneurship because individuals with psychopathic tendencies are not deterred by risk and uncertainty. The interaction of entrepreneurial intentions and psychopathy is perhaps best explained by the idea entrepreneurial intentions serve as a guide for the erratic behavior of psychopathic individuals. Without entrepreneurial intentions, psychopathic individuals will engage in some behavior as decades of evidence suggest (Cleckley, 1950/2015).

Overall, this implies that entrepreneurship is a positive context for individuals who might otherwise have limited outlets for their undesirable personality characteristics and consequently undesirable behaviors. While these findings suggest that psychopathy might be a precursor to entrepreneurial activity and new venture formation, it remains to be seen whether psychopathy is a positive for firm performance.

**ADHD.** ADHD is a neurological disorder characterized by hyperactivity, an inability to focus on tasks and demands at hand, and impulsivity. Similar in nature to narcissism and psychopathy, organizational scholars have begun to ask whether there are bright sides to this otherwise undesirable condition. While the relationships between narcissism and psychopathy

and that of entrepreneurship are in infancy stages, the relationship between ADHD and entrepreneurship is also in nascent stages. There is growing interests in ADHD and entrepreneurship as research finds that, among university students, ADHD-like symptoms have a positive correlation with entrepreneurial intentions (Verheul et al., 2015). There is also anecdotal evidence that it is beneficial at some levels for well-known entrepreneurs (e.g., Richard Branson). However, there is still a lack of evidence as to whether ADHD influences entrepreneurial behavior.

I predicted that ADHD would have a positive relationship with both discovery behaviors and exploitation behaviors because of the impulsivity and hyperactivity associated with ADHD. Additionally, ADHD is known to be a factor in ideation and this is likely to influence discovery behaviors. The hyperactivity component of ADHD is likely to contribute to exploitation behaviors.

I found that ADHD did not have a significant relationship with discovery behaviors, but ADHD did predict exploitation behaviors. Individuals with ADHD-like symptoms might avoid discovery behaviors because these behaviors do not appear to maintain the necessary stimulation for individuals with ADHD-like symptoms. Discovery behaviors may appear as boring and mundane to these individuals. They are always scanning the environment for optimal arousal and possibility of discovering an entrepreneurial opportunity is simply not attractive enough. In contrast, exploitation offers an avenue for an individual with ADHD-like symptoms to experience a unique balance of stimulation and optimal arousal.

While ADHD did not predict discovery behaviors, the interaction of entrepreneurial intentions and ADHD did have a positive relationship with discovery behaviors. Again, entrepreneurial intentions serves to guide individuals with ADHD-like symptoms toward

behaviors of entrepreneurial interests. In this case, the behaviors are discovery behaviors. Where ADHD-like symptoms alone did not predict discovery behaviors, we can see that ADHD, in concert with entrepreneurial intentions, does influence discovery behaviors. Surprisingly, the interaction of entrepreneurial intentions and ADHD-like symptoms did not predict exploitation behaviors, although ADHD-like symptoms alone did predict exploitation behaviors. What this means is that these individuals likely give less thought and subsequent intent to their actions and rather act impulsively concerning entrepreneurial exploitation behaviors. Exploitation behaviors, as mentioned above, are likely attractive to individuals with these symptoms.

Overall, these findings reveal some interesting insights. First, they stress the importance of considering other relevant personality variables on entrepreneurship behaviors. Research on personality and entrepreneurship often fails to account for other individual difference variables when examining such associations (see Hisrich et al., 2007). On the other hand, the lack of expected associations indicate that some dark personality traits may not be relevant for some entrepreneurship outcomes.

### **Implications for Future Research**

**Entrepreneurial Intentions.** As already noted, entrepreneurial intentions are important for the study of entrepreneurship (Bird, 1988; Thompson, 2009) and are believed to offer guidance on what individuals will do once engaged in entrepreneurship (Bird, Schjoedt, & Baum, 2012). While I do not find support in my study concerning entrepreneurial intentions as an immediate antecedent of entrepreneurial behavior, there are still theoretical and practical implications.

