LINGUISTIC STRATEGIES OF ENTREPRENEURIAL FIRMS AND FINANCIAL RESOURCE ACQUISITION

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ABSTRACT

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Resource acquisition from external investors is critical for the survival of entrepreneurial firms. Prior research indicated that an entrepreneurial firm's strategic use of language in public communication can enhance the firm's opportunity to obtain external funding. In this dissertation, I extend this line of research by focusing on the linguistic characteristics of an entrepreneurial firm's communication. Specifically, I focus on whether and how language vividness, a critical lexical characteristic of an entrepreneurial firm's public communication, influences the firm's financial resource acquisition performance. Using entrepreneurial firms' IPO events as the study context, I examine the association between the level of language vividness of a firm's IPO prospectuses and its IPO performance. I argue that, in general, an entrepreneurial firm will have greater IPO success if its prospectus shows high usage of concrete and imagery words—the two primary dimensions of vivid language. Furthermore, I argue that the effects of vivid language are contingent on three factors: 1) the similarity of the language strategy the firm employs relative to the industry it is operating in; 2) the hotness of the IPO market the firm belongs; and 3) the specific content domain (section) in the IPO prospectus. Examining a sample of 679 IPO firms, I find that language concreteness and language imagery are positively associated with firm's IPO outcome. In addition, the hotness of IPO market that a firm belongs moderates the relationship between the firm's level of language imagery and IPO outcome.

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He who wants to persuade should put his trust not in the right argument, but in the right word.

--Joseph Conrad

INTRODUCTION

Entrepreneurial firms attempt to cumulate strategic resources from external investors for survival, growth, and profits (Brush, Greene, & Hart, 2001; Shane, 2003; Starr & MacMillan, 1990). This task is very challenging for three primary reasons. First, entrepreneurial firms are associated with great uncertainty regarding both the business opportunities they can offer and the risks they face. To the potential resource providers, entrepreneurial firms are often novel and unique, their product features and market categories are ambiguous, and their financial performance is difficult to predict. As a result, substantial uncertainty is involved in investors' assessment of and investment decisions about the entrepreneurial firms (Aldrich & Fiol, 1994; Baum & Silverman, 2004; Benner & Tripsas, 2012; Cornelissen & Clarke, 2010; Lee, Lee, & Pennings, 2001; Lounsbury & Glynn, 2001; Navis & Glynn, 2010; Santos & Eisenhardt, 2009; Stuart, Hoang, & Hybels, 1999). Thus, the entrepreneurial firms need to legitimize their products and businesses and convince investors that they could actualize the value of the entrepreneurial opportunities and the profit potential of the firms (Garud, Schildt, & Lant, 2014; Rindova, Petkova, & Kotha, 2007; Von Burg & Kenney, 2000). Second, information asymmetry exists between firms and external investors (Cohen & Dean, 2005; Gao, Yu, & Cannella, 2015; Martens, Jennings, & Jennings, 2007). Entrepreneurial firms lack established track records that investors can reference to evaluate these firms, and public information about those firms is limited. Therefore, there is a high degree of uncertainty about the firms, making investors' assessment difficult. Finally, investors have both limited cognitive (e.g., attention) and material resources (e.g., financial). Multiple entrepreneurial firms compete against each other to obtain

the greatest amount of resources possible. Thus, the firms want to distinguish themselves from their competitors in many ways to attract investors' attention and resources (Zott & Huy, 2007).

To combat the above problems, the current entrepreneurship literature suggests that entrepreneurial firms can reduce uncertainty and standout from their competitors by affiliating with prominent actors such as venture capitalists, underwriters, strategic alliance partners, and customers (Gulati & Higgins, 2003; Lee et al., 2001; Reuber & Fischer, 2005; Shane & Stuart, 2002; Stuart et al., 1999). Those new firms could also build up their reputation through increasing the frequency of market actions, or actions signaling value creation, such as innovative actions (Rindova et al., 2007). In addition to research that examines the tangible action of new firms, an emerging stream of management research has focused on the entrepreneurial firms' language use. Because of information asymmetry, investors largely depend on communication from entrepreneurial firms to improve their knowledge about the firms and evaluate their prospects. Consequently, potential investors' evaluations of entrepreneurial firms are likely influenced by the language used by those firms in their external communication (Gao et al., 2015; Martens et al., 2007). Management researchers have found that through language forms such as entrepreneurial storytelling (Lounsbury & Glynn, 2001; Martens et al., 2007; O'Connor, 2004; Stuart et al., 1999), new market claims (Navis & Glynn, 2010; Santos & Eisenhardt, 2009), and inductive reasoning (Cornelissen & Clarke, 2010), entrepreneurial firms can help investors make sense of the entrepreneurial opportunities, resolve disagreements with investors, reduce ambiguity, and nurture shared beliefs and understanding about the product, market, and the firm. In so doing, entrepreneurial firms may influence the perception and evaluation of investors and increase resource acquisition opportunities (Lounsbury & Glynn, 2001; Martens et al., 2007).

Thus far, extant research has provided important insights regarding how entrepreneurial firms may utilize linguistic forms such as narratives, claims, storytelling, or reasoning to obtain social and financial resources. Yet we do not know enough about whether and how the lexical characteristics of the new firms' language usage influences the investors' evaluations and investment behaviors. According to communication and linguistic theorists, narratives and claims are molar level language unit while lexicons or words are molecular level language unit that are important to persuade and convince targeted audiences (Berry, Pennebaker, Mueller, & Hiller, 1997; Semin, 2008). A study of molecular-level linguistic styles concerns understanding the characteristics of lexicon or word as the basic unit of language (Berry et al., 1997; Semin, 2008). The molecular level language is composed of lexicons or words which are the most basic unit of language. They can be organized and structured to form any higher level unit of linguistic format or molar level language unit such as phrases, sentences, and paragraphs. Even when the content of a molar level language unit is the same, the lexical features may vary (Pennebaker & King, 1999). Such variation not only reveals important information about the communicator and the subject (Pennebaker, 1993; Pennebaker & Francis, 1996) but also is associated with different inferences the audiences make, which in turn influences their evaluations and decisions (Berry et al., 1997; Sherblom & Reinsch Jr, 1981).

To advance knowledge about how lexical features of entrepreneurial firms' language influence resource providers' investment behaviors under great uncertainty, I draw on the linguistics and persuasion literature and examine how vivid language facilitates entrepreneurial firms' resource acquisition around their IPOs. Vivid language refers to language that is "likely to attract and hold our attention and to excite the imagination to the extent that it is (a) emotionally interesting; (b) concrete and imagery-provoking, and (c) proximate in a sensory, temporal, or

spatial way" (Nisbett & Ross, 1980: 45; Taylor & Thompson, 1982). Vivid language has been identified as the single most important attribute that contributes to persuasiveness (Hosman, 2002). Prior research suggested that language vividness is in particular relevant to the entrepreneurial setting because language vividness has a powerful influence on information recipients' evaluations and decisions, especially in decision environments featuring significant competition, uncertainty, or risks (Emrich, Brower, Feldman, & Garland, 2001; Miller, Lane, Deatrick, Young, & Potts, 2007; Nisbett & Ross, 1980). Using MBA students in two experiments, accounting scholars revealed that language vividness affected investors' judgement in particular when they hold beliefs contrary to the prevailing tenor of the market (Hales, Kuang, & Venkataraman, 2011).

