

Seeing the Forest and the Trees: Signals of Construal Level Ambidexterity and Venture Funding Success

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Abstract. While entrepreneurial cognition is a key predictor of important entrepreneurial outcomes, we know relatively little about how investors respond to signals of entrepreneurial cognition. Building upon construal level theory, which offers a framework for systematically characterizing the structure of cognition and how it is signaled in communication, we theorize that investors respond positively to entrepreneurs' signals of cognitive scope in the form of construal level ambidexterity. We predict that signaling construal level ambidexterity, or the dual focus on more abstract and more concrete thinking, would be more valuable than signaling more unitary cognitive orientations (whether abstract or concrete) because ambidexterity should lead potential supporters to infer that founders embrace the paradoxes associated with successful entrepreneurial ventures. We find support for this theorizing in a large archival dataset from a crowdfunding platform ($N = 97,140$ funding campaigns) and a controlled experiment ($N = 211$ participants). Implications for research on entrepreneurial funding, entrepreneurial cognition, construal level theory and paradox are discussed.

Entrepreneurial funding has garnered substantial scholarly interest because of its critical role in venture success (Aldrich & Martinez, 2001). It is also evolving rapidly, with new sources of entrepreneurial finance emerging, such as crowdfunding, incubators, and accelerators (Bellavitis, Filatotchev, Kamuriwo, Vanacker, 2017). Entrepreneurs today have more and different opportunities to deliver their pitch to potential investors, who in turn attend to signals in the pitch to determine whether and how much to support a new venture (Huang & Knight, 2017).

In addition to communicating tangible information about the venture, entrepreneurial pitches convey signals about entrepreneurs' cognition. Entrepreneurial cognition is a key predictor of venture creation and success (e.g., Baron, 2004; Baron & Markman, 2003; Gatewood, Shaver & Gartner, 1995; Mitchell et al., 2007; Shepherd, Williams & Patzelt, 2015). Yet although such outcomes are of central interest to investors, we still know relatively little about how potential investors react to signals of entrepreneurial cognition.

A lively and growing literature explores venture evaluation and funding as a function of interpersonal and informational signals in the entrepreneurial pitch (Huang & Knight, 2017). Early research in the area took a comparative approach, seeking to identify features of the venture most important to investors. For example, researchers have observed that investors evaluating pitches may be overly concerned about the "jockey" (i.e., the management team) relative to the "horse" (i.e., the proposed venture; Macmillan, Siegel & Narasimha, 1986; Kaplan, Sensoy & Stromberg, 2009) because of the assumption that if the management team is good, they will find the right business opportunity and exploit it. However, although a valuable beginning, the comparative approach may fail to account for the complexity in investor's evaluations (Huang, 2018), sometimes generating conclusions that are difficult to reconcile. For instance, researchers have concluded that entrepreneurs' "passion" is less important than their "preparedness" (Cardon,

Sudek & Mitteness, 2009; Chen, Yao & Kotha, 2009) because providing the specific details that generate judgments of preparedness are more persuasive to investors. On the other hand, research focused on the level of passion founders express in crowdfunding videos suggests that more passion is contagious and therefore is persuasive (Li, Chen, Kotha & Fisher, 2017). Little of the work in this comparative tradition addresses entrepreneurial cognition as a predictor of funding.

More recently, scholars have moved away from an approach that puts various predictors of funding outcomes in competition with one another, replacing it with a more complex conceptualization of investors' evaluations that considers the interplay and interdependencies among different factors (Huang, 2018). For example, research focused on entrepreneurs' background and experience has shown that the breadth of entrepreneurs' experience in different markets is more valuable when combined with deep knowledge of specific functional areas (Kacperczyk & Younkin, 2017), suggesting that investors may recognize the value of complex combinations of capabilities. Further, research has demonstrated that investors respond most positively to pitches incorporating a portfolio of signals, such as when entrepreneurs combine evidence of product quality with appeals that pull on investor's heartstrings (Steigenberger & Wilhelm, 2018). This more recent literature is valuable because it demonstrates a more nuanced understanding of how investors' evaluations are shaped by multiple factors and their interplay.

However, there is a salient omission in this growing body of work, which is an understanding of how investors respond to signals of entrepreneurs' cognition. Potential investors are likely to have high expectations of founders' cognitive capabilities. For example, to gain support, founders (most commonly, entrepreneurial teams; Wasserman, 2012) must reassure investors that they are both in command of the details of their project (e.g., precise costs, revenues, risks, and the specific requirements of their target customers) and able to offer a compelling strategic vision for their business. Likewise, they must put forward a business plan

that is well aligned with current business opportunities, while also conveying the flexibility required to “pivot” and pursue more promising opportunities, should they arise. The cognitive orientations demanded by these critical tasks—and many others—vary widely. Some require focused, concrete thinking, and others demand broader, abstract thinking. Hence, entrepreneurial teams that have the capacity to think both abstractly *and* concretely are more likely to possess the cognitive repertoire needed to support these dualistic demands. Therefore, signals of founders’ cognitive scope (i.e., the range of their cognitive repertoire) may be as important to investors as knowing the content of their cognition, or what founders think about.

We know little about whether investors respond positively or not to evidence that the founding team thinks about the venture in different ways that reflect greater cognitive scope. Indeed, we currently lack a coherent theoretical framework explaining how the observed structure of entrepreneurial cognition shapes the inferences investors make about entrepreneurs, and in turn, their level of support for the venture. As a consequence, we are unable to integrate research on entrepreneurial cognition with research on entrepreneurial funding, leaving valuable variance in entrepreneurial outcomes unexplained.

Drawing upon recent advances in cognitive psychology regarding construal level theory (Trope & Liberman, 2010), we suggest that information about the structure of entrepreneurial cognition can be inferred from founders’ communication, such as their entrepreneurial pitch. While construal level theory (CLT) was developed in the field of cognitive psychology, it has extensive application to organizational scholarship (Wiesenfeld, Reyt, Brockner, & Trope, 2017). CLT offers new insights about the importance of signals of entrepreneurs’ cognitive ambidexterity for increasing investors’ support for innovative ventures, and the underlying mechanism explaining this effect.

Construal level theory rigorously and systematically characterizes cognitive orientations and offers methods for identifying them in others, but has yet to be applied to entrepreneurial funding. Construal level theory and research suggest that people's mental representations of targets range from lower construal level (i.e., relatively concrete and specific) to higher construal level (i.e., more abstract and big-picture), and this fundamental feature of how people think about a target is reliably associated with a host of important attitudes, decisions, behaviors and outcomes (Trope & Liberman, 2010). CLT has also integrated psycholinguistic research to identify the linguistic signals of construal level (e.g., Burgoon, Henderson & Markman, 2013; Reyt & Wiesenfeld, 2015; Reyt, Wiesenfeld, & Trope, 2016; Semin & Fiedler, 1991) that make it possible for researchers to examine not only the effects of construal level on the self, but also its effects on others. If linguistic signals of construal level are available in the language of an entrepreneurial pitch, they may influence investor inferences and support for the venture.

Recently, construal level research has begun to theorize about scope, or the capability to flexibly utilize a range of construal levels from highly abstract to highly concrete (Fujita, Trope & Liberman, 2018), which is referred to as construal level ambidexterity (Wiesenfeld et al., 2017) or flexibility (Steinbach, Gamache & Johnson, in press). We suggest that construal level signals in the language of the entrepreneurial pitch serve as the basis for potential investor's inferences about a venture's leaders. While higher construal level signals long-term, vision-oriented, big-picture thinking, and lower construal level signals focus, concern for details, and execution-orientation, we expect that pitches that combine both higher and lower construal levels signal leadership that embraces paradox (Miron-Spektor, Ingram, Keller, Smith & Lewis., 2018; Zhang, Waldman, Han & Li, 2015).

