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## Dueling Banjos: Harmony and Discord between ADHD and Entrepreneurship

**Published in:**

The Academy of Management Perspectives

**Publication status and date:**

Published: 01/01/2018

**DOI (link to publisher):**

[10.5465/amp.2016.0178](https://doi.org/10.5465/amp.2016.0178)

**Document Version**

Publisher's PDF, also known as Version of record

**Document License/Available under:**

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**Citation for the published version (APA):**

Lerner, DA., Hunt, RA., & Verheul, I. (2018). Dueling Banjos: Harmony and Discord between ADHD and Entrepreneurship. *The Academy of Management Perspectives*, 32(2), 266-286. <https://doi.org/10.5465/amp.2016.0178>

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# S Y M P O S I U M

## DUELING BANJOS: HARMONY AND DISCORD BETWEEN ADHD AND ENTREPRENEURSHIP

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The past half century has witnessed a steady and diverse flow of scholarly research to understand the role individual differences play in determining entrepreneurial pursuits and new venture outcomes. Recently, the search for micro-level drivers has led scholars to investigate the role of dispositions and conditions that have been traditionally pathologized, such as attention deficit/hyperactivity disorder (ADHD). The potential influence of ADHD looms large in the field of entrepreneurship as a spate of recent studies suggests a positive relationship with creativity, entrepreneurial orientation, and new venture initiation. While offering significant progress in destigmatizing aberrant conditions, extant scholarship has left unanswered questions regarding ADHD's influence on formation, development, and outcomes of new ventures. Accepting that ADHD should be neither stigmatized nor romanticized in the context of entrepreneurship, we develop a more holistic framework for ADHD, extending across the complete life cycle of business venturing.

*“Discovery consists of looking at the same thing as everyone else and thinking something different.”*

—Szent-Gyorgyi (1985)

*“To understand what it's like to have ADHD, imagine trying to solve complex math problems while someone throws firecrackers at your feet.”*

—Honos-Webb (2008)

Is attention deficit/hyperactivity disorder (ADHD) an asset or a liability in the pursuit of entrepreneurial opportunities? As is often the case when examining individual action in entrepreneurship, three conflicting

but nonetheless correct responses could legitimately answer the question: (a) Yes. (b) No. (c) It depends.

For example, some scholars, and much of the popular media, have cited facets of ADHD that appear to facilitate entrepreneurial activity: transformational creativity springing from the presence of impulsiveness, spontaneous bridging, high energy, and the need for stimulation (e.g., Healey & Rucklidge, 2005; Honos-Webb, 2008; White & Shah, 2011). Others, however, have noted vexing impediments caused by ADHD: randomness, distractibility, lack of focused commitment, and spurious actions (e.g., Fiore, Schooler, Linville, & Hasher, 2001; Metin et al., 2013; Thompson-Schill, Rams-car, & Chrysikou, 2009), which may undermine opportunity pursuit and lead to venture failure. While both the rosy and the dark perspectives on ADHD are relevant to an assessment of its impact on business venturing, neither is sufficiently rich

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We gratefully acknowledge the editor and anonymous reviewers for contributing to the improvement of this work. We also extend our thanks to organizers of the workshop held at Syracuse University.

to offer a fully veridical perspective of ADHD in entrepreneurship.

Instead, a more integrated perspective is needed, spanning the complete arc of business venturing. In this way, our perspective extends and enhances the emerging conversation on ADHD and entrepreneurship, while contributing greater understanding of the favorable and unfavorable forces exerted by aberrant conditions in the context of business venturing. This requires unpacking the complex relationship between ADHD and entrepreneurship: deeper investigation, greater elaboration, and more nuanced reconciliation of the varied perspectives comprising recent efforts to engage the topic. Our integrated venture life cycle model contributes greater clarity and sophistication while charting a constructive course for future inquiry.

### ADULT ADHD

ADHD is characterized by chronic hyperactivity, impulsivity, and inattentiveness (American Psychiatric Association [APA], 2013). As a clinical condition, ADHD is prevalent throughout the adult workforce, affecting millions of workers in the United States alone (de Graaf et al., 2008; Kessler et al., 2006). Over and above the population of clinically assessed ADHD adults, undiagnosed manifestations of ADHD core symptoms are also commonplace, with the majority of adults presenting one or more of the symptoms to varying degrees (e.g., Verheul et al., 2015, 2016; Wiklund et al., 2017). Regardless of whether ADHD presents as a clinically diagnosed disorder or a behavioral disposition based on symptoms, it is widespread and impactful, constituting a critical subject for scholarly discussion and education (Antshel, 2018).

ADHD has both individual and social implications because the condition affects an individual's behavior and is known to have material workplace consequences (e.g., Halbesleben, Wheeler, & Shanine, 2013; Kessler et al., 2009). According to existing literature, adult ADHD is often enduring, with most affected individuals continuing to be somewhat or fully symptomatic over years or decades (e.g., Karam et al., 2015). Due to the wide breadth and lasting nature of symptomatic behavior, ADHD can remain a lifelong concern (e.g., Adler et al., 2017; Barkley, Murphy, & Fischer, 2008; Karam et al., 2015; Kessler et al., 2010). Moreover, the condition is impactful, as evidenced by its association with impulse control pathologies, higher rates of substance abuse and divorce, and difficulties engaging in sustained, goal-directed behavior

(e.g., Barkley et al., 2008; Kessler et al., 2006). The broad and persistent impact of ADHD symptoms make it an inescapable workplace concern and, as such, a management challenge (e.g., Kessler et al., 2009).<sup>1</sup>

ADHD is among the few prominent mental health conditions that have generated interest among management and entrepreneurship scholars (e.g., Bozionelos & Bozionelos, 2013; Verheul et al., 2015, 2016; Wiklund, Patzelt, & Dimov, 2016). Characterized by disinhibition, ADHD influences an individual's ability to direct and control attention and behavior (Barkley, 1997; Nigg, 2000), often resulting in quick stimulus-driven action and pursuits (versus orchestrated goal-directed behavior). In this sense, ADHD has the unusual capacity to both resolve and exacerbate the obstacles to entrepreneurship (Archer, 2014; Lerner, 2016; Lerner, Hunt, & Dimov, 2018a; Wiklund et al., 2016). Because entrepreneurship involves decision making and action in the context of a priori irreducible uncertainty (Knight, 1921; McGrath, 1997), inhibition or disinhibition toward those obstacles is a central consideration of the entrepreneur–opportunity nexus (Lerner et al., 2018c; McMullen & Shepherd, 2006), one that suggests an intriguing relevance of ADHD's role in the pursuit of entrepreneurial opportunities and the determination of entrepreneurial outcomes. For entrepreneurship scholars specifically, and management scholars more generally, ADHD poses questions and challenges, regardless of whether a given instance of ADHD symptoms is sufficient for clinical diagnosis. Accordingly, when referring to ADHD herein, we are not speaking exclusively to the clinical condition but rather to a continuum of symptomatic behavior—inclusive of low, moderate, and clinical levels as would typically be observed in the workforce.<sup>2</sup>

<sup>1</sup> Antshel (2018) provides further elaboration of ADHD diagnosis, comorbidities, and clinical literature review.

<sup>2</sup> ADHD can be parsed into inattentive and hyperactive/impulsive symptoms. The former relates to the regulation of attention and cognitive disinhibition (e.g., reduced attention to an externally obliged task), while the latter relates to the regulation of overt external behavior. Both are relevant theoretically to entrepreneurial opportunity perception and behavior. For example, the attentional component of ADHD may support ideation and opportunity perception, *and* may compound the proclivity to act without attention to threats, opportunity costs, coherence, or appropriateness. Given the potential interplay of attentional and behavioral components at various stages, we neither presume decomposability nor increase the dimensionality of the overall framework we present later by imposing a separation based on symptom subtypes.