According to the literature, language vividness is reflected in two key word types—concrete words and imagery words. Concrete words generate understanding in receivers' minds through providing a large quantity of detail and information in specific context, and imagery words encourage receivers to create images through appealing to their emotions and sensations. Concrete words are words that are more descriptive and provide specific details (Hansen & Wänke, 2010; Langacker, 1987). Concrete means "actual" or "existing in reality". Researchers have argued that concrete words helped reduce doubt and may be more persuasive in contexts where uncertainty or risks exist (Miller et al., 2007). In addition, concrete words facilitate the communication of relevant knowledge and free recall of the message (Forgas, 2007; Paivio, Yuille, & Madigan, 1968). Finally, the informational source or communicator who uses concrete words will be considered to have more expertise and greater trustworthiness than those who use abstract words, and information recipients tend to show more favorable attitudes toward the message topic and have greater behavioral intentions to follow the advocated messages (Miller et

al., 2007; Toma & D'Angelo, 2015).

Word imagery refers to the extent to which a word "quickly and easily arouses a sensory experience such as a mental picture or sound" (Friendly, Franklin, Hoffman, & Rubin, 1982: 376). The use of imagery words evokes pictures, sounds, smells, tastes, and other sensations, and thus appeals directly to audiences' life experiences in addition to their intellect. Researchers argue that by engaging audiences' senses in addition to their minds, the communicator could make her messages "more immediate, real, and appealing" (Emrich et al., 2001: 529). Therefore, audiences are more likely to attend to, comprehend, and memorize messages disseminated with imagery words. Based on this logic, I propose that lexical concreteness and word imagery will enhance the effectiveness of the communication of entrepreneurial firms and their ability to attract investment through this IPO.

In addition to the main effects, I examine interaction effects to understand how the influence of lexical characteristics on resource acquisition varies across different conditions. The moderating variables are pertinent to how an entrepreneurial firm differentiate itself through language to positively influence investors' investment decisions. In particular, I explore three moderators, each examining how the language effects vary depending on the activity in the market's IPO environment, the firm's linguistic strategy relative to others in its market, and the domain of the communication content. First, I propose to examine the degree to which the language vividness of a firm is similar to the average level of language vividness by the other IPO firms in the same industry. Since it reduces the chance for the firm to differentiate itself, the effect of language will likely be attenuated if the level of language vividness by a firm is similar to that of the industry average. Second, I propose to study the hotness of the issue market, which reflects the level of activity in IPO market in which the firm is entering. This is important to

understand the effectiveness of a firm's language strategy. I argue that the language a firm uses may be more critical in an active IPO market since the firm is competing with a larger number of firms for financial resources. Finally, I propose to examine the interactions between lexical characteristics and the content domain in which the lexical characteristics are embedded. Content domain refers to the specific subsections within a firm's prospectus. Communication and marketing research suggests that the value of language characteristics differs across content domains because audiences look for different language cues depending on the purpose of the specific text they are reading.

To test the hypotheses, I collected the prospectuses prepared by US firms undergoing an IPO between 2004 and 2015. The IPO prospectus is the most important single document that IPO firms use for communicating with potential investors. Because many IPO firms are relatively new and without adequate public record of their news and performance, investors largely rely on the information provided in the prospectus to make their investment decisions (Arnold, Fishe, & North, 2010). Therefore, how IPO firms communicate the information in the prospectus will likely influence the evaluations of potential investors. For the prospectus, though the SEC requires the inclusion of certain categories, each firm enjoys great flexibility regarding how it organizes and presents the content (Hanley & Hoberg, 2010; Leone, Rock, & Willenborg, 2007). For instance, Arnold et al. (2010) noted that though in item 503(c) of the Regulation, SEC requires firms to "provide a discussion of the most significant factors that make the offering speculations significant factors that make the offering speculative or risky" and to "set forth each risk factor under a sub-caption that adequately describes the risk", the regulation gives only limited guidance regarding the definition of a significant risk factor (Arnold et al., 2010: 1500). Therefore, the prospectus is a proper context to explore the influence of entrepreneurial firms'

language on investors' decisions.

I make four primary contributions: First, the study introduces a novel linguistic perspective to the entrepreneurship literature, thus broadening the theoretical logic speaking to how entrepreneurial firms can attract external funding through the strategic use of language in external communications. The current entrepreneurship literature has examined how entrepreneurs and entrepreneurial firms used higher level of language such as narratives or story-telling, accounts, claims, or inductive reasoning for obtaining public support or legitimacy. However, it has largely ignored the language type used by the entrepreneurs and entrepreneurial firms. My dissertation incorporates micro-level linguistic features of words, in particular, the vividness of language to explore whether it may help entrepreneurial firms in their resource acquisition.

Second, drawing on selective attention and vividness congruency concepts from the vivid language literature, my dissertation examines contingencies that influence the effect of vivid language on entrepreneurial firm's resource acquisition. Findings by communication and linguistic researchers suggested that the effectiveness of vivid language varies depending on external factors related to those two concepts. In particular, I examine three factors that are important to the study context yet have been less examined in management literature: the nature of IPO market, the nature of language use at industry level, and the content domain in which the language is used. By looking at the set of contingencies, the research offers fine-grained knowledge regarding under what specific conditions, entrepreneurial firms' adoption of certain linguistic strategy will be more (or less) effective.

Third, this dissertation dissects the effects of vivid language by theorizing and testing two primary constructs—concrete language and imagery language—individually and under different

communication contexts. The research theorizes that as key constructs of vivid language, although the two sub-dimensions in general lead to positive outcomes, each construct poses differential effect when the communication content is different.

Finally, the entrepreneurship literature has relied largely on qualitative methods to explore how the language entrepreneurial firms uses influences their resource acquisition and legitimacy. Though this approach offers great insights and knowledge, it suffers from external validity and generalizability. My dissertation study adds to the research by collecting textual data from a relatively large sample of entrepreneurial firms and will improve the external validity of current research.

LITERATURE REVIEW

The field of management, accounting, and finance has cumulated a body of literature examining how entrepreneurs and their firms can use language for social and financial resource acquisition. Several studies in particular associated the content characteristics of IPO prospectuses with subsequent financial consequences. The sections below first review the literature on language use in entrepreneurial settings and then switch to language use in IPO prospectuses. The literature review end with a summary of the antecedents, outcomes, and conditional factors about entrepreneurial firms' language use researched thus far, and then discuss the gaps in the literature and what the study will add.

Language use in the general entrepreneurial setting

Entrepreneurial settings often involve ambiguity and uncertainty. To gain social and capital resources, firms are compelled to engage in linguistic activities to give sense of the new products, market categories, and businesses to key stakeholders and make those new products attractive, as well as persuade the potential investors that their products and businesses have profit potential (Martens et al., 2007; Navis & Glynn, 2010).

The management literature has mostly used narrative approaches to examine how entrepreneurs win social and financial support (Martens et al., 2007). The current literature has demonstrated a number of narrative types applied by entrepreneurial firms to communicate with external stakeholders. One major form is entrepreneurial storytelling (Garud et al., 2014; Lounsbury & Glynn, 2001; Martens et al., 2007). Stories are "important organizational symbols that use verbal expression or written language, structured in three time based structural components-beginning, middle, and end-with transitions and event sequences propelled by plot lines and twists and shaped by defining characters. Any story consists of three basic elements: "a

narrative subject in search of an object, a destinator (an extra textual force, the source of the subjects' ideology), and a set of forces that either help or hinder the subject in acquiring the desired object" (Lounsbury & Glynn, 2001: 549).