Whether impressions of entrepreneurs are improved, worsened or unaffected by evidence of construal level ambidexterity in their entrepreneurial pitch is not obvious. Drawing on

paradox research, we investigate whether pitches containing signals of ambidextrous construal level (i.e., pitches that combine a wide range of higher and lower construal level signals) will obtain greater support. Embracing paradox has been found to be essential to innovative and entrepreneurial ventures because paradox thinking is vital to delivering the diversity of necessary capabilities such ventures require (Andriopoulos & Lewis, 2009; Bledow, Frese, Anderson, Erez, & Farr, 2009; Miron-Spektor & Beneen, 2015; Miron-Spektor, Gino & Argote, 2011; Miron-Spektor, Erez & Naveh, 2011; Raisch & Birkinshaw, 2008; Smith & Tushman, 2005; Zhang et al., 2015).

To empirically evaluate this relationship, we examine investors' venture evaluation and financial support for early stage entrepreneurial ventures in two studies. First, using a large archival dataset of crowdfunding campaigns on Kickstarter, we explore the effect of ambidextrous construal level signals in pitches on ventures' funding success. Second, we replicate our findings in a controlled experiment that also evaluates the psychological inferences responsible for the relationship. In particular, we show that investors interpret ambidextrous construal level signals as evidence of entrepreneurs' embrace of paradox (Zhang et al., 2015), which in turn is associated with greater support for the venture.

The present research contributes to organizational scholarship in several ways. We integrate construal level research with entrepreneurship research to develop new insights regarding how founders' construal level ambidexterity is signaled in entrepreneurial pitches and how these signals shape the assessments and behaviors of potential investors. We bring together and contribute to the growing literatures on entrepreneurial funding and entrepreneurial cognition (e.g., Baron & Ensley, 2006; Chen et al., 2009; Huang & Pearce, 2015; Huang & Knight, 2017) by exploring how investors respond to signals of entrepreneurs' cognition. We draw attention to the scope of entrepreneurs' cognition, going beyond a unitary focus on whether higher or lower

construal level is better by exploring the implications of multiple, apparently contradictory signals. We offer evidence that paradox leadership and ambidexterity may be as relevant to evaluating innovative ventures as it is to generating them (e.g., Miron-Spektor et al., 2011b), thus extending the literature on paradox (Schad, Lewis, Raisch & Smith, 2016; Miron-Spektor et al., 2018; Smith & Tushman, 2005; Zhang et al., 2015). We also contribute to construal level research both theoretically and empirically by providing the first empirical evaluation of construal level ambidexterity, missing in prior work which has focused on average construal level and its personal and social consequences (e.g., Reyt, Wiesenfeld & Trope, 2016; Reyt, Rubineau & Wiesenfeld, 2016; Reyt & Rabier, 2017; Palmeira, 2015).

Does signaling ambidexterity help or hurt entrepreneurial funding?

The consensus across distinct but related research streams in entrepreneurship and creative idea evaluation is that evaluators seek to alleviate their uncertainty. For example, the economics-based entrepreneurial finance literature suggests that entrepreneurial ventures present investors with a “market for lemons” (Akerlof, 1970) in which most ventures are assumed to be quite risky and uncertain (Courtney, Dutta & Li, 2017). Neo-institutional theorists also highlight uncertainty, demonstrating the importance of signals of legitimacy that reduce uncertainty (e.g., Stuart, Hoang & Hybels, 1999). Entrepreneurship research in management draws attention to how early stage supporters (e.g., angel investors) have greater uncertainty and risk than those at later stages (e.g., venture capitalists), concluding that potential investors’ uncertainty leads them to think of venture funding like gambling (Huang & Pearce, 2015). Likewise, organizational behavior research on creative idea evaluation highlights that those in decision-making roles are particularly concerned about uncertainty (Mueller, Melwani, Loewenstein & Deal, 2018), which inhibits their recognition of creative ideas (Mueller, Wakslak & Krishnan, 2014).

Signaling theory (Spence, 1973) explains how people make judgments when faced with uncertainty, and is commonly used to understand how entrepreneurial investors make decisions (Ahlers, Cumming, Gunther & Schweizer, 2015). Valuable signals are those that are more strongly associated with desirable underlying attributes, such as innovativeness, and thus allow evaluators to identify the worthwhile ventures and distinguish them from the many “lemons”. Signals are more valuable when they are *costly*, meaning that it would be difficult or expensive to acquire the signal without having the underlying valuable attribute. Thus, signals are strong when they are diagnostic and hard or costly to misrepresent (i.e., not merely “cheap talk”), allowing evaluators to distinguish the true gems amidst a sea of pretenders.

A key factor arousing uncertainty but unexplored in the entrepreneurial funding literature is the inherent duality of demands facing innovative ventures (e.g., Bledow et al., 2009). We suggest that these dualities, including concern about long and short term, flexibility and alignment, vision and execution, creating and capturing value, and the collective and the individual, are most effectively alleviated with reassuring signals of construal level ambidexterity.

Construal level theory suggests that our cognitive representations of targets such as objects, events and actions vary along a continuum from high (i.e., abstract mental representations requiring people to “zoom out” cognitively) to low (concrete mental representations requiring people to “zoom in”; Trope & Liberman, 2010). CLT explains how cognitive abstraction and concreteness map onto cognitive emphasis, with implications for decisions and behavior. The abstraction associated with higher construal level makes us think about targets in a broader and more decontextualized way, focusing on desirability, purpose, idealistic concerns, and the target’s most central and important features (Trope & Liberman, 2010; Wiesenfeld et al., 2017). In contrast, the concreteness defining lower construal level makes

us think about targets in a more specific, detailed and contextualized way, focusing on feasibility, taking action, pragmatic concerns, and more peripheral features (Trope & Liberman, 2010; Wiesenfeld et al., 2017). Research has consistently found that higher construal level both orients people to, and is triggered by, targets that are far off in time and space, uncertain, or involve others and collectives beyond the self (Trope & Liberman, 2010). In contrast, lower construal level orients and is cued by a focus on the here, now, oneself, and what is certain.

Only recently, researchers have started to unpack construal level scope or ambidexterity (Fujita et al., 2018; Steinbach et al., in press; Wiesenfeld et al., 2017), which refers to maintaining multiple and sometimes contradictory ways of thinking, ranging from more concrete/lower construal level to more abstract/higher construal level. Theory and evidence suggest that being able to deploy the construal level that is most appropriate to the context makes people more adaptive and effective (Ledgerwood, Trope & Liberman, 2010; 2015), but it is cognitively demanding and may therefore not be ubiquitous. True to the saying, people have trouble seeing the forest *and* the trees at the same point in time (Trope & Liberman, 2010). This is because bounded cognition makes it difficult to maintain abstract and concrete mental representations simultaneously (Reyt & Wiesenfeld, 2015). For example, neuroscience research suggests that as mental representations shift from abstract to concrete, neural processing must move along an axis in the medial pre-frontal cortex (Amodio & Frith, 2006). Thus, the physiology of the brain makes it likely that people either ‘zoom out’ or ‘zoom in’ but inhibits the confluence of higher and lower construal levels at the same time in the same person.

However, the vast majority of entrepreneurial ventures are founded by more than one entrepreneur (Wasserman, 2012), and entrepreneurial pitches, even when delivered by a solo founder, are often the outcome of lengthy process of development in which different considerations are integrated into an elaborated articulation of the entrepreneurial opportunity.

These practical realities create opportunities for construal level shifts and flexibility (Fujita et al., 2018; Steinbach et al, in press), which are then integrated into entrepreneurial pitches. Construal level ambidexterity is more likely to be observed among the most attractive ventures in which founders possess the capabilities associated with higher and lower construal levels that evaluators desire.

So how do high and low construal level map onto the duality of capabilities that entrepreneurial investors seek? Do entrepreneurs win support by having a singular focus on abstraction (high level), a singular focus on concreteness (low level) or a dual focus emphasizing both (ambidexterity)? We suggest that potential investors will evaluate ventures more positively when founders signal their ambidexterity because the capabilities investors value are associated with different construal levels, as we describe below.

First, investors will want to fund ventures that both address short-term issues (e.g., achieving efficient production) and attend to long-term considerations (e.g., defining a business strategy). While focus on the most immediate issues is enabled by lower construal level mental representations, temporal distance is facilitated by higher construal level (Trope & Liberman, 2003). Incorporating both abstractness and concreteness will reassure investors that founders will balance long- and short-term thinking.