There are, however, formidable obstacles to the development of an integrated perspective on ADHD's implications for venturing outcomes. Given the extended time frame and diverse activities constituting the entrepreneurial process (McMullen & Dimov, 2013; Reynolds & Miller, 1992), a credible in situ analysis necessitates longitudinal and ethnographic studies, potentially extending a decade or more. The precursor to this ambitious empirical agenda is the development of an integrated framework for the scholarly consideration of ADHD in the context of business venturing. The articulation of such a framework is the central purpose of this study. While presenting the implications and opportunities for related future research, we contribute fresh perspectives that simultaneously destigmatize (Verheul et al., 2016; Wiklund et al., 2016) and deromanticize (Lerner, 2016) conventional notions about whether ADHD functions as an entrepreneurial asset or a liability. Through these insights, we help to make sense of aberrant conditions, which have come to occupy such a prominent role as both an asset and a liability in entrepreneurship and the workplace.

#### ADHD AND ENTREPRENEURSHIP: COMPLEMENTS AND CONFLICTS

One of the greatest challenges in formulating a robust framework for the examination of ADHD's potential influence on business venturing stems from the difficulty in simultaneously accounting for the rich and varied natures of business venturing and of ADHD. Recently, entrepreneurship scholars have made credible efforts linking ADHD and entrepreneurship (e.g., Lerner, Verheul, & Thurik, 2018b; Verheul et al., 2015, 2016; Wiklund et al., 2016). While this research stream has made important inroads toward unpacking promising facets of ADHD's relevance to business venturing, the work to date is still considered early stage (Antshel, 2018). Although recent research may be theoretically sound and empirically rigorous, the emerging body of knowledge is of unknown and potentially questionable veridicality to business venturing overall. This is an impediment to developing a clear understanding of the ways ADHD may actually influence selected facets of the business venturing process.

#### Popular Media and Scientific Skepticism

Popular media accounts of the relationship between ADHD and entrepreneurship are plentiful and

mostly positive (e.g., Archer, 2014; Hartmann, 1997; Tice, 2010). The favorable orientation is consistent with popularized conceptions of celebrity entrepreneurs, a media slant that has tended to mythologize the "Midas touch" of colorful, creative figures such as Richard Branson, Bill Gates, Larry Ellison, and others who also happen to have well-publicized cases of ADHD. To no small degree, the high-profile nature of these and other celebrity stories has sparked much of the recent interest in exploring whether or not ADHD might be the "secret sauce" of entrepreneurial success (e.g., Branson, 2002; *Economist*, 2012; Orfalea & Marsh, 2005; Wynbrandt, 2004). Lost in this excitement, however, is the need to maintain scholarly rigor and practical veridicality—a point reinforced by recent work indicating that failures are also common to ADHD entrepreneurs (Wiklund et al., 2016). With hundreds of millions of ADHD individuals worldwide, simple chance dictates that some number of exceptional cases would inevitably arise. Furthermore, to the extent that individuals with ADHD are more likely to struggle with conventional employment than the general population (e.g., Barkley et al., 2008), the condition may be overrepresented in the pool of entrepreneurs out of necessity,<sup>3</sup> increasing the likelihood of observing some number of success stories based on chance alone.

The focus in the popular press on celebrity entrepreneurs with ADHD ignores a number of critical dimensions. For example, it neglects the role of social context in successful opportunity development (Dimov, 2007), including the need to seek out, internalize, shape, and act in line with the perspectives of stakeholders. Existing research suggests that both stakeholder awareness and actions intended to service stakeholder needs are likely to be particularly challenging for entrepreneurs with ADHD (Barkley et al., 2008; Lerner, 2016). Thus, ADHD's relationship to the basic building blocks of founding and operating a new venture is more complicated than the mythologized vignettes have allowed. The behavior and processes needed for the day-to-day execution of a viable business model are complex, multifaceted, often unglamorous, and sometimes utterly mundane (Ronstadt, 1988). Nonetheless, they are central to a venture's ability to monetize and

<sup>3</sup> For further discussion of vocational selection and the possibility of necessity entrepreneurship, see for example Verheul and colleagues (2015, 2016). We thank an anonymous reviewer for highlighting necessity entrepreneurship.

exploit opportunities (Gnyawali & Fogel, 1994; Hunt & Kiefer, 2017), as well as the (in)ability to harness and manage the effects of an entrepreneur–founder with ADHD.

### Scholarly Impetus: Overcoming Uncertainty and Inertia

At the earliest stages of business venturing, entrepreneurship intimately engages opportunity perception and entrepreneurial action, the latter referring to the initiation of entrepreneurial behavior in spite of a priori irreducible uncertainty (McMullen & Shepherd, 2006; van Gelderen, Frese, & Thurik, 2001; van Gelderen, Kautonen, Wincent, & Biniari, 2017). Uncertainty presents serious obstacles to action for most individuals (e.g., Kautonen, van Gelderen, & Fink, 2015). However, for individuals with ADHD, recent findings suggest that the uncertainties surrounding entrepreneurship may not be a concern—and, in fact, may even be attractive (e.g., Lerner et al., 2018b; Verheul et al., 2015, 2016; Wiklund et al., 2016). For example, Lerner and colleagues (2018b) found that young adults diagnosed with ADHD were significantly more likely to espouse entrepreneurial intentions and almost two times more likely to engage in entrepreneurial action than those without ADHD. Wiklund and colleagues (2016) noted ADHD entrepreneurs' strong desire for the stimulation associated with the uncertainty of entrepreneurial pursuits. In this respect, ADHD seems to substantially neutralize obstacles that might otherwise forestall entrepreneurial action.

The proposed trade-off between disinhibition and obstacle neutralization forms the basis of a broadening effort to explore the positive association between ADHD and entrepreneurial action, a line of inquiry that, to date, has generally supported the hypothesized association (e.g., Lerner et al., 2018b; Verheul et al., 2015, 2016; Wiklund et al., 2016). However, the emerging research in this area has yet to consider the extent to which some stages of the entrepreneurial process exhibit greater complementarity with ADHD than others. Nascent-stage processes involving opportunity identification and an initial call to action may be well suited to the proclivities of individuals with ADHD, whose pre-potent tendencies are likely to be an asset when a potential opportunity is ambiguous and unclear. In these instances, the benefits of vigorous, disinhibited engagement with potential opportunity stimuli may prove decisive in determining whether or not an opportunity even exists

(Lerner et al., 2018a). Conversely, later-stage, execution-oriented activities may be a function of resource orchestration (Sirmon, Hitt, Ireland, & Gilbert, 2011) that demands planning, attention to detail, considered and consistent messaging to stakeholders, efficient operations, and continual improvement—activities for which ADHD poses numerous challenges. Relatively unfettered ideation and action may correspond to a greater quantity and diversity of opportunities that are identified and pursued, yet expedience may carry a corresponding price tag in organizational and operational quality, especially when considering long-term, market-based measures of success or failure.

In this regard, the trade-offs of ADHD could be likened to the role of promotion and prevention regulatory foci in entrepreneurship (Brockner, Higgins, & Low, 2004). Promotion focus is associated with opportunity seeking, while prevention focus is associated with screening and loss avoidance. Recent studies have found that promotion focus tends to be positively associated with opportunity recognition (Tumasjan & Braun, 2012), small and medium-sized enterprise (SME) opportunity exploration and exploitation (Kammerlander, Burger, Fust, & Fueglistaller, 2015), and SME firm performance in dynamic environments (Hmieleski & Baron, 2008). Conversely, these studies found that prevention focus is not linked to opportunity recognition (Tumasjan & Braun, 2012) and that it exerts a limiting influence on both SME opportunity exploration (Kammerlander et al., 2015) and SME firm performance in dynamic environments (Hmieleski & Baron, 2008).