The consequences of using narratives may vary. For instance, Lounsbury and Glynn (2001) illustrated that new firms could build their identities, obtain legitimacy, and acquire capital and market opportunities through the process of storytelling where the firms align firm-specific resources and industry-level resources with the expectations of stakeholders. Similarly, Martens and colleagues (2007) argued for the usefulness of narratives for resource acquisition by constructing the identity of entrepreneurial firms. In contrast, Garud and colleagues (2014) found that projective story telling may lead to disappointment for stakeholders due to the deviation of the later reality from earlier future projection, leading to the loss of legitimacy. Thus, the authors suggested "revised story telling" which treats the communication with external stakeholders as an ongoing process.

In addition to narrative forms, researchers have studied a few other types of linguistic strategies, including analogy, claims, culture codes, framing, and metaphors. Bingham and Kahl (2013) looked at how analogy can be an important rhetoric device for the emergence of new schemas (Bingham & Kahl, 2013). Schemas are defined as "knowledge structures that contain categories of information and relationships among them (Bingham & Kahl, 2013: 14). Using analogies refers to "the process of transferring knowledge from a familiar product category to a new one" by linking "objects or attributes…mapped from the old, base domain to a new, target domain" and use the knowledge from the base domain to the target domain (Rindova & Petkova, 2007: 223). The authors used in-depth historical analysis and identified three key processes of analogy usage—assimilation, deconstruction, and unitization—through which firms made the

unfamiliar categories not only familiar to the public but also conceptually distinct.

Cornelissen and Clarke (2010) theorized how entrepreneurs could use inductive reasoning through analogy and metaphors to create and justify new ventures. The authors identified two determinants of inductive reasoning for the new venture creation—the entrepreneurs' prior experience and their motivation to reduce uncertainty to obtain legitimacy. Regarding entrepreneur's prior experience, they proposed that entrepreneurs could use analogies or metaphors when their depth of experience is in the related industries of the new venture. In addition, when their experience is in multiple industries, they tend to use analogies that emphasize a common set of relations between an industry and the industry the new venture is in. However, when entrepreneurs lack experience in industries related to the new venture, they tend to use metaphors. As for the uncertainty and legitimacy requirement, the authors proposed that a high level of uncertainty is associated with adaptation or replacement of the initial analogies or metaphors while a low level of uncertainty is associated with reinforcement of these initial analogies or metaphors. Finally, a low level of cognitive legitimacy of the new ventures is associated with adaptation or replacement of the initial analogies or metaphors while a high level of cognitive legitimacy is associated with reinforcement of the initial analogies or metaphors.

Additionally, research has examined the role of identity claims or new market claims in influencing investors' judgements and obtain social and financial funding (Navis & Glynn, 2010, 2011; Santos & Eisenhardt, 2009). For instance, Santos and Eisenhardt (2009) observed that entrepreneurs could use claiming and demarcating a market to control nascent markets. The methods for claiming, according to the authors, included "spreading symbolic narratives (real or fictitious) to raise awareness about the firm and its market, and communicate the firm's identity" (p. 649). Navis and Glynn (2010) found that firms used identity claims to legitimize new market

categories and shift attention of market actors from the market category as a whole to the firms' individual identities.

Extant studies have incorporated the perspective of framing in understanding entrepreneurial firms' language strategies. For instance, in discussing how entrepreneurial firms strategically communicated with external stakeholders, Navis and Glynn (2010) concluded that firms used linguistic frames to legitimate satellite radio as a new market category. Sine and Lee (2009) suggested that through motivational framing, a focal environmental organization could mobilize internal members, individuals external to the organization, and external but similar organizations to facilitate entrepreneurial activities such as discover and develop resources and opportunities for the focal organization (Sine & Lee, 2009). Focusing on cultural codes, Weber and colleagues (2008) provided insights regarding how social activists used shared cultural codes to form a repertoire of diagnostic, prognostic, and motivational framing (Weber, Heinze, & DeSoucey, 2008). By constructing the codes, they helped create a new market segment for grass-fed meat and dairy products, encouraged entrepreneurial production, shaped the direction of innovation, and established collective identities among producers.

Several studies have found that entrepreneurial firms can either use language in press releases or announcements, or influence media coverage to legitimize market categories, establish identities, and obtain resources. Kennedy (2008) explored how emerging firms legitimized a new market category through cognitive embedding (Kennedy, 2008). He found that firms tried to associate their actions with a number of competitors or other firms in the same news release to boost their own media coverage, enhance their prominence in the new market networks, and increase their chance of survival. Navis and Glynn (2010) also found that firms announced inter-organizational affiliations and endorsements to increase legitimacy.

Using a discourse analysis approach, Munir and Philips (2005) tried to understand the language strategies Kodak used as an entrepreneurial firm in the late 19th century to construct the meaning of its roll-film camera and popularize its photography (Munir & Phillips, 2005). Specifically, the authors identified four language strategies: embedding its new technology in existing institutionalized practices, creating new roles for the product in the society, creating new institutions at the field level, and modifying existing institutions at the field level.

Using a qualitative approach and grounded cultural model, Dodd (2002) aimed to understand entrepreneurs and the entrepreneurial process through the language they use (Dodd, 2002). The author analyzed metaphors entrepreneurs used to grant meaning to their own perspectives and cognitions of their entrepreneurial process. The research identified key metaphors, such as journey, race, building, parenting, and war, which entrepreneurs in America used to interpret what entrepreneurship is to them.

Taking the perspective of venture capitalists rather than entrepreneurs, Gregoire and colleagues (2008) looked at how venture capitalists evaluate the content of the verbal presentations by the entrepreneurs seeking funding (Grégoire, Koning, & Oviatt, 2008). Using dynamic response technologies, they found that investors evaluate entrepreneurs' presentations highly if they talked positively about the fast growth of the market and mentioned their possession of patents. In addition, investors also rated presentations higher if they perceived the arguments as credible.

Language use in IPO prospectuses

A small set of studies in accounting, finance, and management have focused on the IPO prospectus. An earlier study in management field about IPO prospectuses by Daily et al. (2003) looked at the association between information disclosed in the prospectus and two dependent

variables: offer price and offer price spread. However, this earlier study does not specifically look at the qualitative content or "soft information" described by the language in the prospectus (Daily, Dalton, & Cannella, 2003). Instead, it focused on the "hard information" including the variables associated with CEO (founder CEO and CEO-retained equity), board characteristics (composition, size, and prestige), and firm characteristics (size, age, and profitability). Interestingly, none of the hypotheses received support in the study.

Bensen and colleagues (2015) studied how the governance structures of entrepreneurial firms affect their use of camouflages to describe their corporate governance in their charters and bylaws and how the camouflage affects market reactions (Benson, Brau, Cicon, & Ferris, 2015). Their findings show that IPO firms with less-investor friendly governance used more obfuscation in their charters and bylaws. However, their findings also indicate the level of future scrutiny the firms will face attenuates the effect. In addition, IPO firms using greater camouflage in their governance documents experienced less underpricing and obtained more capital; and the effect is enhanced when the camouflaged is used in the corporate charters which are more difficult to change.