Second, investors may support entrepreneurs who, on the one hand, can provide a high level of positive outcome certainty (e.g., securing strong intellectual property protections or closing deals with customers) but who, on the other hand, exhibit the flexibility needed to accommodate the unexpected (e.g., new competitors, changes in customer demand). Different construal levels support these dualistic pressures. Construal level research theorizes and finds that lower construal level orients people toward reliable replication and stability, while higher construal level orients people toward flexibility, change, exploration, variation, and departures

from the familiar (Hansen, Alves & Trope, 2016; Kalkstein, Kleiman, Wakslak, Liberman & Trope, 2016; Packer, Fujita & Herman, 2013; Reyt & Wiesenfeld, 2015). Therefore, ambidextrous construal level equips entrepreneurs to realize stability and change, reliability and risk-taking.

Third, investors may value entrepreneurs who are both able to create and capture value. The former requires vision, a relatively abstract property, while the latter demands execution, which is inherently more concrete (Carton & Lucas, 2018). Vision justifies the need for the venture, answering the “why?” question with a focus on desirability. Execution, in contrast, relates to the practical likelihood of success, answering the “how?” question with a focus on feasibility. Suggestive evidence to support this logic comes from the entrepreneurial cognition literature, which highlights the simultaneous importance of desirability and feasibility in entrepreneurs’ evaluation of opportunities (e.g., Baron & Ensley, 2006; Mitchell & Shepherd, 2010; Tumasjan, Welpel & Sporrle, 2013). Construal level research theorizes and finds that higher construal levels generate greater salience of desirability considerations and decisions that emphasize those considerations, while lower construal levels make feasibility considerations more central bases of decision-making (Danziger, Montal, & Barkan, 2012; Fujita, Trope, Liberman, & Levin-Sagi, 2006; Liberman & Trope, 1998; Liviatan, Trope, & Liberman, 2008; Todorov, Goren, & Trope, 2007; Wakslak, Trope, Liberman, & Alony, 2006). Ambidexterity enables focus on both desirability and feasibility.

Finally, potential investors may also seek reassurance that founders’ personal ambitions and incentives are aligned with what is best for the collective or the venture as a whole. Both individualistic and collectivistic motives are needed to motivate individual perseverance but also maximize value for the company and its investors. Individualistic focus and motivation for personal gain is associated with lower construal level but collectivistic focus and maximizing

joint outcomes is associated with higher construal level (McCrea, Wieber & Myers, 2012; Stillman, Fujita, Sheldon & Trope, 2018), so maintaining both construal levels supports a balance.

In sum, we predict that investors will be reassured by, and thus more likely to positively evaluate, entrepreneurs with cognitive repertoires enabling them to accommodate the multiplicity of demands on them. Ambidextrous founders and founding teams (i.e., those combining abstract and concrete thinking or higher and lower construal level) are those with a cognitive repertoire that supports the diverse capabilities they need to succeed. We therefore expect that investors will use information about construal level ambidexterity to draw inferences about the likelihood that a venture will be successful and thus deserving of their support.

Linguistic signals of construal level and entrepreneurial pitch evaluation

Construal level research suggests that higher and lower construal levels are signaled in the language people use to communicate with others (Fujita et al., 2006; Magee, Milliken & Lurie, 2010). Theory and research suggest that construal level is functionally adaptive, fitting contextual demands (Ledgerwood et al., 2010; 2015). Evidence has accumulated that people use abstract language when higher construal level is needed, such as to bridge psychological distance and go beyond the here and now, and they use more concrete language when lower construal level is required, such as when addressing more immediate concerns. For example, linguistic abstraction is used when communicating about far away places, the distant future, or socially distant others, while concreteness is used to communicate about proximate tasks and people (Snefjella & Kuperman, 2015).

Given that more abstract language is used to convey higher construal level and more concrete language is used to convey lower construal level, linguistic cues should also determine the construal level signals that interaction partners discern from communication (Reyt et al.,

2016). Observers appear to draw inferences and make attributions from construal level signals in language. For example, linguistic abstraction leads people to attribute expertise and vision to actors while linguistic concreteness leads people to infer that actors will rapidly execute on goals and “hit the ground running” (Reyt et al., 2016a; 2016b). While prior research has only explored the mean or central tendency of construal level signals, by extension we expect that combining more linguistically abstract with more linguistically concrete communication will signal ambidexterity – the diverse range of cognitive capabilities that enable coping with the multiplicity of entrepreneurial demands and thus elicit investor backing.

Hypothesis 1: Linguistic signals of construal level ambidexterity in entrepreneurial pitches will be positively associated with investor support for the venture.

Ambidextrous construal level signals and inferences of paradoxical leadership

The logic we offer relating ambidextrous signals to investor support suggests that potential investors draw inferences about founders from the ambidexterity of entrepreneurial pitches. How do investor inferences differ in response to pitches with a singular focus (whether more abstract or more concrete) versus a dual (abstract and concrete) focus? We draw on the lively and growing stream of research advancing theories of paradox, dialectics, duality and ambidexterity to theorize about these inferences.

The literature on paradox departs from traditional contingency paradigms emphasizing fit (for review, see Putnam, Fairhurt & Banghart, 2016 and Schad et al., 2016). Across this literature, a common theme is the importance of cognitive mindsets that enable actors to embrace and synthesize conflicts and tensions (Smith & Tushman, 2005; Bledow et al., 2009). Theorizing about paradox requires a shift away from the traditional focus on central tendency, instead emphasizing the ability to deviate from it – that is, a focus on the breadth of individuals’, groups’ and organizations’ repertoires, consistent with notions of construal level ambidexterity.

A growing stream of research on innovation suggests that paradox, defined as the organizational, team and individual capability to embrace contradictions and effectively manage duality, is a critical predictor of successful innovation at multiple levels of analysis (Miron-Spektor & Beneen, 2015; Miron-Spektor et al., 2011a & 2011b; Raisch & Birkinshaw, 2008; Schad et al., 2016; Smith & Tushman, 2005). For example, research has found that complementarity between creative and conformist team members supports radical innovation by balancing conflict and adherence to standards in innovation teams (Miron-Spektor et al., 2011b). Likewise, product design firms innovate most effectively when they balance discipline and passion among employees, and when they balance emphasis on profits as well as breakthroughs in the stated strategy (Andriopoulos & Lewis, 2009). While relatively little research has explored the micro-foundations of paradox, the work that has been done draws attention to the content of an individual's cognition and affective reactions to that content, such as the experience of tension and the threat it induces (e.g., Smith & Lewis, 2011; Miron-Spektor, 2018).

Recently, scholars have begun to consider how observers develop inferences regarding the level of managers' paradoxical leadership, which they discern from how those leaders behave (Zhang et al., 2015). In particular, whether studying workers in established manufacturing and service firms in China or full-time professionals, research has found that subordinates infer their manager's level of paradoxical leadership from behavioral cues. These include how much their supervisors give them autonomy while maintaining control, maintain social distance while enabling feelings of closeness, or treat their subordinates consistently while allowing individualization (Zhang et al., 2015). Moreover, these inferences of paradoxical leadership are positively associated with desirable subordinate behaviors, including task performance and proactivity (Zhang et al., 2015). While this work is situated within the manager-subordinate

context, the relationship between leader signals of paradox and others' positive reactions are likely to generalize to other contexts characterized by dualistic pressures.

Given the evidence that paradox is crucial to innovative initiatives (Miron-Spektor et al., 2006), and that observers can infer it from behavioral cues, it stands to reason that investors would search for, recognize, and respond to signals of paradox when evaluating entrepreneurial ventures. But while the paradox literature has begun to explore subordinates' perspectives (Zhang et al., 2015), it has yet to consider the perspectives of potential investors, supporters, and other evaluators of innovative initiatives. Extending paradox leadership to entrepreneurial contexts requires theorizing about the linguistic and rhetorical signals of paradox in communication because evaluator's exposure to innovative initiatives primarily relies on the founders' pitch (Elsbach & Kramer, 2003).