The mixed results concerning entrepreneurial intentions as an antecedent to entrepreneurial behaviors is likely a result of the construct, *entrepreneurial intentions*. When individuals intend to engage in behaviors such as voting, taking a walk, taking a nap, or using a contraceptive, it is well-known what these behaviors entail. It is not subjective, nor ambiguous as to what these behaviors are. There may be certain steps involved in these behaviors, but by and large, these behaviors are well known. This is not so within entrepreneurship? When asking an individual if they intend to engage in entrepreneurship or be an entrepreneur, it is hard to decipher exactly what they intend to do? Do they intend to start a venture? Engage in intrapreneurship? Do they want to exploit opportunities brought to them or discover opportunities they believe not discovered yet? Or both?

Time should also be factored in when attempting to determine how long entrepreneurial behaviors should follow entrepreneurial intentions. Obviously, different industries and business sizes will dictate the speed at which individuals start ventures. However, often this temporal element is ignored and studies that examine the intention-behavior relationship often employ ad-hoc uses of different time periods to understand how entrepreneurial intentions lead to entrepreneurial behaviors.

Although there is a history of investigating intentions and behaviors in the entrepreneurial context (Bird, 1988; Gartner, Bird, & Starr, 1992; Kautonen et al., 2015; Krueger, Reilly, & Carsrud, 2000), it is perhaps not *the* best antecedent to examine entrepreneurial behaviors. As mentioned before, it is difficult, if not impossible to understand where intent fits in the iterative process of entrepreneurship. A perhaps more useful antecedent to examine entrepreneurial behaviors is the *entrepreneurial possible-self*. Possible selves are future states that are created, specific, and easily imagined (Markus & Nurius, 1986). A tenet of

possible-selves is that individuals work to reduce the discrepancy between their current self and their possible-self through behaviors. Applying this framework to understanding what influences entrepreneurial behaviors might offer a different, but more fruitful explanation for what causes individuals to act entrepreneurial.

### **Personality**

Future research might examine the interactive effect of dark personality traits and other factors such as human capital, or a supportive environment (e.g., availability of institutions that foster entrepreneurship, support from friends and family) on entrepreneurship and firm performance. The effect of dark personality traits on firm performance may vary depending on the industry where the firm operates, and the entrepreneurial team composition. For example, entrepreneurs with dark personality traits may perform better when integrated in entrepreneurial teams with a high complementarity in skills and functions. This may be due to the fact that other team members may compensate for the behavioral “deficiencies” associated with dark personality traits, while at the same time benefiting from their unusual “blessings.”

Another avenue for future research is the identification of other mediators in the relationship between dark personality traits and entrepreneurial behaviors. For example, taste for variety may drive individuals who exhibit dark personality behaviors to pursue an entrepreneurial career because they often search for varied sensory input to satisfy their chronic need for arousal and taste for variety (Åstebro & Thompson, 2011).

I refrained from using *Machiavellianism* as a personality trait in this study because of the high correlation existing between Machiavellianism and psychopathy. However, future research should examine Machiavellianism as a personality trait because of one, but significant difference. Machiavellians are strategic and calculating, unlike psychopaths who are impulsive

and thrill-seeking. Future research may find Machiavellians less likely to engage in entrepreneurial behaviors given that Machiavellians will most likely be more strategic before engaging in discovery or exploitation behaviors. Osborne (1991) theorized that entrepreneurs might employ Machiavellian tactics in order to consolidate power in their ventures.

Some of the practical implications concerning dark personality and entrepreneurship concern the relationship that venture capitalists have with entrepreneurs. For example, in a survey of 100 venture capitalists, MacMillan et al. (1985) examined the characteristics which, if lacking, would lead to the rejection of a potential investment project, the researchers found that five out of ten essential factors were directly associated with the entrepreneurs themselves. Taken together, the results of my study along with other studies that have examined the relationship between venture capitalists and entrepreneurs suggest that venture capitalists would need to understand the positives and negatives associated with dark personality traits. Given that personality is the strength of thought and attitude influencing action, venture capitalists can make better estimates of what entrepreneurs might do with funding and their funded ventures. This prediction can inform venture capitalists as to whether or not to fund ventures by individuals who exhibit certain personality characteristics. Put simply, studies that investigate how dark traits influence VC investment decisions is both theoretically and practically informative.

The policy implications of this study are most likely found in education because the three personality traits found in this study have an onset in childhood and likely continue throughout life. Educators at all levels may seek to engage students who exhibit some of the behaviors associated with narcissism, psychopathy, or ADHD with a chance to enter or engage in entrepreneurial behaviors. This is beneficial for several reasons. Individuals who express

behaviors associated with these traits are like to find an outlet where their undesirable behaviors are desirable in the entrepreneurial contexts. Additionally, appropriate expectations may be placed upon individuals who are considered to have these personality characteristics. A hallmark of the personalities in this study is that they are characterized by *behavior* and everyone, especially educators, should understand this.