Using signaling theory, Payne et al. (2013) studied foreign firms' virtue orientation rhetoric in their IPO prospectus and found that signaling organizational virtue in prospectuses is associated with higher levels of foreign IPO performance (Payne, Moore, Bell, & Zachary, 2013). In addition, such relationship is strengthened by perceived home country corruption.

Several studies in finance and accounting have related the IPO prospectus to subsequent financial returns. In their initial explorations of the qualitative information in IPO prospectuses, Beatty and Ritter (1986) focused on the Use of Proceeds section and counted the number of the uses and then use the count as a proxy for uncertainty about IPO risks. They found that greater

information in the Use of Proceeds increases underpricing (Beatty & Ritter, 1986). Beatty and Welch (1996) counted the number of captioned risks in the Risk Factor section to measure the degree of caution of the management in the prospectus. They showed evidence that greater disclosure in this section is associated with higher initial returns (Beatty & Welch, 1996).

Hanley and Hoberg (2010) parsed the information in the prospectus into standard and informative content. Standard content is defined as "the exposure to information in an IPO prospectus that is already contained in both recent and past industry IPOs" and informative content is defined as "the disclosure in the prospectus (residual) not explained by these two sources (Hanley & Hoberg: 2822). The study found that the greater the prospectus contains informative content, the more accurate the offering price. Further, the research discovered that such effect is strongest in Management's Decision and Analysis section in the prospectus.

Arnold, Fishe, and North (2010) focused on how firms communicate information about the risks associated with the IPO influences IPO pricing and initial subsequent financial returns as well as long-run excess returns. Ambiguous information in their study refers to information about uncertainty. They hypothesized that the greater the relative ambiguity in the prospectus, the less likely the investors are to invest in the IPO firms. Accordingly, they operationalized ambiguity as the ratio of the total number of words in the Risk Factor section to either the total number of words in the prospectus or in different combinations of sections that are business-oriented.

Ferris, Ho, and Liao (2012) studied conservatism, operationalized as the negative tone, in IPO prospectuses. They found that prospectus conservatism is positively related to underpricing and the relationship is stronger for technology companies than for nontechnology companies. In addition, for nontechnology companies, conservatism is negatively associated with the

company's operating performance for the three years following the IPO. Finally, for nontechnology companies, conservatism is negatively related to the company's post-IPO abnormal return (Ferris, Hao, & Liao, 2013). Loughran & McDonald (2013) analyzed the tone of uncertainty and negativity in the IPO prospectus. They found that IPOs with high levels of uncertain text have higher first-day returns, absolute offer price revisions, and subsequent volatility (Loughran & McDonald, 2013).

Leone, Rock, and Willenborg (2007) studied the level of specificity of firms' disclosure about their use of proceeds. They found that the more specific the information, the less likely the first-day underpricing. In their study, specificity of the use of proceeds is reflected by the proportion of company IPO proceeds for which dollar amounts are designated for specific use such as expansion or acquisitions, R&D or product development, distribution to pre-IPO shareholders, marketing or advertising (Leone et al., 2007).

One study that examined an issue close to the proposed dissertation is by Elliot et al. (2015). In their study, the researchers explored the use of concrete language in an IPO prospectus. The study found that concrete language is positively associated with willingness to invest, which is mediated by their comfort in their ability to assess the firm. But the effect of concrete language is attenuated if the participants feel psychologically close to the firm (reflected by the familiarity with the city where the firm is located). However, this study has two limitations. First, the sample is restricted to 79 graduate student participants; and second, the outcome variables measure the participants' intention to invest and the feeling of comfortableness to invest rather than the real investment outcome (Elliott, Rennekamp, & White, 2015).

Summary

Antecedents of language use. The extant literature has primarily focused on the outcome of language use by entrepreneurial firms. Only a few studies have explored the antecedents of language use. One is by Benner and Tripsas (2012). Their study suggested that firm's prior industry affiliation influences the beliefs and cognitions about the products and markets of managers, thus affect their framing of new products features. A second one is by Cornelissen & Clarke (2010) who identified two predictors of language use patterns: 1) the availability and applicability of entrepreneurs' prior experience depth as the antecedents of whether to select analogies or metaphors for inductive reasoning to create and justify the new ventures when they first speak to others about the new ventures; and 2) the level of uncertainty and cognitive legitimacy of the new ventures as determinants of whether entrepreneurs adapt and replace the initial analogies or metaphors, or reinforce those analogies or metaphors when they speak to others. Finally, in their studies about entrepreneurial firms' use of camouflage to describe their governance structures and associated market reactions to such camouflage, Bensen and colleagues (2015) found that firms with governance that are less favorable toward investors are more likely to use camouflage.

Outcomes of language use. According to extant research in management, language use by entrepreneurial firms help 1) establish identity of the product or the organization (Navis & Glynn, 2010; Santos & Eisenhardt, 2009; Weber et al., 2008); 2) obtain legitimacy of the product or market category (Kennedy, 2008; Navis & Glynn, 2010); 3) acquire financial resources (Martens et al., 2007). In addition, accounting and finance researchers found that the information ambiguity or volume, tone, readability, and complexity of IPO firms' prospectus influenced IPO pricing (e.g., underpricing, accuracy of prediction), as well as initial and long-term financial

returns (Arnold et al., 2010; Beatty & Ritter, 1986; Bensen et al., 2015; Ferris et al., 2012; Leone et al., 2007; Loughran & McDonald, 2013).

Moderators. Research studying moderators of language effect is relatively thin in entrepreneurial settings. Currently, researchers have examined the following three moderators: future scrutiny of firms (Bensen et al., 2015), perceived home country corruption (Payne et al., 2013), and psychological distance to the IPO firm (Elliot et al., 2015).

However, prior communication research has offered rich knowledge on theorizing and testing that message content interact with the attributes of message source or the attributes of the communication context to influence communication effectiveness (Chaiken & Maheswaran, 1994; Menon & Blount, 2003; Pornpitakpan, 2004; Wilson & Sherrell, 1993). More specifically, as for interactions between message content and source characteristics, a large literature has delved into the interactions between the source credibility—represented mainly by source expertise and trustworthiness—and content attributes (review by Pornpitkpan, 2004). For instance, speakers' perceived expertise and whether the messages oppose or support audiences' preexisting viewpoints jointly affect audiences' involvement of the communication (Clark, Wegener, Habashi, & Evans, 2012). Source expertise also interacts with argument quality to affect message persuasiveness (Herron, 1996; Moore, Hausknecht, & Thamodaran, 1986; Petty, Cacioppo, & Goldman, 1981; Stoltenberg & Davis, 1988). Goldberg and Hartwick (1990) found that the reputation of an advertiser (i.e., positive vs. negative perception of message source) interacts with extremity of the message claim to affect consumers' evaluations of the products (Goldberg & Hartwick, 1990). In addition to source credibility, researchers have found that the speakers' attractiveness affect the effectiveness of advocated messages that are either opposing to or agree with audiences' pre-existing knowledge (Joseph, 1982).

For interactions between message content and context features, researchers have argued and tested whether the effectiveness of communication depends on the context of the communication (Benford & Snow, 2000). For example, in the context of women's political movement, researchers found that whether the political and cultural circumstances, in which the linguistic frames were used, endorsed the frames advocated by women's jury movement activists influenced the effectiveness of linguistic frames (McCammon, Muse, Newman, & Terrell, 2007). Rhee and Fiss (2014) studied the use of linguistic frames for "poison pill" adoption and argued that the prevalence of recent adoptions of "poison pill" enhanced the effect of the language (Rhee & Fiss, 2014).