As the foregoing suggests, the notion of an individual-level factor (e.g., ADHD) exerting potentially favorable and unfavorable influences on entrepreneurship appears to be consistent with other research streams examining varied entrepreneurial activities or contexts. However, while the influence of regulatory focus has parallels to that of ADHD, there are important points of divergence. For example, both promotion focus and prevention focus involve higher-order reasoned cognition, engaging reflective, prospective, and meta-cognitive processes. Collectively, these processes involve an individual making reasoned judgments to act toward realizing one's *ideal* or *ought* self. Additionally, promotion and prevention are conceptually independent and, therefore, do not mutually exclude one another. In fact, it is not uncommon for the two to be positively correlated, rendering an individual high in both foci (e.g., Tumasjan & Braun, 2012).

ADHD, on the other hand, is characterized by the relative absence of focused attention and self-regulation (Barkley, 1997). Impulsivity, hyperactivity, and inattention—rather than considerations of ideal-self or higher-order goals—give rise to opportunity seeking that otherwise might appear (or be rationalized) as action consistent with a promotion focus (Lerner et al., 2018a). The greater the level of ADHD, the less reasoned and less regulated individual behavior is (Barkley, 1997). Even if an individual experiences ADHD symptoms below the threshold required for clinical diagnosis, the hyperactivity, impulsivity, and inattention are no less real. Thus, irrespective of whether an individual's condition meets clinical criteria, ADHD simultaneously involves both positive and negative elements. This differs from promotion focus, which is by its very nature positive, while the inability to adequately avoid errors is attributable to a failure in prevention focus. The central argument of this analysis, and the cornerstone of our proposed framework, is that in the context of entrepreneurial opportunity pursuit, the influence that ADHD exerts functions as both an asset and a liability.

#### ADHD AND ENTREPRENEURSHIP: A DUALISTIC FRAMEWORK

Bearing these important definitions and distinctions in mind, we return to our central question: Does ADHD help or hinder entrepreneurial actions and outcomes? Given the dualistic nature of ADHD in relation to entrepreneurship—one involving significant assets and liabilities, and one simultaneously exerting complements and confounds—the question itself is apt to defy a satisfactory overall answer. Instead, the most veridical response to the question is simply “It depends.” Moreover, the assets and liabilities of ADHD are wound around one another in a complex fashion because they are ultimately one and the same. Just as the attempt to slice a coin to parse heads from tails renders the coin incomplete, it is not possible to entirely separate the benefits of ADHD—such as rapid, creative, unfettered action—from the liabilities that emanate from such action. Breakthrough innovations may be minimally viable but also deeply flawed. Unique business models and organizational forms may revolutionize customer benefits but cause fatal issues with key stakeholders (Lerner et al., 2018b). Depending on the decision-making context, the ingeniousness of acting very creatively, very frequently, and very fast may prove to be decisively favorable or crippling unfavorable

(e.g., Lerner, Crawford, Bort, & Wiklund, 2017). In some sense, that which helps advance opportunity development and that which hinders it are simply two sides of the same coin. Borrowing from Taoist philosophy, the complementary, dualistic nature of the ADHD–entrepreneurship relationship can be usefully framed by the two opposing sides of the Tao.

The dark and light halves of the Tao, *yin* and *yang* respectively, convey feminine–masculine energies that both create and characterize the manifest world (Liu, 1998; Yip, 2004). In a fashion that is highly reminiscent of ADHD's mixed influences, the Tao embraces the notion that there is no front side of a coin that does not have a back side. Flipping the coin does not change the fact that the coin has a head side and a tail side. Ideally, a person's *yin* essence (i.e., relaxed, restful, contemplative, being, receiving, nurturing, integrating) and *yang* essence (i.e., active, energetic, doing, engaging, penetrating, separating, grasping) are in balance to varying degrees, depending on contextual and personal conditions, but neither side ever disappears.

Consideration of the Tao as a sociologically relevant metaphor for aspects of Western society has deep roots (Weber, 1951), signaling an ongoing fascination that has accelerated in the modern era (e.g., Allinson, 2011; Kirby & Fan, 1995). Inspired by the constructive use of the Tao by Max Weber and others, our justification for likening ADHD's entrepreneurial influence to the Tao stems from the recognition that the Tao's interlocking contraries are the quintessence of paradox (Welch, 1966). Good comes with bad. Strength comes with weakness. For ADHD in the context of entrepreneurial pursuit, these contraries are potent realities that deserve scrutiny. In the interest of fostering purposeful discussion, the Tao is a useful visual and metaphorical tool to ensure comprehensiveness and intelligibility.

With ADHD positively linked to *yang* (white in Figures 1 and 2) and negatively to *yin* (gray in Figures 1 and 2), the nature of ADHD and the complementary dualities of the Tao can be considered in a contextually dynamic fashion. Each step of the entrepreneurial life cycle can be considered as a distinctive person–environment context against which fit must be evaluated (Figure 2). As an opportunity evolves into a business organization and eventually an active market participant, key considerations related to the entrepreneurial environment during the opportunity initiation phase bear little resemblance to the considerations that are pertinent during phases emphasizing opportunity development and operational excellence. To give greater shape to our perspective,

**FIGURE 1**  
**The Dualistic Nature of ADHD**



we illustrate how two sides of the same coin can exist and play out across separate activities and stages of the entrepreneurial life cycle. In particular, we give form to the *yang* (positive) and *yin* (negative) of ADHD across the entire venturing life cycle.

### Decomposing the Entrepreneurial Life Cycle

Entrepreneurship involves various types of action. In early stages, many of the activities are more creative and exploratory in nature, while later stages are more structured, predictable, and execution-driven. It is rare to find all the requisite skills and insights embodied in a single founder for the entire arc of the entrepreneurial life cycle. This truism at least partially explains the scholarly focus on founding teams (e.g., Jung, Vissa, & Pich, 2017; Klotz, Hmieleski, Bradley, & Busenitz, 2014). It also explains the venture community's focus on the founder problem, the phenomenon in which venture creators are often replaced by business leaders who excel at execution and scaling as new ventures begin to grow and mature (Wasserman, 2008). It is interesting to consider whether the focus on founding teams and the urgency of founder problems are exacerbated or even driven to a substantial degree by ADHD-type individuals.

Stevenson and Gumpert (1985) suggested that entrepreneurship involves a range of behaviors of which the foundational archetypes are entrepreneurial (or promoter) behavior and administrative (or trustee) behavior. Both types of behavior are required at various