Future research might also examine how dark personality traits interact with other personality traits to influence entrepreneurial intention-behavior relationships. For example, do individuals with psychopathic attributes and negative affect have different results than those who have positive affect (Baron, 2008). Another personality trait that might interact with dark personality traits is the possible-self. Possible-selves require individuals to think about their future-self in a specific manner. As individuals with psychopathic and ADHD-like symptoms are less likely to think far advance concerning their actions, understanding how their conception of their future self as related to entrepreneurship would provide interesting results, especially concerning their behaviors.

Finally, this study speaks to the importance of considering the importance of “negative” traits in entrepreneurship, calling for entrepreneurial career counseling to those individuals associated with narcissism, psychopathy, or ADHD-like symptoms. In addition, the differential influence of dimensions of impulsivity on entrepreneurship highlights the possibility of designing effective intervention strategies to make best use of the advantages and bypass the disadvantages associated with ADHD.

### **Limitations**

A limitation in my study is its reliance on self-reported data. Previous work investigating intention-behavior links show that there are stronger links in studies using self-

reported data (Webb & Sheeran, 2006). Intention measures will be self-reported by definition, but for behavior, we have to consider self-reported responses as proxies rather than as absolute measures of start-up related actions taken by the respondents, even if my formulation of the behavior measures followed established practices (Ajzen, 2011; Panel Study of Entrepreneurial Dynamics II, 2012). Future research applying the construct of entrepreneurial intention should endeavor to combine objective and subjective measures of behavior and cross-validate them.

Selection bias is also potential limitation in this study. At Time 1, 165 of the 565 respondents had previously started a business. I performed regression analyses with those who had not previously started a business ( $n = 184$ ) and those who had ( $n = 64$ ) in order to ascertain whether selection bias was an issue (Cumming & Dai, 2013). Results were not highly similar, and many conclusions were not identical, particularly for exploitation behaviors. It appears that selection bias is a potential issue in this study.

I am also aware of the relatively low reliability of the scale measuring the level of ADHD-like behavior measured by the Cronbach's  $\alpha$  (0.60), which may be attributed to the fact that the scale captures two different types of behaviors; i.e., inattention and hyperactivity (Hesse, 2011). Future research may yield interesting results when disentangling inattentive and hyperactive behaviors and examining their separate relations with entrepreneurship instead of using an average score capturing the full spectrum of ADHD-like behaviors (Verheul et al., 2015).

## **Conclusion**

The main purpose of this study was to investigate how entrepreneurial intentions and personality might influence entrepreneurial behavior. The specific question I attempted to answer in this study was three-fold – (1) *do entrepreneurial intentions correlate with*

*entrepreneurial behaviors?; (2) do dark personality traits correlate with entrepreneurial behaviors?; (3) does the interaction of entrepreneurial intentions and dark personality traits correlate with entrepreneurial behaviors?* Results suggest that when entrepreneurial intentions and some personality traits work together (e.g., psychopathy), entrepreneurial behaviors are likely to occur. Overall, this suggest that dark personality traits are a factor in entrepreneurship.

Recent discussions concerning dark personality traits and entrepreneurship has culminated in a mythical figure of the dark entrepreneur (DeNisi, 2015; Klotz & Neubaum, 2016; Miller, 2015, 2016). To some degree, the myth of the dark entrepreneur ensues. My study attempts to shed more light on this myth by examining dark personality and entrepreneur behaviors. The results of of my study support this myth, and, I sense that this myth will continue. Roughly 20 years ago, Shaver (1995) suggested that when we think of some entrepreneurs, “it is all too easy for us to believe that every entrepreneur must be just like them. We construct for ourselves what we think must be the ‘personality of the entrepreneur’” (p. 20).

Entrepreneurs are “rule-breakers” in the sense that they do not live by established tradition, but this does not mean breaking the law. Clearly, as a discipline, entrepreneurship stands to gain greater clarity and realism – if not wisdom – by considering non-traditional personality characteristics. This research could enrich the field by also restoring the entrepreneur as the central figure in our inquiry.