In addition to the communication source and context, the extant literature suggests that stylistic cues of the communication such as writing styles or length of the message jointly influence the relationship between content and audience evaluations and decisions (Ludwig et al., 2013; Noriega & Blair, 2008; Pornpitakpan, 2004). For instance, Ludwig and colleagues (2013) found that the writing styles (e.g., use of function words) of product reviews interact with the affectivity of product reviews to influence consumers' subsequent purchasing behaviors.

Several studies have directly addressed the interaction between the lexical characteristics of communication and other factors in affecting audience evaluations and decisions. Burgoon et al (1975) suggested that language intensity and source credibility interact to influence message persuasiveness (Burgoon, Jones, & Stewart, 1975). Management researchers found that, in the context of presidential inaugural addresses, presidents who used more image-based rhetoric in their addresses to articulate visions were considered more charismatic and those who used more image-based rhetoric in their pivotal speeches to enact the visions were judged more favorably by historians in terms of greatness (Emrich et al., 2001). In an experiment, accounting

researchers found that the vividness of financial reporting affect the investors' decisions when the investors' informational preference (positive-negative) is consistent with the market assessment (bull vs. bear market) of the firms they have stake in.

Gaps in the literature. A review of the literature about language use in entrepreneurial settings reveals a few patterns and suggests a few gaps in the literature. First, except for Elliot and colleagues' study, most studies exclusively focused on the content of the language and did not attend to the features of the language itself. Second, a review of moderating effects among message variables suggests that the effectiveness of language use and communication does depend on the content of the message and that the effectiveness of lexical characteristics in communication does vary across conditions. Yet, we do not know much about how the effectiveness of lexical characteristics changes when the content domain changes. Third, a qualitative research approach has dominated existing management research about entrepreneurial firms' language strategy. While the methodology offers insights and in-depth knowledge of specific cases, it puts the external validity of the research under question. To further develop knowledge in this line of research, I 1) examined the linguistic characteristics beyond the content the language carries, and 2) explored the moderating effects of the content domain on the association between lexical characteristics of entrepreneurial firms' communication and their resource acquisition.

THEORY AND HYPOTHESES

Vivid language, persuasion, and investor decisions

Language is one of the most important elements in persuasion, the purpose of which is to convince target audiences, obtain their acceptance and a positive evaluation of the message, and elicit desired behavioral outcomes. The communications and linguistics literatures argue and show that the variations in the choice of words or the lexical characteristics of the language in communication have important implications in persuasion outcomes. Scholars have particularly identified that vivid language affects the persuasiveness of the communication (Hosman, 2002; Nisbett & Ross, 1980). Vivid language refers to language that is "likely to attract and hold our attention and to excite the imagination to the extent that it is (a) emotionally interesting, (b) concrete and imagery-provoking, and proximate in a sensory, temporal, or spatial way" (Nisbett & Ross, 1980: 45). The literature shows that vivid language influences audience evaluations and attitudes because it affects the encoding and availability for recall, imageability, and emotional involvement. First, vivid language is often more colorful and concrete, information presented with vivid language is received easier and faster and thereby, encoded at greater volume and processed more effectively. Thus such information is likely to be recalled when needed (Taylor & Thompson, 1982). Second, because vivid language encourages imageability of the information during the communication, such information will be coded both in verbal form and image form, which again increases its opportunity for being recalled and entering the decision making phase. Finally, vivid language makes the information emotionally more interesting and engaging. Research suggests that emotionally arousing information will be received better and retrieved faster in subsequent valuations and judgements, thus has greater influence over the decision making (Taylor & Thompson, 1982). In summary, those cognitive or emotional mechanisms

enhance the effectiveness of vivid language through drawing the audiences' attention to the subject or messages, facilitating their understanding, memory, and recall of the message, and increasing emotional involvement with the messages (Hamilton, Hunter, Allen, & Preiss, 1998; Nisbett & Ross, 1980; Taylor & Thompson, 1982).

The literature examining vivid language suggests that concrete words and imagery words are the two most important dimensions of vivid language. Although the general logic for why concrete words and imagery words—two components of vivid language—are persuasive is similar, their mechanisms leading to the persuasiveness of the messages are different. Concrete words increase persuasiveness by providing greater detail and information with specific context to facilitate cognitive processing by the target audience while imagery words increase persuasiveness by engaging the emotions and sensations of the target audiences. Thereby, I theorize and test the effects of the two types of vivid words in this study to provide a nuanced view of the vividness effect of the language.

According to the prior literature, language vividness is very relevant because the vividness of language matters particularly under the condition when the information is in large volume and the attention of the target audiences is constrained (Hosman, 2002; Taylor & Thompson, 1982). In the context of this study, entrepreneurial firms' use of vivid language is likely to influence investor decisions for a number of reasons. Because many investment options exist in the market, investors have to scan broadly for information and process large and complex information sets to form impressions and evaluate "relative merits of their competing offerings" (Barber & Odean, 2008; Pollock, Rindova, & Maggitti, 2008: 339). While information processing demands are high, investors are boundedly rational, thus they are challenged by the constraint of attention and cognition (Hirshleifer, 2001; Hirshleifer & Teoh, 2003; Hoffman &

Ocasio, 2001; March & Simon, 1958; Ocasio, 1997). As a result, investors tend to rely on cues that could help them to make evaluations and decisions faster and easier (Pollock et al., 2008; Rindova, Williamson, Petkova, & Sever, 2005; Zuckerman, 1999). Therefore, in communicating with investors, firm can selectively use language to construct and present information to influence investors' attention and decisions (Bolls, Lang, & Potter, 2001; Hoffman & Ocasio, 2001; Rindova et al., 2007).

Prior research has shown that communication using language that attracts attention, minimizes cognitive effort for comprehension, memorizing, and recall, is evaluated favorably and is more persuasive (Chaiken & Stangor, 1987; Eagly, 1974; Hovland, Janis, & Kelley, 1953; Schmidt & Sherman, 1984). Information with those linguistic attributes has greater potential to affect subsequent investment decision (Fiske & Taylor, 1991; Hirshleifer, 2001; Reber & Schwarz, 1999; Tversky & Kahneman, 1973). For instance, management researchers have argued and found that a firm enjoyed a more favorable evaluation among the stakeholders when stakeholders notice or could remember the firm, or when information about the firm is easy to understand or readily available (Pollock et al., 2008; Rindova et al., 2007). In addition, Pollock and colleagues showed that when information about an IPO firm is widely available, the firm is positively evaluated. Similarly, finance studies have argued that because investors' attention is constrained, the way firms disclose information influences their perception and behaviors (Hirshleifer & Teoh, 2003). Finance researchers have shown that information that is more easily noticed and processed tends to be considered by investors (Hirshleifer & Teoh, 2003; Hirshleifer, Lim, & Teoh, 2004), which in turn influences investors' stock purchasing behavior (Barber, 2008) or their valuations of asset prices (Peng & Xiong, 2006). Given that attention influences investors' perception and behavior, managers employed techniques such as advertising to attract

investor attention and influence short-term stock returns (Lou, 2014). In the accounting and finance literature, an emerging line of research has examined the association between the information complexity of firm disclosures and the investment behaviors of investors. In general, the results suggested that when information is more difficult to comprehend, investors are less likely to assimilate the information (Plumlee, 2003), are more biased and inaccurate in evaluations (Ackert & Athanassakos, 1997; Duru & Reeb, 2002; Lehavy, Li, & Merkley, 2011), and are less active in investment behaviors—their abnormal returns and trading volume tend to be lower (Miller, 2010).