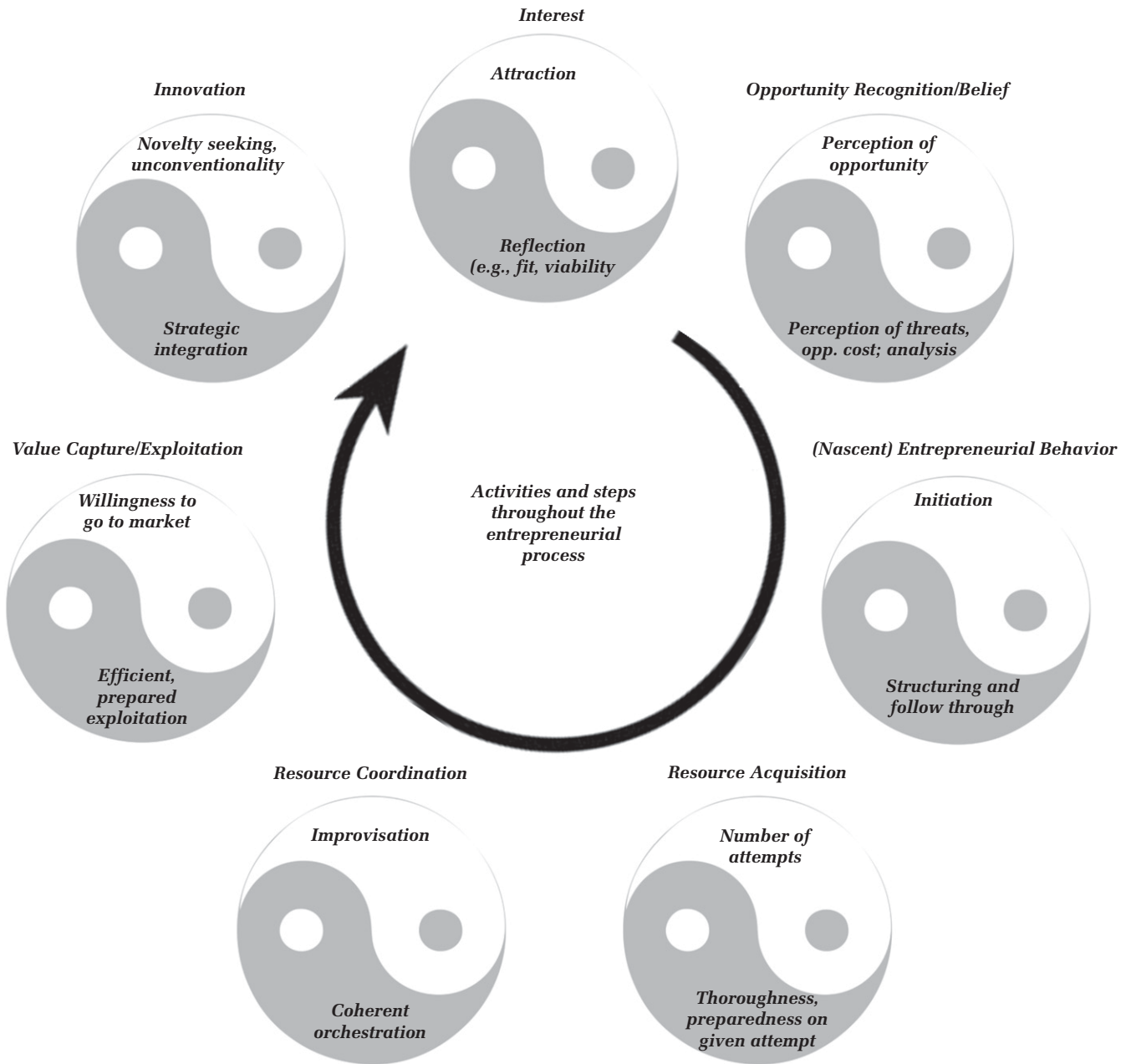
stages of the venturing life cycle, regardless of whether the opportunity is made manifest through creation (Baker & Nelson, 2005; Gartner, 1985), discovery (Kirzner, 1979; Shane & Venkataraman, 2000), effectuation (Sarasvathy, 2001), imagination (Klein, 2008), or intersubjectivity (Alvarez, Barney, & Anderson, 2012). Regardless of whether one adopts a realist, constructionist, or evolutionary realist perspective (Alvarez & Barney, 2010), the common thread running through each of these perspectives is the basic premise that opportunity development requires entrepreneurial action (Baron, 2007; Hunt & Kiefer, 2017; Lerner et al., 2018a; McMullen & Shepherd, 2006) channeled toward the engagement of three distinct processes: opportunity *identification* (by whatever means: discovery, creation, imagination, etc.), opportunity *evaluation*, and opportunity *exploitation*.

At the beginning, the emphasis is on exploratory and generative actions, such as taking steps to try to identify, define, evaluate, or develop an opportunity (Ardichvili, Cardozo, & Ray, 2003)—whereas exploitation involves the structuring steps necessary to monetize an opportunity, which requires both the willingness and ability to acquire and operationalize the requisite resources (Gnyawali & Fogel, 1994). Definitionally, promoter behaviors precede trustee behaviors—even in opportunity development through effectuation (Sarasvathy, 2001)—because the activation of resources requires an organization of some sort. For example, there is no basis to obtain formal licensing, establish bookkeeping, or enter third-party agreements prior to the identification of a potential opportunity. Before trustee-focused *structuring* behaviors are relevant, an entrepreneur necessarily engages in promoter-focused *initiating* behaviors.

While no phase of the entrepreneurial life cycle is ever entirely devoid of either trustee-structuring or promoter-initiating behaviors—the identification, evaluation, and exploitation of opportunities involve different mixes of these behaviors, depending on the specific requirements at any time. Thus, the required mix of structuring and initiating behaviors should be taken into account when seeking to understand ADHD's influence on entrepreneurial outcomes.

In the end, ADHD symptoms present both opportunities and challenges for entrepreneurs and their various stakeholders. For example, a qualitative study of ADHD entrepreneurs by Wiklund and colleagues (2016) observed that ADHD entrepreneurs have a considerable interest in potential

**FIGURE 2**  
Dualism Across the Entrepreneurial Life Cycle



Note: Extending Figure 1, ADHD disinhibition is positively associated with the yang (white), negatively with the yin (gray).

opportunities, often exhibiting the willingness and capacity to jump right in without hesitation. The flip side of the coin, however, involved significant problems developing and maintaining adequate structure and organization. Lerner and colleagues (2018a, p. 61) illustrated this same dynamic in their

case of a “hyperactive” entrepreneur. In still another study, Lerner (2016) suggested that ADHD’s hyperactivity, impulsivity, and attentional variability fit better with “generative” qualities of entrepreneurs—in essence, those needed for *initiating* behaviors—whereas the same characteristics



tend to collide with “administrative” qualities, those needed for *structuring* behaviors.

While each of the studies generated insights regarding the ways in which the early processes of generation and initiation engage ADHD very differently from the later processes of structuring and administering, there are two important gaps in this emerging literature. First, the extant studies do not offer frameworks that address the entire arc of the entrepreneurial life cycle. Instead, they conceptualize the broad duality of early stage and late stage. Second, they do not scrutinize the dualities as they exist *within* each distinct activity and stage of entrepreneurship. In the following section, we demonstrate how our approach allows for the observation, description, and prediction of ADHD’s paradoxical influence on outcomes at each stage of the entrepreneurial life cycle.<sup>4</sup>

### Interest and Opportunity Identification

The association between initiating behaviors and ADHD preferences and proclivities suggests that nascent-stage entrepreneurial activities involve processes that cast ADHD as an asset rather than a liability. Specifically, the first three steps—interest, opportunity identification, and initiation of nascent entrepreneurial behavior—would seem to be areas in which individuals with ADHD gain the greatest value from the promoter-generative facets of hyperactivity, impulsivity, and attentional variability. In these instances, the positive factors are well suited to the entrepreneurial demands associated with these stages, which are characterized by extensive decision making under conditions of exogenous a priori irreducible uncertainty (McGrath, 1997). In the earliest stage of business venturing, individuals with entrepreneurial interest use imagination (Klein, 2008), creative vision (Baker & Nelson, 2005), experience (Sarasvathy, 2001), and prior knowledge (Eckhardt & Shane, 2003) to perceive opportunities. Entrepreneurial interest is an enabler and a precursor to that which follows. Absent active interest, individual attention and motivation are typically devoted elsewhere. Even if somehow confronted with an opportunity, the uninterested individual is not apt to share and test ideas within and across personal and professional networks (Hoang &

Antoncic, 2003) or form first-person opportunity beliefs (McMullen & Shepherd, 2006).

At this stage, individuals need to perceive value-added bridges between a current state and a future state, usually involving the effort to offer a value proposition to willing parties. This requires inspired perceptions and unfettered, associative thinking to see novel connections and new means–ends frameworks (Gavetti, 2012; Shane, 2003). Often, the novelty emerges from unconventional thinking, extraneous details, “outside the box” hybrids, shrewd perceptions, and dynamic linkages (Baron & Tang, 2011; Ward, 2004). This perspective is supported by the observation that creativity is an important precursor of opportunity discovery or creation (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Ardichvili et al., 2003; Mumford & Gustafson, 1988). Moreover, there are demonstrable linkages between these types of creative, generative activities and the presence of ADHD (White & Shah, 2006, 2011; Wiklund et al., 2016) and related disinhibition (Carson, Peterson, & Higgins, 2003).