Given that thinking short-term and long-term, focusing on feasibility and desirability, addressing self and collective goals, thinking pragmatically and idealistically, and a host of similar difficult-to-reconcile imperatives related to entrepreneurship (Bledow et al., 2009) are all systematically associated with construal level, they will be manifested in signals of linguistic abstraction and concreteness in entrepreneurial pitches. We theorized that pitches *combining* abstraction and concreteness will signal construal level ambidexterity. Signals of construal level ambidexterity, in turn, convey to investors that founders have assessed and are prepared to meet the multitude of often contradictory demands placed on them. This reduces their uncertainty by generating inferences of paradoxical entrepreneurial leadership, characterized by "dynamic and synergistic approaches to contradictions in [entrepreneurial] management" (Zhang et al., 2015; 539). Such inferences, in turn, give funders the confidence to invest. Said differently, we predict that perceptions of paradoxical entrepreneurial leadership explain the relationship between the ambidexterity of construal level signals in pitches and potential investor support.

Hypothesis 2: Perceptions of paradoxical entrepreneurial leadership mediate the relationship between degree of construal level ambidexterity and support for the venture.

Research Overview

We test our hypotheses in two studies with complementary research designs. The first utilizes text analysis of field data (crowdfunding campaigns on Kickstarter) to explore Hypothesis 1 regarding the association between signals of construal level ambidexterity in crowdfunding campaign pitches and crowdfunding success. The second study utilizes experimental methods to manipulate whether evaluators see uniformly abstract, uniformly concrete, or ambidextrous signals (i.e., a combination of abstract and concrete signals in equal measure) about the same venture. The experiment enabled us to evaluate both Hypothesis 1 (whether pitches signaling construal level ambidexterity yield greater support than more uniform pitches) and Hypothesis 2 (whether perceptions of paradoxical leadership mediate this relationship). While the field study offers external validity, the lab study was designed to discount alternative explanations and enable stronger causal inference and insight into the psychological mechanisms explaining the relationship we examine in the field.

STUDY 1

We explore the relationship between construal level and funding decisions using data from Kickstarter.com, a large crowdfunding platform where innovators pitch their ideas to potential funders. Tens of thousands of projects were successfully funded on Kickstarter.com since its inception in 2009, including the smart watch “Pebble Time” (\$20 million), the cooler “Coolest” (\$13 million) and the board game “Exploding Kittens” (\$8 million). These and many of the other projects on Kickstarter (including apps, online games, etc.) are products that can be scaled up for mass production and/or broad distribution. However, a notable feature of

Kickstarter is that campaigns may also be for creative projects that are less commercial, such as fine arts, photographs and handmade crafts. Overall, projects are organized in 15 categories.

Kickstarter campaigns all describe the project for which funding is sought and indicate a funding goal, which must be reached for the founders or leaders to receive the funding promised without paying a high fee to Kickstarter. Many offer rewards to funders in return for specified levels of funding. Over the research period from 2009 (Kickstarter's inception) to 2015, the site policies and campaign norms evolved, but what remained consistent over time is that all pitches offered textual descriptions and funding goals.

Our data include all of the projects' textual pitches (i.e., project descriptions appearing on the opening page of the campaign posted on the site) for all categories posted during the 2009-2015 window, as well as the related funding decisions. We excluded the projects that were still in the process of being funded at the time of the data collection. We also excluded campaigns with fewer than 100 words of description to ensure that our measures of average linguistic concreteness and range were reliable. We also excluded campaigns that had a funding goal under \$5000 to be consistent with prior crowdfunding research (e.g., Greenberg & Mollick, 2017 and focus on projects that are more likely to be entrepreneurial enterprises. Overall, our analyses are based on 97,140 projects submitted for funding on the site.

Measures

Average construal level signals. The field of psycholinguistics has demonstrated that cognitive concreteness or abstractness is reliably conveyed linguistically, and thus linguistic concreteness has been an area of central and enduring interest in the field (e.g., Hill, Kiela & Kurhonen, 2013; Paivio, 1971). While a number of studies have sought to measure level of linguistic concreteness in the English language (e.g., Altarriba, Bauer & Benvenuto, 1999; Coltheart, 1981), most are not comprehensive and thus using these dictionaries to measure the

language in a corpus is unreliable because the frequency of rated words may be quite low. However, Brysbaert and colleagues (2014) recently developed a dataset of concreteness ratings (using a scale of 1 (abstract) to 5 (concrete)) for 39,954 English words. This dataset is quite comprehensive – by comparison, U.S. adult native English speakers have a total vocabulary ranging from 20,000 to 35,000 words. The dictionary has been validated as a measure of construal level in prior construal level research (e.g., Reyt et al., 2016; Snefjella & Kuperman, 2015). The most abstract word in the dataset is “essentialness”, while the most concrete words are objects such as “bicycle” or “table”. We averaged the concreteness scores of all rated words in the project descriptions, with higher scores reflecting more concrete pitches.

Ambidextrous construal level signals. Construal level ambidexterity is signaled by variability in degree of linguistic concreteness/abstractness. Much of the research in corpus linguistics uses categorical data, necessitating frequency-based measures of variability or dispersion (e.g., Gries, 2006; 2010). With ordinal binary data like text-based measures of positivity/negativity, relative proportions can be used to assess variability, as in measures of ambivalence (Harrison & Dossinger, 2017). However, with a relatively comprehensive dictionary providing weights approximating a continuous distribution like that we used to measure construal level (Brysbaert et al., 2014), variability is effectively measured using the standard deviation of concreteness scores. We thus follow the example of prior research assessing continuously-measured constructs such as pay dispersion (Shaw, Gupta & Delery, 2002) and dispersion in organizational climate perceptions (Roberson, Sturman & Simons, 2007), computing the standard deviation of concreteness scores of all rated words of each pitch. Higher scores reflect greater variation from higher to lower construal level.

Funding success. We captured funding success using a binary variable: 1 = funding goal (i.e., monetary goal entered by the entrepreneur when posting the project on the platform)

reached by the end of the campaign; and 0 = funding goal not reached. This is an outcome that is meaningful because campaigns must reach their funding goal in order to receive the money pledged without a high fee. Using a dichotomized measure of funding success also enables clearer interpretation of effect sizes while simultaneously addressing outliers (i.e., projects that received much higher funding than initially requested by the entrepreneur). Alternative measures of our dependent variable were used as robustness checks to confirm our interpretation of the findings.

Controls. The lengthier the pitch, the more opportunity an entrepreneur has to use a broader vocabulary and potentially cover a wider range of abstract and concrete words, and pitch length could also serve as a proxy for how informative the pitch is. Therefore, to ensure that construal range was not confounded with pitch length and to differentiate it from informativeness, we included word count as a control variable. In addition, because projects with a more ambitious financial target goal may be less likely to receive full funding, we also included funding goal as a control. Finally, we included the campaign's launch year and category (i.e., 15 main categories) as fixed effects.

Results

Descriptive statistics for the key variables are summarized in Table 1. Table 2 shows the results of our binary logistic regression with funding success as the dependent variable. With respect to the control variables, every extra \$1,000 of funding sought was associated with a 1% lower likelihood of reaching the funding goal. Pitch length was positively related to funding success. Adding 100 words in pitch length was associated with a 14% higher likelihood of reaching the funding goal. Finally, funding success varied significantly across categories (see Robustness Checks for more details) but year of launch did not have a consistent impact on funding success.

Pitch average construal level influenced the likelihood of funding success such that lower construal level pitches were more successful. Specifically, an increase of one standard deviation in the concreteness of the pitch was associated with a 6% higher likelihood of funding success. More central to our hypothesis, beyond the positive effect of concreteness and all controls, pitches containing more ambidextrous construal level signals were more likely to reach their funding goals. Specifically, an increase of one standard deviation in ambidexterity of construal level signals was associated with 34% higher likelihood of funding success.

Insert Tables 1 & 2 about here

Robustness checks

We sought to evaluate the robustness of our findings across different specifications.