On the basis of above literature, I argue that firms using vivid language that enhances investors' attention, memory, comprehension, or recall are more likely to trigger favorable investment decisions (Barber & Odean, 2008). Grounded in the extant literature, I propose that the use of concrete words and imagery words will influence how audiences perceive and assess the information; and such effects depend on contextual factors such as industry environment and content domain in which the language is embedded.

In the following sections, I develop separate hypotheses for 1) how each of the vivid language categories—concrete words and imagery words—influence entrepreneurial firms' financial resource acquisition outcomes; and 2) how vivid language interacts with other factors to influence those firms' resource acquisition outcomes.

Vivid language: Language concreteness

Language concreteness shows in the use of concrete words that can provide specific details (Hansen & Wanke, 2010; Langacker, 1987). Messages composed of concrete words are more persuasive to audiences because concrete words enhance comprehensibility, memory, recall, and accessibility. Using concrete words also increases the credibility of the communicator,

thus enhancing the persuasiveness of messages. In uncertain situations, because concrete words provide adequate details to assuage the skepticism and cognitive stress associated with uncertainty, messages with concrete language are more persuasive (Ter Doest, Semin, & Sherman, 2002).

Concrete words provide details and contextualized descriptions, which facilitates comprehensibility (McClelland & Rumelhart, 1985; Ter Doest et al., 2002). In addition, concrete language often uses words that are familiar to the audiences. Familiarity enhances comprehensibility (Miller et al., 2007; Toma & D'Angelo, 2015). The persuasion literature suggests that when information is more comprehensible, audiences are more likely to be persuaded by the message since they tend to retain positive affect toward such information and are also more likely to incorporate the message into their analysis and decision making (Hafer, Reynolds, & Obertynski, 1996; Ratneshwar & Chaiken, 1991).

Concrete words are persuasive since they facilitate memory and recall of the communicated messages (Forgas, 2007; Marschark & Cornoldi, 1991; Paivio et al., 1968; Toma & D'Angelo, 2015). Messages are more easily remembered and recalled if they are understandable and interesting. Concrete language increases the degree to which messages are interesting and understandable because it offers greater detail and content-specific information. As a result, audiences tend to remember and recall those messages more easily (Estes, 1982; Sadoski, 2001). The persuasion literature suggests that advocated messages can influence audiences' evaluations and judgement only when they are readily available and easily recalled (Wood, 1982).

Concrete language is especially beneficial in situations with heightened uncertainty. In such situation individuals tend to be skeptical. They actively search for extra information to

evaluate the risk associated with uncertainty and predict the potential for loss in the future (Afifi & Weiner, 2004; Babrow, 2001; Berger & Calabrese, 1975; Kramer, 1999). Previous research suggests that when individuals feel skeptical, descriptive explanations and specific details provided by concrete words can give resolution to their skepticism and questions (Ter Doest et al., 2002). Additionally, individuals experience higher cognitive stress because the risks associated with uncertainty increase the difficulty to make accurate predictions (Owayne & Rheenen, 1984). Compared to abstract language, concrete words allow the audiences to understand, extract, and process information more easily (Elsbach, 2004). Thus, it reduces the cognitive demands of information processing and boosts the confidence of individuals' decision making. By providing specific and clear information, concrete words avoid generating extra uncertainty and leave audiences with a better understanding and assessment of the situation (Van Dijk & Zeelenberg, 2003). Therefore, concrete language may help reduce cognitive stress and increase confidence associated with decision making under uncertain situations (Larrimore, Jiang, Larrimore, Markowitz, & Gorski, 2011). As a result, audiences tend to have favorable feelings toward messages that reflect concrete language attributes.

Finally, communicators using concrete language are perceived to have greater levels of expertise and trustworthiness than those using abstract language (Eagly & Chaiken, 1993; Larrimore et al., 2011; Toma & D'Angelo, 2015). This is because individuals who can communicate in a clear and understandable way are ascribed with expertise (Toma & D'Angelo, 2015). In addition, a communicator's capability to provide details shows that she adequately understands the subjects and situations under discussion (Larrimore et al., 2011; Toma & Hancock, 2012). As a result, the information recipients tend to show more favorable attitudes toward the information and its source and are more easily persuaded (Hansen & Wänke, 2010;

Miller et al., 2007; Toma & D'Angelo, 2015; Toma & Hancock, 2012).

The above arguments directly apply to the entrepreneurial setting. Lexical concreteness is likely to be helpful persuading investors to invest in firms. While numerous entrepreneurial firms are competing for the same resources, an entrepreneurial firm that communicates with more concrete language may increase the opportunity that the investors understand, remember, and recall information associated with the firm. Entrepreneurial firms using concrete language provide more specific information and details, which are easier for investors to understand and access. In addition, because entrepreneurial firms are new, investors often do not have solid knowledge about the business and the firm, meaning that they will have to make investment decisions under uncertainty and risk. Thus entrepreneurial firms need to persuade investors of their business potential. By using concrete language, entrepreneurial firms are able to thoroughly explain a subject or topic with precise and specific information (Langacker, 1987: 132), reducing the uncertainty associated with the firms. Finally, when entrepreneurial firms provide adequate and specific information, entrepreneurial firms are likely to increase audiences' perception of their trustworthiness and expertise. For the above reasons, entrepreneurial firms that communicate with a high level of lexical concreteness are better able to offer a persuasive case for investing in their firm and likely to gain favorable evaluations from the investors compared to firms that communicate with a low level of lexical concreteness. Therefore,

H1a: The level of language concreteness in an entrepreneurial firm's IPO prospectus is positively associated with the firm's IPO performance.

Vivid language: Language imagery

Similar to the outcomes of using a greater level of concrete language, greater use of imagery words is likely to trigger a positive reaction since they compel attention, prompt

comprehension, increase memory and recall that are key to persuasion (Emrich et al., 2001; Kieras, 1978; Paivio et al., 1968; Woodall, Davis, & Sahin, 1983). However, the underlying mechanisms are not all the same. Imagery words achieve those outcomes through engaging audiences' sensations and triggering arousal. Messages with more imagery words are especially salient, immediate, and appealing. High salience of a message ensures that audiences are more likely to notice and treat it as important. Immediacy of the messages encourages the audience to associate the information with their own experiences and they tend to pay attention to such information that they are more familiar with. Finally, when the messages are appealing, audiences are more likely to notice and engage in processing the information. As a result, they are more likely to catch the attention of audiences (Friendly et al., 1982; Taylor & Fiske, 1978).

Second, imagery words encourage mental imagery, which plays a critical role in increasing message persuasiveness by reducing the difficulty to understand the information via generating powerful mental images to prompt deeper information processing (Lee & Gretzel, 2012; Woodall et al., 1983). Mental imagery helps persuasion because it encourages elaboration and learning of the information (Elliott, 1973). Individuals often find it difficult to act upon information that they cannot understand. Imagery words help to reduce the level of difficulty for comprehension and processing of information (Kounios & Holcomb, 1994; Marschark, Richman, Yuille, & Hunt, 1987). Prior research has suggested that audiences evaluate the quality of a message and the competence of the source on the basis of their sense of how difficult it is to understand the message. When the message is easier to understand, they value both the message and the message source (Eagly & Chaiken, 1993; Emrich et al., 2001; Reber, Winkielman, & Schwarz, 1998).