An emerging body of empirical work has found that self-stated entrepreneurial intentions are positively associated with ADHD (Lerner et al., 2018b; Verheul et al., 2015). Likely underlying such intentions is an attraction to the very idea of entrepreneurship, often as an outlet for creative, novel, and potentially scintillating action. Simply thinking about entrepreneurship offers stimulation when bored or unengaged. This suggests that not only do individuals with ADHD think about entrepreneurship more often than do individuals without ADHD, but also that they are likely to have greater intrinsic interest in entrepreneurial ideas.

Moreover, given the positive linkages between ADHD, disinhibition, and creativity (Healey & Rucklidge, 2005; Honos-Webb, 2008; White & Shah, 2006, 2011), it may be that individuals with ADHD generate entrepreneurial ideas that are more sensational and more innovative than those developed by individuals without ADHD. Novel, unfettered ideas, paired with a stronger impetus to act quickly and boldly, seem to be hallmarks of early-stage venturing by individuals with ADHD. These attributes could be notable advantages when confronted by dynamic, fast-changing environmental conditions (Eisenhardt, 1989). However, a potential offset to these benefits involves the possibility that exuberant ideation and unfettered pursuit accords insufficient attention to fundamental considerations of viability, such as the presence of demonstrable market demand (Hunt, 2018), the existence of competition from adequate substitutes, and other relevant, foreseeable obstacles such as legality and regulation.

<sup>4</sup> We remind the reader that our discussion of ADHD refers to a continuum of symptomatic behavior, inclusive of low, moderate, and clinical levels, as would typically be observed in the workforce.

McMullen and Shepherd (2006) discussed the transformational process that occurs when an entrepreneur shifts from considering an opportunity in the third person (meaning that some action constitutes a potential opportunity to someone) to considering it in the first person (meaning that the entrepreneur considers the opportunity to be an explicit, personal call to action). This distinction may be less applicable to individuals with ADHD because the immediacy of an active and creative visioning process ignites high interest and forceful intentionality (e.g., Wiklund et al., 2017), resulting in more frequent and rapid conversion of ideas into broad convictions that an entrepreneurial opportunity exists or can be created (Lerner et al., 2018a). Obstacles that may inhibit or even prevent individuals without ADHD from taking ideas a step further—perceptions of restricted agency, recognition of social blocks, and practical consideration of verifiable resource impediments—may not apply to individuals with ADHD. This can result in a greater quantity and diversity of perceived entrepreneurial opportunities in the early stage of the entrepreneurial life cycle. However, the relative lack of reflection associated with ADHD may result in individuals focusing on the excitement and appeal of the innovative idea while ignoring, rationalizing, or dismissing opportunity costs and personal financial risks.

### Nascent-Stage Entrepreneurial Behavior

The influence of these venturing proclivities extends beyond individual interest and opportunity identification to the earliest steps toward organization formation. Prior research has established a weak, though positive, link between entrepreneurial intentions and action (van Gelderen et al., 2015)—as well as a positive link between ADHD, entrepreneurial intentions (Lerner et al., 2018b; Verheul et al., 2015), and entrepreneurial action (Lerner et al., 2018b; Verheul et al., 2016).

Taking account of the action orientation that is characteristic of stimulus-driven venturing (Lerner et al., 2018a), individuals with ADHD can be expected to act upon perceived entrepreneurial opportunities more quickly and with greater frequency than individuals without ADHD. In such cases, they may benefit from an uninhibited ability and willingness to leverage promoter–initiator proclivities by evangelizing the entrepreneurial opportunity. Judged through this lens, individuals with ADHD may be more effective in communicating a bold, novel, nascent-stage entrepreneurial vision than

individuals without ADHD, *ceteris paribus*. For example, Lerner (2016) found that entrepreneurs manifesting ADHD were perceived by potential resource providers to possess greater generative qualities. Such entrepreneurs were seen to be more creative and visionary and to be superior at both idea generation and opportunity recognition than similar entrepreneurs without ADHD (Lerner, 2016). Additionally, the general preference for action by individuals with ADHD, combined with both a lack of inhibition in trying to engage others and less reasoning about selecting the *right* others, is apt to translate into a greater number of nascent-stage attempts to engage others.

Once again, however, the presence of ADHD is a double-edged sword. Next to the advantages of swiftly initiating action are the imperatives of instituting analytical rigor and completing key tasks (Ardichvili et al., 2003), a tension that is made all the more challenging by virtue of the added uncertainty that accompanies novel ideas. To the extent that the entrepreneurial pursuits initiated by individuals with ADHD often tilt relatively more toward innovation than imitation, self-corrective action is necessary to navigate these added sources of uncertainty. Given the combination of a higher overall failure rate for more innovative pursuits (Hunt & Kiefer, 2017) and a relatively low self-reflective consideration among ADHD individuals (e.g., Barkley, 1997; Barkley et al., 2008), there exists a significant risk that entrepreneurs with ADHD will engage in misdirected new venture pursuits. While individuals with ADHD may initiate more numerous and more innovative pursuits, it may also be the case that ADHD founders experience higher rates of disbanding and failure.

### Resource Acquisition

Despite a likely edge in initiating early-stage recruiting efforts, the extent to which ADHD can be considered an advantage in successfully acquiring resources is very much an open question. The answer is likely to be conditional on the specific nature of the resources and the timing of their acquisition. For instance, as suggested above, recruiting joiners and supporters to a nascent venture involves actively evangelizing the vision to potential supporters. The acquisition of other resources (e.g., external financing, professional office space, an organized staff, and formal processes and systems) requires prior organizing activities (e.g., formal firm registration and financial accounts), and typically necessitates at least some planning or due diligence (Ardichvili

et al., 2003). These later-stage activities require more of a trustee–administrative orientation, rather than the promoter–initiator focus that dominates early-stage evangelism. Hence, *initiation* behavior at the resource acquisition stage extends into what could be considered *structuring* behavior.

Regardless of how or why an opportunity is identified and developed, entrepreneurship ultimately becomes a social activity (Aldrich & Ruef, 2006). Resource acquisition and the later stages of business venturing involve extensive interpersonal coordination, stakeholder communication, joint production, and market-based transactions (Hunt & Hayward, 2018), each of which requires well-developed, context-appropriate social skills on the part of the entrepreneur (Baron & Markman, 2003). While social coordination is important to all entrepreneurs, it is more acutely a concern for entrepreneurs with ADHD (especially those with clinical ADHD)—by virtue of having a disposition characterized by certain impairments, including in recognizing and executing social structuring behaviors (e.g., Wiklund et al., 2016).

Although initiating behaviors are relevant across the entrepreneurial life cycle, the transition from initiating activities to structuring or opportunity development activities (involving business implementation and commercialization) requires behaviors focused on execution risk rather than initiation risk (Gnyawali & Fogel, 1994). Many of these activities place a higher premium on replication, predictability, and sustainable excellence. It would be a misconception though to suggest that ADHD renders founders utterly incapable of being effective administrators. As noted earlier, the elements of *yin* and *yang* are not absolutes, but rather interlocking complements whose potency lies along a context-dependent, personality-dependent, and, in the case of ADHD founders, condition-dependent spectrum. Nonetheless, ADHD classically involves symptoms that can be a notable liability when the business requires effective administration and operations hinging on day-to-day concerns and execution risks.

Related to this, Lerner (2016) found a negative relationship between ADHD and beliefs about an entrepreneur's administrative qualities relevant to structuring behavior. In a randomized experiment, ADHD behavior by aspiring entrepreneurs increased the wariness of others regarding the entrepreneurs' administrative qualities, including key factors such as consistency, reliability, clarity in defining next steps, and implementation acumen. In line with this, people with ADHD tend to lose interest once the

more stimulating initial work is done (e.g., APA, 2013; Barkley, 1997), at which point entrepreneurs with ADHD are at particular risk of losing focus.