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## APPENDIX

This appendix consist of measures used in this study.

### Discovery Behaviors

1. I have engaged in a deliberate, systematic search for an idea for a new business.
2. I have been thinking about a business idea or a number of business ideas that can potentially grow into a real business.
3. I have discussed ideas for a new business with my friends and family.
4. I have talked about a new business with people that I have a business or working relationship with.
5. I have had discussions with people other than those mentioned above with regard to a new business.
6. I have taken some classes or seminars on how to start a new business.
7. I (alone or with others) have defined products or services for the business.
8. I (alone or with others) have tried to define the market opportunity for the business.
9. I have devoted significant time to this business idea.

### Exploitation Behaviors

1. I (alone or with others) have studied and mapped out the financials for the business.
2. I (alone or with others) have invested my (or our) own money in the venture.
3. I have asked financial institutions for funds for a new business idea.
4. I (alone or with others) have purchased, rented, or leased equipment for production.
5. I (alone or with others) have recruited one or more people to work with me (us) on the business idea(s).
6. I (alone or with others) have applied for a patent, copyright, or trademark related to the business.
7. I have made special arrangements (e.g., childcare, household help) to allow time for starting a business.

### Entrepreneurial Intentions

*Thinking of yourself, how interested are you, in the next 5-10 years, in:*

E11 – Starting a business?

E12 – Acquiring a small business?

E13 – Starting and building a high-growth business?

E14 – Acquiring and building a company into a high-growth business?

## **Narcissism**

*Please indicate how much each of the following statements is typical of you.*

1. I feel important when others rely on me.
2. I often fantasize about accomplishing things that are probably beyond my means.
3. I often fantasize about being rewarded for my efforts.
4. I like to have friends who rely on me because it makes me feel important.
5. I often fantasize about performing heroic deeds.
6. I often fantasize about being recognized for my accomplishment.

## **Psychopathy**

*Please respond to the following statements indicating the extent to which you agree or disagree.*

### Primary Psychopathy

1. Success is based on survival of the fittest; I am not concerned about the loser.
2. For me, what's right is whatever I can get away with.
3. In today's world, I feel justified in doing anything I can get away with to succeed.
4. My main purpose in life is getting as many goodies as I can.
5. Making a lot of money is my most important goal.
6. I let others worry about higher values; my main concern is with the bottom line.
7. People who are stupid enough to get ripped off usually deserve it.
8. Looking out for myself is my top priority.
9. I tell other people what they want to hear so that they will do what I want them to do.
10. I would be upset if my success came at someone else's expense.
11. I often admire a really clever scam.
12. I make a point of trying not to hurt others in pursuit of my goals.
13. I enjoy manipulating other people's feelings.
14. I feel bad if my words or actions cause someone else to feel emotional pain.
15. Even if I were trying very hard to sell something, I wouldn't lie about it.
16. Cheating is not justified because it is unfair to others.

### Secondary Psychopathy ( $\alpha = .63$ )

17. I find myself in the same kinds of trouble, time after time.
18. I am often bored.
19. I find that I am able to pursue one goal for a long time.
20. I don't plan anything very far in advance.
21. I quickly lose interest in tasks I start.
22. Most of my problems are due to the fact that other people just don't understand me.
23. Before I do anything, I carefully consider the possible consequences.
24. I have been in a lot of shouting matches with other people.
25. When I get frustrated, I often "let off steam" by blowing my top.
26. Love is overrated.

## **ADHD**

**Please read the following statement and then answer the following questions.**

**Considering the past 6 months –**

1. How often do you have trouble wrapping up the fine details of a project, once the challenging parts have been done?
2. How often do you have difficulty getting things done in order when you have to do a task that requires organization?
3. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?
4. How often do you have problems remembering appointments or obligations?
5. How often do you fidget or squirm with your hands or your feet when you have to sit down for a long time?
6. How often do you feel overly active and compelled to do things, like when you were driven by a motor?

May 18, 2016

Reginald Tucker  
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College of Commerce & Business Administration  
The University of Alabama  
Box 870225

Re: IRB # 15-OR-218-R1 "Causes of Entrepreneurship"

Dear Mr. Tucker:

The University of Alabama Institutional Review Board has granted approval for your renewal application. Your renewal application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

*(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.*

Your application will expire on May 17, 2017. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Study Closure Form.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