Finally, messages using imagery words are more persuasive because they are recalled

more easily (Lee & Gretzel, 2012; Mazzocco & Brock, 2006). When a message uses imagery words, the same message is processed and restored not only with verbal codes but also with image codes. Therefore, they are stored in both verbal system and imagery system thus leaves a stronger memory trace (Lee & Gretzel, 2012; Taylor & Thompson, 1982). As a result, when audiences need to take action upon the information, they tend to have greater success retrieving an imagery-based message and will use such information as reference for judgement (Emrich et al., 2001; Fazio & Williams, 1986; Taylor & Thompson, 1982).

Use of imagery words is likely to enhance the persuasiveness of entrepreneurial firms' communication to investors, leading to greater investment. First, in the intensive competition for limited resources, entrepreneurial firms using imagery words will draw greater attention from the investors, thus they are more likely to receive investment. Second, imagery words facilitate investors' comprehension of the messages entrepreneurial firms convey, which are likely to elicit a favorable evaluation of the message sender and the content. Finally, investors are more likely to recall the information constructed with imagery words and use the information in subsequent assessment and decisions. For those reasons, entrepreneurial firms that communicate with high level of imagery words are more capable of persuading investors to invest in their firms than firms that communicate with low level of imagery words. Therefore,

H1b: The level of language imagery in an entrepreneurial firm's IPO prospectus is positively associated with the firm's IPO performance.

Selective attention: Hotness of IPO market and similarity of linguistic strategy

Building out of the extant research on vivid language, I develop arguments regarding how the effectiveness of vivid language depends on two contingencies relevant to the effect of vivid language according to the literature: selective attention and vividness congruency.

First, selective attention reflects the tendency that when multiple stimuli occur simultaneously, an individual will process them selectively (McGill & Anand, 1989). Vivid language research has specified two conditions which incur selective attention: 1) when competing stimuli coexist in the communication and 2) when vivid language is together with less vivid language in the communication (Smith & Shaffer, 2000; Wilson et al., 1989). The research further showed that selective attention strengthens the effectiveness of vivid language because vivid language in general will increase individual's attention to and memories of information contained in vivid language. Therefore, when multiple stimuli coexist, which makes it difficult for an individual to attend to all available information, the person tends to notice and process information carried by vivid language, and thus be influenced by such language (Herr, Kardes, & Kim, 1991; Taylor & Thompson, 1982; Wilson et al., 1989).

The idea of selective attention is very relevant to IPO events by entrepreneurial firms. As multiple entrepreneurial firms compete for similar resources from limited numbers of investors, the language used by each firm becomes competing stimuli that are likely to divide up the attention of investors, resulting in the selective attention of investors. In addition, entrepreneurial firms' language may vary regarding the level of vividness. Therefore, investors may have been more likely to notice entrepreneurial firms with higher level of vivid language. On the basis of this argument, I propose to examine two contingency factors that may influence the effectiveness of the language entrepreneurial firm uses on their IPO performance: 1) the similarity between a firm's language vividness and the average language vividness within the industry that a firm belongs to; and 2) the hotness of IPO market to which the firm belongs.

Hotness of IPO market. Market conditions are likely to create attention and informational challenges for firms. The hotness of an IPO market is reflected in the number of

IPOs taking place in a particular industry in the same time period. When the IPO market is hot, more entrepreneurial firms exist in the same market competing for investors' cognitive attention as well as financial resources. The informational challenge for an entrepreneurial firm is to compete against each other for delivering adequate and high quality information to impress the investors and obtain positive evaluations. Thus, when there are many competing firms, the total volume of information investors must process tends to be higher, which creates challenges for firms to attract investors' limited attention. Under these conditions, the benefits entrepreneurial firms can accrue from using concrete and imagery language will be enhanced because language concreteness excels at delivering specific, detailed information, and language imagery excels at attracting attentions, attributes that are especially valuable when firms are competing for investors' limited attention.

Concrete language can benefit entrepreneurial firms facing heightened competition for investors' attention and resources since it increases the quality and clarity of information. Concrete language provides detailed, specific information, the type of information that reduces the uncertainty investors have and helps to obtain favorable impressions from investors. These benefits are enhanced when the IPO market is hot. When facing a larger number of investment options, investors are likely to prefer concrete information since it is easier to understand and digest and more easily addresses their uncertainty about the value of a potential investment. Thus, when investors see their attentional resources as being stretched, they are likely to have a favorable impression of firms that use more concrete language since they will not be very willing to take the time needed to fully assess and make sense of less straight forward and less understandable abstract language.

Turning to the benefits of imagery language, when the IPO market is hot, investors'

attention will be stretched by the volume of information disseminated by the large number of IPO firms. As a result, investors will tend to selectively attend to information by firms. Because language imagery enhances the salience of the message, it is especially valued when investors are able to only attend to limited amount of information since they tend to notice and process information with a higher level of language imagery. Therefore, the benefits associated with language imagery will tend to increase when the IPO market is hot.

Based on the above arguments, I propose that:

H2a: The level of the IPO market's hotness will strengthen the association between the level of language concreteness in an entrepreneurial firm's IPO prospectus and the firm's IPO performance.

H2b: The level of the IPO market's hotness will strengthen the association between the level of language imagery in an entrepreneurial firm's IPO prospectus and the firm's IPO performance.

While I propose effects for both language concreteness and language imagery, vivid language research suggests that selective attention may be more relevant to the effectiveness of language imagery than that of language concreteness. This is because language imagery functions primarily through enhancing drawing audience attention, changes in attention thus matters to the magnitude of influence by language imagery. In situations where attentional demands are low, communicators may be able to grab the attention of audiences without using language high in imagery. However, the existence of multiple stimuli creates challenges for an individual's attention to all available information, language imagery prompts the person to notice and process information through appealing to their emotions and sensations. Thus messages with higher level of language imagery will have stronger persuasion outcome when an individual's

attention is distracted (Herr, Kardes, & Kim, 1991; Taylor & Thompson, 1982; Wilson et al., 1989).

Similarity of linguistic strategy. The similarity of an entrepreneurial firm's linguistic strategy in this study refers to the degree to which the level of language vividness by a firm undertaking IPO is similar to the average level of language vividness by all other firms IPO at the same time within the same industry. According to the selective attention perspective, vivid language is more effective in the presence with less vivid language because it stands out in the communication to attract the audiences, motivate them to process the information, help them understand the message, thus exerts greater influence. Based on this logic, when the similarity between the level of language vividness of a firm and that of the industry is higher, the effectiveness of the linguistic strategy by the focal firm in drawing funding is reduced because the firm's language is not distinctive and will, therefore, not trigger investor's interest in understanding and learning about the firm.