Although extant entrepreneurship studies have identified the importance of ADHD's potential influence, they are narrower in what they consider. Providing a good start, they are ultimately undernourished in their theorizing and empirical designs. Both the entrepreneurial circumstances and the potential responses of ADHD entrepreneurs are considerably more complex than what has been either hypothesized or tested to date. Placed in circumstances that necessitate convergent structuring behavior, individuals with ADHD may find themselves unable to inhibit continued exploration, even when doing so comes at the expense of much-needed trustee-based opportunity exploitation. Basic mission-critical business activities such as ordering and managing raw materials, providing customer support, dealing with regulations, invoicing, paying bills, maintaining an organized work space, and keeping complete financial records are often considered mundane—if not altogether odious—by individuals with ADHD, making them even more vulnerable to distraction and more prone to procrastination and activity avoidance. It is well established that ADHD symptoms typically become more severe in situations that lack intrinsic appeal or novelty (APA, 2013).

Thus, ADHD undermines an individual's capacity to mitigate the execution risks that characterize the stages wherein new ventures transition to a more structured set of entrepreneurial activities, ones that place a premium on consistent follow-through and effective administration. The relative prominence and importance of such activities grows increasingly across the arc of business venturing, from resource acquisition to resource coordination to value capture (Figure 2). These later steps are essential to the long-term vitality and survival of an organization and involve a diverse array of managerial leadership challenges, including customer care, constant innovation, and attentiveness to employees' needs (Darling, Keeffe, & Ross, 2007; Hunt, 2013; Hunt & Hayward, 2018).

Depending on the nature of the desired resource and the degree to which it is principally associated with initiating or structuring activities, resource acquisition has elements of *yang* and *yin*. The acquisition of financial resources is often a pivotal milestone. On one hand, ADHD can help. In the face of convention, uncertainty, and naysayers, ADHD may be an asset in looking past barriers, projecting

confidence, and persisting in making resource acquisition attempts—all of which are instrumental to garnering external investment (e.g., Mullins, 2013). On the other hand, ADHD may hinder resourcing efforts when successful resource acquisition requires preparedness, intimate command of details, in-depth assessments, and conformity (Chen, Yao, & Kotha, 2009). Angel and venture capital investment decisions often depend on a founder's legitimacy, indicated through social cues, competency signaling, and socio-relational protocols (Pollack, Rutherford, & Nagy, 2012). Equally important for significant investment is the reliability of achievable financial forecasts, including the perceived resilience of business plan forecasts to unfavorable contingencies (Clark, 2008; Pollack et al., 2012). The acquisition of financial resources often requires painstaking due diligence, an expert's knowledge of market and industry dynamics (Mullins, 2013), and facility in handling financial data.

The *intra-individual* action that involves translating inspired ideas into perceived opportunities and then into initiating actions with a cadre of close associates gives way to *inter-individual* action that is grounded in social considerations that involve increasingly formal means to communicate, evaluate, and develop the opportunity. This is particularly important for ADHD entrepreneurs, who tend to be put off by structuring activities, leading them to procrastinate or ignore seemingly mundane but essential processes (Wiklund et al., 2016).

### Resource Coordination

Of all the steps comprising the entrepreneurial life cycle, resource coordination is likely to be least suited to an individual with ADHD. The ability to effectively orchestrate resources (Sirmon et al., 2011) is critical to establishing credibility and intelligibility with the organization's stakeholders. Often, this involves developing and instituting a formalized set of policies, procedures, and processes that allow for the replication of high-quality goods and services (Gupta, 2004; Ronstadt, 1988). Existing research suggests that individuals with ADHD struggle to establish and maintain routines and struggle with chronic disorganization (e.g., Barkley et al., 2008). As such, the effective coordination of resources is apt to be particularly challenging for individuals with ADHD.

Here too, however, the effect is not unidirectional. Entrepreneurship scholars have effectively argued that in many cases less formal, unorchestrated

resourcing behaviors, such as bricolage (Baker & Nelson, 2005) and improvisation (Miner, Bassof, & Moorman, 2001), are indispensable facets of opportunity development and entrepreneurial success. To a certain degree, all new and small firms must be willing and able to improvise to compensate for the limited availability of resources. Where bricolage and improvisation play a key role in acquiring and coordinating resources, ADHD could be strategically important, perhaps even an advantage. Thus, the precise effect of ADHD will vary according to (a) the prevailing circumstances and (b) the balance that is ultimately struck with respect to self-regulation (e.g., time management), organizational design, and the delegation of key administrative tasks.

### Value Capture

The ability to exploit an opportunity is ultimately a question of creating and capturing value. While value creation and capture are clearly interrelated, they must be viewed as being distinct because it cannot be assumed that the party creating the value always succeeds in capturing it (Lepak, Smith, & Taylor, 2007). Thus, any firm's survival depends on the extent to which the value that has been created can also be captured (Bowman & Ambrosini, 2000). For new and small firms this concept has added importance because they may find value capture to be elusive due to a lack of scale, key resources, socio-cognitive legitimacy, market access, or experience (Aldrich & Fiol, 1994). Unlike existing firms, new ventures lack steady cash flow and reliable profits (Lee, Kelley, Lee, & Lee, 2012), creating an existential need to expedite market entry decisions (Hunt, 2013). Thus, a willingness to go to market is critical. Concurrently however, underconceived or premature product launches involve serious risks (Wu & Knott, 2006). Without adequate organizational development, a scalable business model, and a serviceable logistical supply chain, profitable opportunity exploitation is difficult, and often impossible (Scarborough, Zimmerer, & Naumes, 1991). Spurious, ill-equipped, or underplanned market entry exposes new ventures to unwanted sources of execution risk that constrain the venture's ability to capture value (Wu & Knott, 2006).

A priori irreducible uncertainty bedevils firms even after they make market inroads through structuring behaviors that allow new ventures to appear and function like incumbents (McGrath & MacMillan, 2000). However, the uncertainty faced at this point is endogenous to the strategy and

activities of the firm, in contrast to the exogenous irreducible uncertainty confronted by individuals and founding teams in the early stages of the entrepreneurial life cycle. Endogenous considerations involve issues such as market acceptance, supplier and customer preferences and behaviors, and the ability of employees to execute the business plan. For example, Shane and Delmar (2004) found that entrepreneurs who completed business plans before engaging in efforts to talk to customers and in marketing and promotional efforts were more successful than those who did not engage in formal organizational planning processes. Similar to resource coordination, value capture that is contingent on well-considered market entry and the efficient delivery of goods and services will favor trustee-centric structuring and administration, thus ill-fitting entrepreneurs with ADHD. However, when the conditions for value capture are unstable, dynamic, or ambiguous, ADHD could once again be an asset. Overall, the most fruitful course of action typically necessitates balancing a willingness to go to market with a level of preparedness and organization, which together drive a young firm's capacity to profitably capture value.

### **Innovation and Renewal**

To varying degrees, entrepreneurial firms must find ways to continuously evolve and adapt while seeking to establish themselves in the marketplace for goods and services. As the literature on organizational ambidexterity makes clear, the perspectives and processes supporting an atmosphere of renewal are often elusive (Gibson & Birkinshaw, 2004; Hunt & Ortiz-Hunt, 2017). Excellence in achieving increasing returns to scale does not transfer smoothly to excellence in achieving breakthrough innovations (Hunt, 2013). Similarly, exceptional innovation does not transfer smoothly to achieving profitable returns.<sup>5</sup> This difficult balance is not solely

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<sup>5</sup> A high-profile example of this phenomenon may be the serial entrepreneur Elon Musk, who famously oversaw SpaceX's successful launch of the Falcon Heavy reusable rocket while also developing new technologies in flame-throwers, electric semi-trucks, and assorted other industries. In 2016, Musk hatched the idea for a hole-digging enterprise, the Boring Company, literally while stuck in freeway traffic. Meanwhile, Musk's core businesses, Tesla and Solar City, incurred billions of dollars in debt and over a billion dollars in losses, while each entity struggled to profitably scale production, operations, and sales.

the domain of large incumbent firms. Consistent with the framework presented here, ADHD is both an asset and a liability in the arena of innovation and renewal.