Alternative measures of funding success. Our main analysis uses a binary outcome variable (i.e., success or failure in reaching the campaign’s specified funding goal). To ensure that this dichotomization did not strongly influence our findings, we ran the same analysis using two alternative dependent variables: percentage of success (capped at 100%) and log transformed percentage of success (uncapped). The results of both models were consistent with the conclusions reported above.¹

Analyses by category. Kickstarter campaigns range from highly scalable ventures to those offering a craft or artistic product for which it would be difficult to rapidly scale production. These differences are captured by the different categories used to classify pitches (e.g., ‘Comics’ versus ‘Technology’). To assess the generalizability of our findings across project categories, we

¹ All supplementary tables are available online at http://people.stern.nyu.edu/bbrocksm/papers/CLT_ambidex_suppl.pdf

explored the relationship between ambidextrous construal level signals and funding success within categories. We found that the two variables correlated positively at $p < .001$ for all 15 categories, ranging from $r = .131$ to $r = .207$ (with the exception of the Music category, at $r = .065$). Thus, Hypothesis 1 was supported across categories—the supplemental correlation matrices are available online.

First-timer versus experienced entrepreneurs. Past research has documented the benefit of experience on an entrepreneur’s ability to develop a complex and effective mental representation of new business ventures (Baron & Ensley, 2006). Building on this finding, we tested whether serial entrepreneurs, here measured as campaign founders whose Kickstarter account was associated with more than one project, used more ambidextrous construal level signals when describing their venture in their pitches. Correlations from Table 1 indicate that campaigns led by serial entrepreneurs were more likely to reach their funding goal, $r = .192, p < .001$. Campaigns led by serial entrepreneurs were slightly more likely to utilize ambidextrous construal level signals, $r = .026, p < .001$.

Solo founder versus entrepreneurial team. We assume that construal level signals will be implicitly attributed to the founders of entrepreneurial ventures. To evaluate the generalizability of our findings for ventures with different leadership structures, we coded whether a single founder/entrepreneur was indicated as the “creator” (the label that Kickstarter uses to refer to the leader) or whether leadership took the form of a founding team. We found that solo leadership was associated with almost imperceptibly lower average construal level, but there was no significant difference in the *ambidexterity* of construal level signals between ventures with a single entrepreneur or a founding team, suggesting that our findings generalize across leadership structures. However, team-led ventures had a substantially (56%) greater likelihood of funding success (see online supplement).

Discussion

The results of Study 1 support our central prediction that ambidextrous construal level signals are positively associated with funding success in a highly varied sample of entrepreneurial pitches, where funding success has important and measurable material consequences. We found that signals of lower construal level in the form of linguistic concreteness were also positively associated with funding success, although the magnitude of this effect was smaller than that of our ambidexterity measure. While we did not hypothesize that lower construal level signals would be evaluated more positively, these results may suggest that signals of concreteness better alleviate investors' uncertainty, and promote investment, than higher construal level signals.

A strength of Study 1 is that it offers real world evidence that ambidextrous construal level signals are associated with important outcomes, but our study has some limitations. Of perhaps greatest concern is the correlational nature of the data, introducing the possibility that the relationship between our measure of ambidexterity and funding outcomes is spurious. Specifically, if the underlying quality of the ventures varied systematically with signals of construal level ambidexterity, we would not be able to discern which factor shaped funding outcomes because our archival field data does not furnish experimental control. Likewise, perhaps ambidextrous pitches were more informative or higher quality. We control for the length (i.e., number of words) of the pitch in our analyses, but it remains possible that unobserved indicators of pitch quality or informativeness are not accounted for. Moreover, crowdfunding platforms provide extraneous signals such as endorsements and evidence of pledges from earlier funders. If such extraneous signals covaried with signals of ambidexterity, it may have been these signals that influenced funders' judgments and willingness to support campaigns. Another limitation of Study 1 is that our archival data does not provide evidence of the inferences that investors made, which would have not only provided greater confidence that ambidextrous

construal level signals (rather than some other unobserved factor) were responsible for funding outcomes, but also would offer insight into why such signals are interpreted positively.

STUDY 2

The objective of Study 2 was twofold. First, we aimed to replicate the findings of Study 1 in a controlled experimental setting to eliminate potential alternative explanations, such as the possibility that a pitch's linguistic concreteness and ambidexterity are associated with exogenous factors. Second, and more importantly, we sought to explore the hypothesized mechanism underlying the relationship we obtained in the field. In particular, we tested whether perceptions of paradoxical entrepreneurial leadership mediated the relationship between the variance in pitch construal level and support for the venture.

Methods

Participants. Two hundred and fifty unique responses were collected on Amazon Mechanical Turk, in exchange for a small payment. Thirty-nine respondents failed the attention check that appeared immediately after the initial consent form and were dropped, leaving two hundred and eleven participants (101 women; 54 non-Caucasians; Age: $M = 39.0$, $SD = 11.6$).

Procedure and Measures.

Manipulation. All participants read a pitch for a venture called MediTest, a (fictitious) medical device startup. They were told that the venture offers users a device that enables people to self-perform medical tests at home. Consistent with research on the number of founders of entrepreneurial ventures suggesting that the modal number of founders is two (and the vast majority of ventures are started by more than one entrepreneur; Wasserman, 2012), we described MediTest as a collaboration between two founders. In all cases, the pitch included six sentences elaborating on the initial description of the venture, with three ostensibly provided by each

founder. These elaborating sentences in the pitch served as our manipulation (detailed material provided in Appendix 1).

In the abstract condition, both founders' statements were abstract (e.g., "Our company uses innovation and creativity to improve healthcare quality."). In the concrete condition, both founders' statements were concrete (e.g., "Our testing device performs hundreds of tests by using very little bodily fluid."). In the ambidextrous condition, one founder's statements were abstract while the other's were concrete. To validate the manipulation, we coded the linguistic concreteness of the sentences using the same dictionary that we used to code the Kickstarter campaigns in Study 1. As expected, the six low construal statements yielded the highest linguistic concreteness scores ($M = 3.53$, $SD = 0.22$, $Min = 3.24$, $Max = 3.85$) and the six high construal statements the lowest linguistic concreteness scores ($M = 2.77$, $SD = 0.19$, $Min = 2.52$, $Max = 3.05$).

Manipulation Check. We used six of the most relevant items from a perceived construal level measure utilized in prior research (Reyt et al., 2016b). Three items assess perceived low construal level (i.e., "the founders are focused on: "the details", "how things are done", and "short-term goals"; responses ranging from 'not at all'(1) to 'to a great extent'(7)($\alpha = .69$) and three-items measure perceived high construal level (i.e., "the founders are focused on: the big picture", "why things are done", and "long-term goals"; $\alpha = .74$).

Dependent Variable. Participants indicated their evaluation of the venture on a three-item scale: "How optimistic are you about the venture's future performance?" (7-point scale with endpoint 1 = *very pessimistic* and 7 = *very optimistic*), "What do you think is the probability that this venture will be a success?" (7-point scale with endpoint 1 = *not likely at all* and 7 = *very*

likely), and “How likely would you be to recommend investing in the venture?” (7-point scale with endpoint 1 = *not likely at all* and 7 = *very likely*) ($\alpha = .88$).

Mediator: Paradoxical Entrepreneurial Leadership. Paradox mindset has been explored as an individual characteristic that people can self-report (Miron-Spektor et al., 2018) as well as an interpersonal inference (i.e., paradoxical leadership) made by observers and interaction partners (Zhang et al, 2015). We based our measure on the latter because it is most relevant to our signaling model. A distinctive characteristic of the existing paradoxical leadership behaviors in people management scale (PLBPM; Zhang et al., 2015) is its form: all of the items are double-barreled and reflect the “both..and” aspect of paradox and ambidexterity, notably distinct from univalent scales. However, the perceived behaviors reflected in the PLBPM scale apply specifically to people management practices, and are generally not relevant to early stage entrepreneurial ventures that tend to have few, if any, employees. Therefore, we developed a scale based on the structure of the PLBPM items but reflecting the tensions identified in prior research linking paradox to innovation and entrepreneurship (e.g., Smith & Tushman, 2005; Bledow et al., 2009) and from entrepreneur scorecards we obtained from venture capital firms. Participants were asked to what extent they felt that the two entrepreneurs possessed juxtaposed pairs of attributes using a 7-point scale with endpoint 1 = *not at all* and 7 = *to a great extent*. Six items paired antagonistic but complementary business competencies (i.e., “analytical and intuitive”; “visionary and down-to-earth”; “ambitious and pragmatic”; “idealistic and realistic”; “practical and creative”; and “execution-oriented and strategic”; $\alpha = .88$).

Results

To confirm that our manipulation was effective, we first tested whether the entrepreneurial pitches in our three conditions (i.e., abstract, concrete, and ambidextrous)

exhibited the expected level of abstraction and concreteness. One-way ANOVAs with post-hoc LSD tests were conducted on our two manipulation checks (i.e., the perceived low and high construal level scales) to examine differences across conditions. In line with our expectation, participants in the abstract condition ($M = 4.31$, $SD = 1.18$) perceived the pitch as significantly less concrete than participants in the concrete ($M = 5.17$, $SD = 0.95$, $p < .001$) and ambidextrous ($M = 4.97$, $SD = 1.15$, $p < .001$) conditions, but the concrete and ambidextrous conditions did not differ, $p = .270$; overall $F(2, 208) = 11.82$, $p < .001$, $\eta^2 = .102$. Conversely, participants in the concrete condition ($M = 4.20$, $SD = 1.38$) perceived the pitch as significantly less abstract than participants in the abstract ($M = 5.66$, $SD = 0.79$, $p < .001$) and ambidextrous ($M = 5.08$, $SD = 1.25$, $p < .001$) conditions, but the abstract and ambidextrous conditions differed only marginally, $p = .065$; overall $F(2, 208) = 33.79$, $p < .001$, $\eta^2 = .245$.

To further confirm the effectiveness of our ambidextrous construal signal manipulation, we computed an ambidextrous construal score for each condition, using a formula adapted from the ambivalence measure proposed by Griffin and validated by Thompson, Zanna, and Griffin (1995): $(\text{concrete score} + \text{abstract score}) / 2 - |\text{concrete score} - \text{abstract score}|$. As expected, the ambidextrous signal score for the ambidextrous condition ($M = 4.31$, $SD = 1.41$) was significantly higher than both that of the concrete condition ($M = 3.26$, $SD = 1.87$, $p < .001$), and abstract condition ($M = 3.51$, $SD = 1.70$, $p = .005$), but the scores of the concrete and abstract conditions did not significantly differ from one another, $p = .376$; overall $F(2, 208) = 7.57$, $p < .001$, $\eta^2 = .068$. Taken together, these results support the effectiveness of our manipulation.

Next, we ran pairwise comparisons to examine the effect of our manipulation of the ambidexterity of construal level signals on participants' evaluation of the venture. We expected that participants in the ambidextrous condition would exhibit more positive evaluations than would participants exposed to pitches that did not vary as much in construal level. To assess the

effect of construal level variability, we combined the low variance (abstract and concrete) conditions and contrasted them with the high variance (ambidextrous) condition. Participants' evaluation of the venture was significantly more positive for those exposed to a higher variance (ambidextrous) pitch ($M = 5.50, SD = 1.43$) than those exposed to a lower variance pitch ($M = 5.02, SD = 1.47$), $t(209) = 2.29, p = .023, d = 0.334$. Evaluations of the venture in the abstract ($M = 5.21, SD = 1.30$), and concrete ($M = 4.82, SD = 1.62$) conditions did not significantly differ, $t(137) = 1.58, p = .117, d = 0.267$.²

We then ran pairwise comparisons to examine the effect of variance in construal level signals on participants' inferences of founders' paradoxical entrepreneurial leadership. Consistent with our expectations, participants in the ambidextrous condition perceived the founders as higher in paradoxical entrepreneurial leadership ($M = 5.52, SD = 0.96$) than those in the less ambidextrous combined condition ($M = 5.16, SD = 0.97$), $t(209) = 2.56, p = .011, d = 0.372$. Inferences of founders' paradoxical entrepreneurial leadership did not significantly differ in the concrete ($M = 5.13, SD = 0.97$) and abstract conditions ($M = 5.19, SD = 0.97$), $t(137) = .354, p = .724, d = 0.060$.³

To test our causal path, we conducted a series of regressions and a bootstrapping analysis. Ambidextrous pitch (ambidextrous condition = 1, concrete and abstract condition = 0) was a significant predictor of both inferences of founders' paradoxical entrepreneurial leadership, $B = 0.36, p = .011, R^2 = .030$, and positive evaluation of the venture, $B = .49, p = .023, R^2 = .025$. However, consistent with a mediational process, the effect of ambidextrous pitch on venture

² Separate pairwise comparison of the ambidextrous condition and each of the concrete and abstract conditions show that participants in the ambidextrous condition had significantly more supportive attitudes toward the venture than those in the concrete condition, $t(137) = 2.66, p = .009$, but their evaluation did not differ significantly from those in the abstract condition, although trending in the expected direction, $t(142) = 1.30, p = .196$.

³ Separate pairwise comparison of each condition showed that participants in the ambidextrous condition inferred the founders had higher levels of paradoxical entrepreneurial leadership than those in the concrete, $t(137) = 2.38, p = .019$, and those in the abstract conditions, $t(142) = 2.05, p = .042$.

evaluation became non-significant, $B = 0.13, p = .429$, when inferences of founders' paradoxical entrepreneurial leadership was added to the model, $B = 0.99, p < .001, \Delta R^2 = .422, p < .001$. To further test our mediational path, we conducted a bootstrapping analysis—using Model 4 (Hayes & Preacher, 2014) to account for our binary independent variable—with 5,000 resamples and 95% confidence intervals in order to estimate the indirect effect. As predicted, inferences of founders' paradoxical entrepreneurial leadership significantly mediated the relationship between exposure to a more ambidextrous pitch and positive evaluation of the venture, as indicated by the interval of the estimated indirect effect, which excludes zero, $B = 0.36, SE = 0.13, CI_{95\%} [0.09, 0.61]$ (see Figure 1 for full mediational path).

Insert Figure 1 about here

Discussion

In a controlled experimental design in which the nature of the entrepreneurial venture was consistent across conditions, we replicated the findings from the crowdfunding site Kickstarter (Study 1) showing that ambidextrous entrepreneurial pitches garner greater support than pitches with lower variance (in which the construal level of the pitch is unitary - either consistently high or consistently low). We also found that participants in the ambidextrous condition perceived founders as higher in paradoxical entrepreneurial leadership than those in the low variance conditions, and the relationship between the variance in construal level of the pitch and observers' evaluation of the venture is mediated by inferences of founders' paradoxical entrepreneurial leadership.

General Discussion

Converging evidence from an archival field study of crowdfunding campaigns and an experimental study enabling insight into evaluator's inferences supports the hypothesis that entrepreneurial pitches containing the widest range of higher and lower construal level signals obtain greater funding and support. Moreover, inferences of paradoxical entrepreneurial leadership accounted for the relationship between the variance in a pitch's construal level signals and evaluator support for the venture. A number of novel contributions to theory and research can be derived from these findings.

The present research recruits construal level theory to offer new insights into research on investor support for entrepreneurial ventures (e.g., Huang & Knight, 2017), and a path to linking the entrepreneurial funding and entrepreneurial cognition literatures. Research on early stage entrepreneurial funding, whether crowdfunding or other types of investment, recognizes that investors attend to signals of various types to reduce their uncertainty (Courtney et al., 2017). A wide variety of signals have been found to influence evaluations, including informational and interpersonal signals (Huang & Knight, 2017), many of which are represented in the entrepreneurial pitch. One stream of research in this area emphasizes informational cues of human and social capital as signals of legitimacy (Baum & Silverman, 2004; Hsu, 2007; Hsu & Ziedonis, 2013; Reuer, Tong & Wu, 2012; Stuart, Hoang & Hybels, 1999). Another recent stream of work emphasizes the interpersonal cues associated with entrepreneur's behavioral style, including factors such as their affect (Baron, 2008; Cardon et al., 2009; Chen et al., 2009; Huang & Knight, 2017) or whether they frame information in a promotion-oriented or prevention-oriented manner (Kanze, Huang, Conley & Higgins, 2018). To date, this work does not offer a systematic and generalizable way of modeling the cognitive mindsets of founding teams. A separate literature on entrepreneurial cognition has emerged demonstrating the importance of how entrepreneurs think (Baron, 2004), especially with respect to the identification and

exploitation of market opportunities (Mitchell et al., 2007), but very little research on investor funding decisions explores how investors respond to signals regarding entrepreneur's cognitive capabilities.