Given their relative tolerance of uncertainty and preference for novelty, founders with ADHD can be expected to embrace innovation and unconventionality. The question is whether these proclivities come at the expense of much-needed continuity or strategically coherent operational behavior (Hunt, 2015). For new and small firms, the thin line separating financial success and failure raises the stakes involved in deftly balancing the desire for change and the need for continuity. Novelty for novelty's sake is less likely to be a factor when the founder embraces the balancing benefits of stability and structure. While less mercurial, a balanced attempt to consider continuity and change may yield a better chance of innovation success and sustained profitability (Ardichvili et al., 2003). Meanwhile, founders with ADHD will tend to seek out opportunities to initiate innovative changes, driven by the tendency to become bored with stability, continuity, and structure. In this sense, ADHD founders are apt to be immune to inertia, yet also less likely to strike a balance between the aims of innovative renewal and scaled competence. When encountering stability and structure—even where both may serve useful purposes—individuals with ADHD tire more quickly with the status quo in maturing firms, leading to one of two likely scenarios: (a) an attempt to take the established firm in radically new directions or (b) a departure from the established firm to launch a new venture, beginning the entrepreneurial life cycle all over again.

### **DISCUSSION**

Our proposed framework establishes a comprehensive research agenda for future investigation of ADHD, other aberrant conditions, and general disinhibition in the context of entrepreneurial action. The framework we have developed here offers new perspectives regarding the veridicality of individual differences in venturing. In essence, the exact same characteristics of entrepreneurs with ADHD (i.e., hyperactivity, impulsiveness, ostensible inattentiveness) may exert a significantly positive influence at one juncture, only to then exert a significantly negative influence at another juncture. Moreover, dualism exists even within any particular stage of venturing. As the foregoing discussion reveals and as the venturing life cycle in Figure 2 illustrates, all

stages are subject to the dualistic nature of ADHD's influences. Even late-stage activities must be conceptualized as a complex, dynamic interplay between the functional and dysfunctional facets of ADHD. Our framework offers a constructive pathway to reconcile the coexistent facets of ADHD in the context of business venturing.

Our approach addresses several important gaps while extending and enhancing the existing studies of ADHD in entrepreneurship (Lerner, 2016; Lerner et al., 2018b; Verheul et al., 2015; Wiklund et al., 2016, 2017). First, our framework goes beyond the mere acknowledgment that ADHD has bright and dark sides by building its descriptive and predictive foundation on ADHD's paradoxes. Second, we delve deeper into the dynamic nature of ADHD's unfavorable and favorable influences on business venturing by framing the relationship *across* the venturing arc and *within* delineated activities. In so doing, we build a new framework, examining each of the stages and facilitating a variety of research design strategies, ranging from longitudinal and integrated empirical analysis to narrower lines of inquiry that focus on specific stages of the entrepreneurial life cycle. Through this, we add perspective currently lacking in the emerging stream while inviting a more viable framework for time-varying, multilevel studies.

We have sought to establish that progress in understanding the ADHD–entrepreneurship connection requires a life cycle perspective. For ventures that find full form in a revenue-generating organization, entrepreneurship is a long process comprising multiple steps and stage-specific resource requirements. The complete arc engages founders in all manner of challenges—not just in recognizing uncertain opportunities and overcoming inertia, but also in taking actions that require elements of stability, operational reliability, and strategic direction-setting (Frese, 2009). Because contemporary environments are characterized by dynamic, high-velocity conditions (Eisenhardt, 1989), the “person–environment fit” (Lasky et al., 2016) is not a fixed factor that is locked in place during the initial phase of new venturing. Rather, the “fit” conditions change, often quite dramatically, especially when ADHD is involved. Thus, while ADHD may offer an exceptional fit with nascent-stage risk-taking that more willingly confronts and more easily surmounts early-stage obstacles (Drechsler, Rizzo, & Steinhausen, 2010; Evenden, 1999; Sorensen et al., 2017), it may circumvent later-stage entrepreneurial processes that would otherwise benefit from attributes such as

persistence and conscientiousness, both of which are typically underexpressed by individuals with ADHD (e.g., Halbesleben et al., 2013; Knouse, Traeger, O'Cleirigh, & Safren, 2013).

As Antshel's (2018) review of ADHD fit conditions for entrepreneurial intentions and entrepreneurial orientation reveal, it would be unwise to categorize the ADHD–entrepreneurship fit based on a single frame of reference uniformly constructed to address all the entrepreneurial pursuit stages, from initial intentions to final outcomes. Only through a conceptualization that contemplates the entire integrated life cycle of opportunity development can the complete panoply of pros and cons of ADHD be credibly sorted. Oft-cited work on opportunity development (e.g., Ardichvili, Cardozo, & Ray, 2003; Gnyawali & Fogel, 1994) tends to stress the role of utility, opportunity costs, due diligence, and plans of action, as would-be entrepreneurs painstakingly devise and revise potential opportunities in the context of shifting environmental realities. The difficulty is that opportunity development requires a multiplicity of capabilities. Ardichvili and colleagues referred to these skills when discussing opportunity development, noting that “Careful investigation of and sensitivity to market needs and sub-optimally deployed resources may help an entrepreneur begin to develop an opportunity” (2003, p. 113). But opportunity development also involves creative input by the entrepreneur.

### **Shining Further Light Onto Business Venturing Processes and Outcomes**

Moving away from the rational and more formally conceived aspects of venturing, the aforementioned precepts invite fresh entrepreneurial perspectives and previously unforeseen possibilities (Lerner et al., 2018a; Wiklund et al., 2017)—but depending on the opportunity's development stage, efforts to keep more formal, deliberative assessments at a distance also have the potential to invite discord, confusion, and inefficiency. In a milieu characterized by high-velocity sectors and fast-paced launch logistics (Eisenhardt, 1989, 2013; Eisenhardt & Tabrizi, 1995; Nadkarni, Chen, & Chen, 2016), speed to market would seem to be a great asset. In reality, however, short-term efforts to increase the speed of opportunity development may cause gridlock further down the road when the conditions involved with start-up risk prove to be markedly different from those involved with execution risk. Thus, in this investigation we present two critical questions: (1) Where do the

benefits of “differentness” begin and end? and (2) how can the realities of this double-edged sword be managed to harvest the benefits without being overwhelmed by the detriments?

In speaking to each of these key questions, we have taken a full life cycle approach that offers a more useful and veridical middle road between the ADHD-as-stigma and ADHD-as-blessing perspectives. Ardichvili and colleagues’ (2003, p. 109) conception of the opportunity development process is noteworthy for its efforts to explicate the complete range of processes associated with opportunity identification and development: “We regard opportunity development as a continuous, proactive process essential to the formation of a business.” The perspective extends and amends earlier work by Timmons, Muzyka, Stevenson, and Bygrave (1987) regarding opportunity evaluation and is grounded in the presumption of rigor, such that the development process enriches the entrepreneur’s knowledge base, better equipping him or her to assess the attractiveness and feasibility of each opportunity with respect to finite productive resources (Ardichvili et al., 2003).

Feasibility analysis, exemplified by Ronstadt’s “knowledge corridor” (1988), is a perspective that attempts to balance the acknowledgment of bounded rationality with a conception of entrepreneurs fundamentally engaged in the rational evaluation of opportunities, involving vigorous due diligence. Evaluative judgments function in the model as indispensable tools to determine whether or not the necessary resources can be accessed and whether or not these resources should be deployed toward further development of a perceived opportunity. This is, in essence, Ardichvili et al.’s (2003) notion that there are no shortcuts to the arduous process of developing and exploiting profitable opportunities.