Our construal level model offers a theory-based, rigorous, systematic, and generalizable framework for identifying and interpreting signals of entrepreneurs' cognitive representations in entrepreneurial pitches. It thus enables integration of the research on investor responses to informational and interpersonal signals and the work on entrepreneurial cognition. Moreover, it offers insight into why signals of cognition influence funding behavior. We find that potential investors are influenced by linguistic cues that have been demonstrated to reflect higher and lower construal level. Construal level cues reflect the structure (e.g., linguistic abstraction and concreteness) of an entrepreneurial pitch, complementing research focusing on the specific informational content (e.g., the description of the business opportunity, entrepreneur's past experience), and thus opening up new avenues for how to conceptualize and measure signals of entrepreneurial cognition. Moreover, consistent with research suggesting that investors' evaluations are complex and multiply-determined (Huang & Knight, 2017; Huang & Pearce, 2015; Kacperczyk & Younkin, 2019), investors seem to be most supportive of ventures pitched using ambidextrous construal level signals reflecting a varied repertoire of cognitive capabilities. Thus, our findings reinforce research regarding the value of portfolios of signals and the ways that they interactively combine to shape support for entrepreneurs (e.g., Steigenberger & Wilhelm, 2018; Kacperczyk & Younkin, 2019), but extend it by considering how those signals may relate to entrepreneurs' cognition.

Our findings also reinforce and extend studies in the entrepreneurial cognition tradition that use construal level theory to understand how entrepreneurs weigh feasibility and desirability considerations when assessing opportunities (Tumasjan et al., 2013). In particular, our findings

suggest that construal-level based cognitive processes may influence the form of the entrepreneurial pitch which, in turn, serves as a signal to investors eliciting differential funding outcomes. Moreover, our findings suggest that ambidextrous signals combining higher and lower construal level, and thus supporting both feasibility and desirability, may yield the best funding outcomes.

We found that ambidextrous construal level signals are not only associated with greater support for ventures but also with inferences that entrepreneurs are higher in paradoxical entrepreneurial leadership. Moreover, these inferences mediate the effect of signals of entrepreneurs' cognition on evaluators' support for the venture. Prior research in the paradox literature has explored the micro-foundations of paradox, such as drawing attention to the juxtaposition of different cognitive frames, experiences of tension, and the affective reactions (i.e., threat) that tension generates in people (e.g., Miron-Spektor et al., 2018; Smith & Lewis, 2011; Bledow et al., 2009). Some research in this stream suggests that creativity and innovation is facilitated by maintaining a paradox mindset (e.g., Miron-Spektor et al., 2011b). Our theory and findings complement evidence that paradox facilitates creativity and innovation by suggesting that paradoxical cognitive frames can be signaled to potential supporters and thus generate support for innovative ventures. Indeed, perceptions of paradoxical leadership were positively associated with support in Study 2, and paradox inferences served as the psychological mechanism underlying the positive response to entrepreneurial pitches combining high and low construal level cues.

Third party observers have begun to attract attention in the paradox literature, with research suggesting that employees infer paradox leadership from their supervisors' behaviors (Zhang et al., 2015). Our findings suggest that third party observers may attend to signals of leaders' cognition in the form of their construal level cues, as well. Yet another stream of

research in this literature takes a rhetorical approach and considers the rhetorical strategies managers utilize to help organization members negotiate paradox (e.g., Jarzabkowski & Sillince, 2007; Jarzabkowski, Sillince & Shaw, 2010). The present research raises the possibility that some of the rhetorical strategies that have been explored in the paradox literature may involve not only distinctive content (such as the common goals versus target-specific goals, or transcending time versus anchoring on a specific point in time that have been explored in prior research; Sillince, Jarzabkowski & Shaw, 2012) but may also have a distinctive structure (i.e., linguistic abstraction and concreteness).

Our findings regarding how paradox is socially signaled and evaluated may open up new avenues of inquiry in the paradox literature. Research has explored the organizational performance outcomes of ambidexterity and paradox (see Raisch & Birkinshaw, 2008; Raisch et al., 2009; and Schad et al., 2016 for reviews). The signals, attributions and evaluations we demonstrate between ventures and investors may generalize to other contexts. For example, managers may evaluate employees' capabilities based on their construal level signals, and stock market analysts may rely on the construal level signals of a CEO and top management team to evaluate the leadership of an organization.

Construal level theory has proven useful in many areas of organizational research (see Wiesenfeld et al., 2017, for a review), but just as compellingly, application to organizational phenomena raises new questions that meaningfully elaborate and extend construal level theory. People seem to draw inferences from construal level signals far beyond how distant a target or event may be – the attribute that has attracted much of the attention in psychology research on construal level. Organizational scholars have found that linguistic signals of higher construal level leads observers to make socially-relevant attributions and inferences such as that those with higher construal levels have high power (Wakslak, Smith & Han, 2014) and expert reputation

(Reyt et al., 2016). Lower construal level linguistic signals lead to inferences of execution orientation and the ability to ‘hit the ground running’ (Reyt et al., 2018). Drawing upon the organizational research on paradox, the present research is the first to explore construal level ambidexterity and its signal value. Moreover, our findings suggest that cues providing stronger evidence of ambidexterity signal value to funders evaluating innovative ventures. These results support construal level theory’s assumption that higher and lower construal level are valuable and adaptive, but extend prior research by demonstrating that these sources of adaptive value can be recognized even when they occur simultaneously.

Opportunities for new insight may be derived from further integrating paradox theory with construal level theory in future research. A number of organizational scholars studying paradox have explored the individual attributes that enable people to cope with or even embrace paradox, including paradoxical thinking, paradox mindset, and integrative complexity (Miron-Spektor et al., 2018). Others have considered contextual conditions such as stretch, discipline, support and trust (Gibson & Birkinshaw, 2004). Bringing these insights to construal level research may help identify how the rare but valuable combination of higher and lower construal level may come about and be enabled. The construal level literature has begun to explore regulatory scope, or the extent to which people self-regulate at multiple levels and timeframes (Ledgerwood, Trope & Liberman, 2015) which the organizational research on paradox may help illuminate.

Our linguistic signaling analysis of entrepreneurial pitch evaluation may open up new avenues of inquiry in related literatures. For example, it is possible that abstractness and concreteness may extend the innovation literature beyond its current focus on novelty and usefulness (Amabile, 1983). In the growing literature on creative idea evaluation (e.g., Elsbach & Kramer, 2003; Loewenstein & Mueller, 2016; Mueller et al., 2018), relatively little attention has

been devoted to how producers linguistically signal their creative ideas, but creativity and usefulness can be signaled both abstractly and concretely. For example, what makes Uber more creative than other taxi services may be the concrete and pragmatic way that the platform connects drivers to passengers, providing dynamic information to both parties and eliciting their engagement, but SpaceX can signal its creativity with Elon Musk's highly abstract stated goal of colonizing Mars. Amazon's claims of usefulness in the online retail domain are more concrete, focused on factors such as price, selection, and delivery. Future research can evaluate how novelty and usefulness relate to higher and lower construal level representations. It can also evaluate whether there is any association between construal level signals and subsequent firm performance to evaluate whether the inferences and behaviors of potential investors are adaptive or systematically biased.

Our research has a number of limitations, some of which suggest fruitful lines of inquiry for future research. Our studies only explore the construal level signals an entrepreneurial team incorporates in the pitch and the inferences about the entrepreneurs that evaluators derive from these signals. We do not consider evaluators' cognitive representations, and in particular whether evaluators are themselves higher or lower construal level. Prior research on creative idea evaluation suggests that the construal level of evaluators has important effects: evaluators whose construal level is low are less able to recognize creative ideas because lower construal level increases their uncertainty, which in turn leads them to evaluate risky creative ideas more negatively (Mueller et al., 2014). If so, there may be complex and interesting relationships between the construal level signals sent by entrepreneurs and the construal level of evaluators' mindsets that warrant future research.