Leveraging alertness (Kirzner, 1997) and prior knowledge (Shane, 2000), the rational pursuit model depicts entrepreneurs as seeking to identify opportunities that are worth developing through an objective assessment of environmental signals. Proclivities that short-circuit the rigor associated with these processes may speedily unlock opportunities, but doing so may seed challenges that will arise as the opportunity inevitably evolves. Addressing this evolution, Ardichvili and colleagues noted that “the development process is cyclical and iterative: an entrepreneur is likely to conduct evaluations several times at different stages of development; evaluation could also lead to recognition of additional opportunities or adjustments to the initial

vision” (Ardichvili et al., 2003, p. 106). An unwillingness or inability to pursue opportunities in this fashion may lead to what Kirzner (1979) referred to as “maladjustment,” circumstances in which entrepreneurs persist in implementing a business model that is fundamentally at odds with the true market conditions. This is because, as Kirzner noted, entrepreneurs are not simply selling their inspiration and innovation, or even simply goods and services, but rather in the end the vital determinant involves their knowledge of how to assemble and market valued resources. The latter among these aims necessarily leverages creativity, novelty, and action, but ultimately monetary rewards flow from the ability to execute operationally (Gnyawali & Fogel, 1994). The relationship between ADHD and entrepreneurial action that is so readily apparent at the most nascent stages of opportunity development is unlikely to be sustained in like fashion across the complete arc of all the processes constituting opportunity development. In fact, a more telling reality could be afoot: that the positive ADHD–entrepreneurship association actually peaks in the earliest stages and steadily devolves thereafter—with dualistic tensions throughout.

Generally, research on the workplace implications of aberrant dispositions and clinical disorders should take into account the realization that an entrepreneur or employee does not operate in a vacuum. Focusing on the entrepreneurial process, even if an individual seeks to start a company, firm formation involves much more than actions undertaken by a single would-be entrepreneur. Following initial individual action, entrepreneurship is a social phenomenon. Irrespective of the venture’s design or the ultimate boundaries of the firm, the would-be founder must engage others in some form of joint production to exploit an entrepreneurial opportunity. Although the scope of mobilization will vary among entrepreneurs (e.g., depending on the degree to which venture financing is required), given the limited time and abilities of a single individual, even solo-operated ventures at some point will depend on interaction with outside stakeholders to survive. Accordingly, the role of socially relevant individual differences among would-be entrepreneurs is of concern (Hmieleski & Lerner, 2016). While germane to all aspiring founders, the “differentness” accompanying ADHD is particularly relevant for those with potential clinical conditions, which by definition involves maladies.

The various structuring activities and day-to-day operational challenges that ADHD individuals find

painstakingly difficult extend beyond the boundaries of the firm. For example, in their qualitative study of ADHD entrepreneurs, Wiklund and colleagues (2016) identified vital though relatively mundane requirements, such as bookkeeping activities. While markets exist for such services, and in theory entrepreneurs with ADHD should be able to simply acquire such services, the response to these chores by ADHD individuals was convoluted. The study revealed that some of the ADHD entrepreneurs were unable to even retain third-party bookkeeping services, much to their detriment (Wiklund et al., 2016). Related to this is the disorganization often associated with untreated ADHD (e.g., Barkley et al., 2008). Disorganization presents a serious obstacle to the efficient handling of basic activities, such as mission-critical activities that depend on efficient or accurate record-keeping. Furthermore, disorganization diminishes the entrepreneur's ability to delegate or efficiently outsource mundane but essential activities. In the end, many business activities do not require novelty or creativity but simply need to be handled diligently on a regular, day-to-day basis.

### Future Directions

The implications of the perspective we have developed here reveal numerous lines of analysis for future research, some related specifically to ADHD and others to the more general landscape of individual differences and aberrant conditions. First, building on the process view of entrepreneurship, which considers different stages of entrepreneurship, an essential follow-on question is this: How does ADHD affect the workplace and colleagues throughout the entrepreneurial venturing process? Exploration versus exploitation differences related to initiation and structuring behavior suggest the need for research examining how entrepreneurs with ADHD benefit from creating complementary teams and structures, as well as how this might be done. Given the pejorative perspective toward aberrant conditions in most workplace settings, it may be challenging for entrepreneurs exhibiting ADHD to overcome stigmatizing facets by engaging supportive stakeholders. An examination of successful and unsuccessful ventures would be illuminating in this regard.

Second, given the extent to which disinhibition is central to ADHD (Barkley, 1997; Lerner, 2016), it would be valuable to understand how one might potentially induce disinhibition when it is adaptive and reduce disinhibition when it is a liability. While

a matter for further research, this might involve mindfulness and experimental interventions, such as making entrepreneurs aware of their respective operating styles and then seeking to match styles with conducive activities. The use of prompts and assists, such as the use of simple checklists or reminders, may encourage ADHD entrepreneurs to develop abilities that enable them to recognize and regulate situation-specific behaviors. At the group level, team members with complementary skills could be called upon to recognize and support disinhibited entrepreneurs and intrapreneurs to serve the aims of the organization. Tailored business policies could also be specified, seeking to match individual circumstances with routines for either divergent or convergent action.

A third area for further inquiry could contribute insights by delving further into high-profile examples of ADHD among successful founders such as Richard Branson and Ingvar Kamprad, individuals who have demonstrated the capacity to scale and administer novel organizations. There may be important lessons from these special cases. For example, Richard Branson's ability to start new ventures in new industries while at the same time developing many of these ventures into successful multibillion-dollar companies raises intriguing questions: Is serial or portfolio entrepreneurship more prevalent among entrepreneurs who experience ADHD? How have they been able to cope with the associated challenges? Have they developed individual coping mechanisms, or do they rely on teams that are able to assume structuring responsibilities when the entrepreneur moves on to exploring other business opportunities?

Instances of successful, high-profile CEOs demonstrate that ADHD may not only be a catalyst in starting a high-potential business, but that it is also possible to remain engaged in a leadership position once the business has scaled. If so, this may suggest that some ADHD individuals develop the ability to capture value even when their natural proclivity may be to conduct new searches. Given a relative comfort with discontinuity, leaders with ADHD may be uniquely suited to contribute in times of adversity. For example, the ability to break through inertia and business routines might help struggling companies to envision and pursue new business strategies (e.g., *Economist*, 2012).

Fourth, the relevance of a dualist perspective on ADHD in a vocational setting is not limited to entrepreneurship; rather, it extends much more widely to employees at firms of all sizes, ages, and levels of



complexity. Our framework can be used constructively to design investigations germane to a wide array of work settings. Considering well-known issues of fit between ADHD, traditional wage employment, and job design, as well as what we know from organizational practice involving other disorders, future research can focus on work contexts and design factors that foster mutual benefit for both ADHD employees and organizations. One might explore, for example, the extent to which ADHD facilitates “intrapreneurial” behavior and productive change within established organizations. Given that people with ADHD are often attracted to positions that require action and risk, it is worthwhile to explore the favorable and unfavorable implications of ADHD as it relates to positions in sales, marketing, and business strategy. Similarly, fascinating insights could be harvested in examining other vocations, such as first responders, law enforcement, teachers, and military personnel.

### CONCLUSION

Given the prevalence of ADHD, simple probabilities virtually guarantee that business managers, management scholars, and new venture teammates will encounter it with some frequency. Extant research has confirmed the enormous potential impact of aberrant conditions but has lacked the tools and frameworks necessary to describe and predict its considerable influence. In some important respects, the differences that arise as a consequence of ADHD are simply a poignant example of the benefits and complications that have been shown to accompany most forms of diversity (e.g., Kavadias & Sommer, 2009; Kirton & Greene, 2015), particularly diversity’s impact on creativity, idea generation (McLeod & Lobel, 1992), and innovation (Østergaard, Timmermans, & Kristinsson, 2011). However, among the various forms of employee diversity that may come to influence opportunity identification and development—age, education, national origin, race, gender—there seems to be something different about the diversity of perspective that connects ADHD to entrepreneurship. First, the size of ADHD’s influence is apt to be significantly greater than that of other sources of diversity. Second, the differences accompanying ADHD appear to be so demonstrably impactful—sometimes for better (e.g., Honos-Webb, 2008; White & Shah, 2011) and sometimes for worse (e.g., Barkley et al., 2008; Fiore et al., 2001). Finally, no other source of diversity appears to affect

entrepreneurship so differently at different stages of the venturing life cycle.

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