Likewise, our findings linking ambidextrous construal level signals and observers' inferences of paradoxical leadership are entirely interpersonal. Thus, although theory would

suggest that paradox mindset should be facilitated by juxtaposing higher and lower construal level cognitive representations and the temporal, spatial, social, and other cognitive frames that are associated with them, our research cannot address this question. Future research may fruitfully be directed at evaluating the relationship between construal level and individual or collective orientation toward paradox. For example, we might consider the possibility that an important and unexplored antecedent of paradox mindset at the individual level may be construal level shifts or construal level flexibility (Steinbach et al., in press; Wiesenfeld et al., 2017). Construal level theory may help us uncover common themes linking different paradoxical tensions. For example, lower construal level promotes a focus on the self, stability and short-term action while higher construal level relates to social groups, flexibility, and long-term exploration. Perhaps some of the paradoxical tensions identified in prior research, such as belonging tensions (self vs collective) and learning tensions (exploit vs. explore), may have a common cognitive foundation in construal level. If so, construal level shifts may be recruited to help people manage paradoxical tensions. Construal level research also suggests new forms of paradox that have not yet been explored in the organizational literature, such as tensions between idealistic and pragmatic or between general and specific.

Our focus on cognition may itself be limited. It is also possible that ambivalent affective signals (Rothman, 2011) may be embedded in entrepreneurial pitches. If so, expressions of emotional ambivalence could elicit inferences of paradoxical entrepreneurial leadership and investor support. Cognition and affect are inter-related, raising the possibility of a complex interplay between signals of cognition and affect that are worthy of future investigation.

From a practical standpoint, the present research has a number of implications. Most obviously, entrepreneurs designing entrepreneurial pitches and crowdfunding campaigns may benefit from incorporating signals of higher and lower construal level in their communication.

Signaling ambidextrous construal level may also benefit other individuals or teams that wish to be perceived as embracing the tensions and contradictions in our paradox-filled organizations. Juxtaposing cognitive representations varying in construal level may be a tool that employees and managers can use to promote innovation and creativity in new ventures as well as established organizations. Signals of construal level ambidexterity may also have implications for leadership and leadership development more generally. Notions of paradox, complexity and ambivalence have begun to be incorporated into leadership research (Zhang et al., 2015; Rothman & Melwani, 2017). The present findings suggest that observers may infer such qualities from linguistic patterns. Recent psychology research suggests that people seem to be aware of, and even have lay theories about, matching their construal level to their task (e.g., Nguyen, Carnevale, Scholer, Miele & Fujita, in press). Perhaps, then, construal level ambidexterity is a skill that leaders can learn, and can learn to signal.

This research represents the first empirical investigation of construal level ambidexterity and its association with innovative ventures. Bringing together the psychology-based research on construal level with the organizational research on entrepreneurial pitches and paradox creates value for both applied and discipline-focused work, opening up a host of promising new research questions.

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Table 1. Descriptive Statistics and Correlation Matrix

	<i>M</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Success (binary)	0.43	0.49								
(2) Success (capped at 100%)	0.48	0.46	.97							
(3) Success (log, uncapped)	0.44	0.50	.82	.84						
(4) Funding Goal	51,049	971,947	-.03	-.03	-.03					
(5) Word Count	404	303	.12	.14	.21	.01				
(6) Construal Level Signals	3.09	0.14	.09	.10	.10	-.02	.07			
(7) Ambidextrous Construal Level Signals	1.22	0.19	.16	.17	.10	.00	-.01	.38		
(8) Individual Entrepreneur	0.58	0.49	-.11	-.12	-.14	.00	-.09	.02	.01	
(9) Serial Entrepreneur	0.15	0.35	.19	.19	.18	.00	.05	.04	.03	-.01

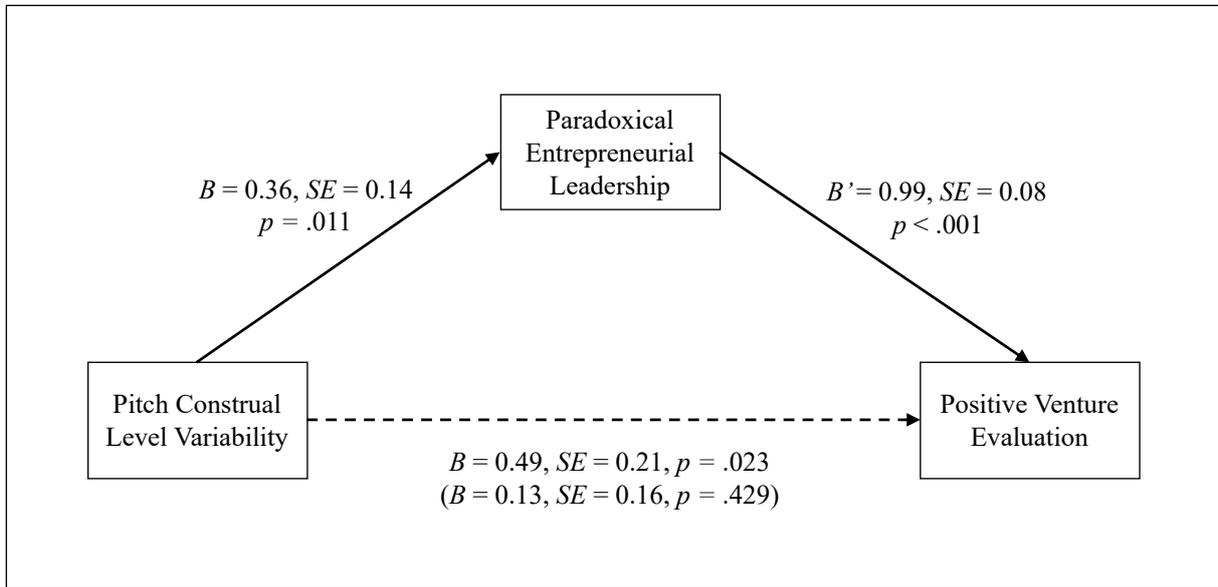
Notes. Given the large number of observations, all correlations above $r = .012$ are significant at $p < .001$. Substantive correlations are interpreted in the text.

Table 2. Output of Binomial Logistic Regression with Funding Success as Outcome Variable

	Exp <i>B</i>	95% CI
Construal Level Signals (std)	1.06	[1.04 , 1.08]
Ambidextrous Construal Level Signals (std)	1.34	[1.32 , 1.36]
Word Count (100 words; ctr)	1.14	[1.13 , 1.14]
Goal (\$1k; ctr)	0.99	[0.99 , 0.99]
Category (d)	Y	. .
Year (cat)	Y	. .
Constant	0.99	. .

Note. std = standardized; ctr = centered. Category was entered as a series of dummy variables. Years were entered as a categorical variable. All variables are significant at $p < .001$, except for the categorical variables year.

Figure 1. Mediation Path, Study 2



Appendix 1. Study Material, Study 2

Abstract Condition

Description, Entrepreneur 1:

- Our company uses innovation and creativity to improve healthcare quality.
- Our technology disrupts the medical testing industry, which was stagnant.
- Our technology enables better medical decision-making.

Description, Entrepreneur 2:

- Our technology will help solve healthcare policy challenges.
- Our technology will help humanity at all levels, regardless of geography, ethnicity, age or gender.
- Our technology gives people peace of mind.

Concrete Condition

Description, Entrepreneur 1:

- Our testing device performs hundreds of tests by using very little bodily fluids.
- Our testing device updates itself using wifi.
- Our testing device tests bodily fluids by using miniature vials.

Description, Entrepreneur 2:

- Our testing device can synchronize data with Apple Health.
- Our testing device performs blood tests within minutes.
- Our finger stick device is disposable.

Ambidextrous Condition. Entrepreneur 1 same as abstract condition and Entrepreneur 2 same as concrete condition; or Entrepreneur 1 same as concrete condition and Entrepreneur 2 same as abstract condition.