In the study context, entrepreneurial firms need distinct activities and positive impressions to draw investors (Zott & Huy, 2007). Firms undergoing IPO around the same time within an industry share similar organizational characteristics and have high market overlap, thus IPO firms want to differentiate themselves when competing for the limited resources from investors. When the level of concrete or imagery words a firm uses in its prospectus is similar to the industry average level, it is more difficult for the firm to differentiate itself by the language it uses. Thus the benefit for using this particular linguistic strategy is reduced. Showing support to such argument, Gregoire and colleagues (2008) found that when venture capitalists are evaluating a group of entrepreneurs, an entrepreneur receives a higher rating if the entrepreneur's presentation stands out from the presentations by the rest of the entrepreneurs. In contrast,

venture capitalists did not react positively to the presentation or rate it highly when the presentation is similar to those of the rest of the entrepreneurs. Additionally, at the other end of the spectrum, the cost from using less vivid language is likely to be less severe if other firms in the market are also using less persuasive language since the IPO firm is not differentiated in a negative way in this setting. On the basis of the above arguments,

H3a: The industry average level of language concreteness will weaken the association between a firm's language concreteness and the firm's IPO performance.

H3b: The industry average level of language imagery will weaken the association between a firm's language imagery and the firm's IPO performance.

Vividness congruency: Content domains

According to the vivid language literature, another factor enhance vivid language effect is vivid congruency, or the degree the usage of vivid language is relevant to the purpose and function of the communication content (Chang & Lee, 2015; Smith & Shaffer, 2000). Generally speaking, vivid language is able to attract more attention and encourage processing of the message, thus increase the persuasiveness of the language. In particular, when the vivid language elicits relevant memory and information to facilitate understanding and interpretation of the communication content, the vivid language effect will be stronger. However, when vivid language elicits irrelevant memory and information, it can impede message processing and demotivate individuals to think about the message (Smith & Shaffer, 2000). To explore how vividness congruency influences the effect of vivid language in entrepreneurial firms' resource acquisitions, I propose to examine the content domains of entrepreneurial firms' IPO prospectuses.

In an entrepreneurial setting, investors are very concerned about the business potential, as

well as the risks and opportunities associated with the entrepreneurial firms undergoing IPOs. As a result, they are likely to pay specific attention to particular sections of the prospectus and attend to different elements in these sections. More specifically, I propose that investors will differ in their preferences regarding the elements of persuasive language across key sections of the prospectus. Thus, I argue that investors' investment decisions depend on not only the linguistic characteristics of the firms' communication, but also the prospectus' specific content domains in which the language is embedded.

The entrepreneurial literature argues that the most important sections of the prospectus are the Prospectus Summary (PS), Risk Factors (RF), Use of Proceeds (UP), and Management Discussion and Analysis (MD&A) (Hanley & Hoberg, 2010). Each section has its intended functions in information disclosure about the firm and in meeting the information needs of the investors. The Prospectus Summary is a marketing tool for attracting investors. Researchers find that this section contains most words related to promoting and marketing the firm. The key function of the Risk Factors section is to inform potential investors about the various risks of the firm. In the Risk Factors section, the issuer also makes efforts to mitigate the possibility of future litigation through risk disclosure and the inclusion of disclaimers (Ferris et al., 2012). The Use of Proceeds section explains how the IPO issuing firm plans to use the proceeds (or shares) from the IPO. Finally, in MD&A, management evaluates the firm's past performance and projects the future business potential of the firm (Hanley & Hoberg, 2010). I propose that given the functions differ across the four sections, the effect of lexical concreteness and level of imagery words on firm's IPO performance outcomes will differ across the sections as well.

Concrete words primarily enhance information persuasiveness through provision of details and information related to specific context to increase investors' comprehension, memory,

and recall of the information as well as their perception of the expertise and trustworthiness of the information source. While imagery words also enhance audiences' comprehension and recall of information, however, imagery words achieve the results through different means. Imagery words tend to provoke mental images by making information more interesting, unique, and colorful. Because mental images take up additional storage space than verbal message, information with imagery words enhances the chance that audiences encode and recall the information. In addition, imagery words tend to emotionally engage the audiences and arouse strong affective responses, which are shown to influence individuals' perception and future decisions (Moser, 1992; Nisbett & Ross, 1980; Taylor & Thompson, 1982). I propose that the effectiveness of concrete words and imagery words differs in each of the four content domains.

Prospectus Summary. I propose that in the Prospectus Summary section, imagery words will have a stronger positive effect than that of the concrete words. The primary goal of the PS section is to market and promote the firm to the investors about "whom we are" and "what we do". The entrepreneurship literature suggests that firms that better establish their identities and impressions are more likely to obtain legitimacy and financial resources (Navis & Glynn, 2010). Imagery words can function better than concrete words in terms of appealing to investors. Emotionally and sensationally engaging investors may enhance the likelihood that investors form a strong impression of the firm and remember its background, businesses, and products. By facilitating memory and recall of information about the firms, imagery words may prompt investors to use the message later in evaluation and decision making. Though concrete words may facilitate understanding the message by the firm and recall of the firm, those words are not as emotionally engaging as imagery words when firms want to promote and market themselves to investors, Therefore, the purpose of PS section and imagery words aligns to generate a

stronger positive effect.

H4a: In the PS section, the level of language imagery will have a stronger positive effect than will the level of language concreteness.

Risk Factors. The Risk Factors section focuses on presenting and analyzing all potential risks investors will face if they invest in the firm. In this section, investors expect to learn about the risks and factor in the risks when assessing the firm and making investment decisions. Concrete words will be beneficial when risk assessment is the key task. First, prior research suggests that when individuals feel heightened doubt or uncertainty, descriptive explanations and specific details provided by concrete language can reduce their skepticism and questions (Ter Doest et al., 2002). Therefore, RF sections that rely heavily on concrete language are likely to reduce pessimism and be evaluated favorably. Second, by providing information that is easy to understand, extract, and process, concrete words can reduce cognitive stress when decisions are to be made under uncertainty (Elsbach, 2004). In addition, concrete words can provide information that is more specific and less ambiguous, thus avoid generating additional uncertainty (Van Dijk & Zeelenberg, 2003). Finally, concrete words increase individuals' confidence in making decisions in uncertain contexts. In an online lending context, researchers found that by providing specific information about sources, concrete language reduces a lender's uncertainty about the borrower (Larrimore et al., 2011). Overall, concrete language enables investors to feel confident about their information processing and assessment of the risk situations, they tend to have favorable reactions to such communication.

Regarding the role of imagery words in the Risk Factors section, I argue that the imagery words may have a less positive effect on the investors. Since imagery words may increase the salience of the risks involved in the investment to the investors by drawing their attention to the

risks through emotional and sensational engaging them in the risk information, the use of imagery language may heighten rather than alleviate their perceived risks and uncertainty about the investment, leading to likelihood less favorable assessment of the firm. Therefore,

H4b: In the Risk Factors section, the level of language concreteness will have a stronger positive effect than the level of language imagery.

Use of Proceeds. The Use of Proceeds section concerns explaining a firm's plans regarding how to use investors' money in future. Thus investors desire for specific details and solid evidence regarding the proposed activities and strategies for using the resources a firm will garner post-IPO. Leone and colleagues (2007) found, when IPO firms provided the dollar amount about which strategic activities they will use investors' money in the UP section, they were less likely to experience underpricing. This suggests that investors are primarily attuned to the level of details of the information the firm is willing to provide in the UP section. Concrete language enables firms to specify details and information that investors look for in this section. Investors can use such information to more accurately assess the IPO and estimate the distribution of firm value (Leone et al., 2007). Thus, UP section with concrete language reduces investors' uncertainty about a firm and likely to receive positive response from the investors. Meanwhile investors are less likely to be sensitive to the degree to which language in this section is emotionally engaging or sensational. Thus, they are likely to be less responsive to the use of imagery words in the UP section. Therefore, the purpose and function UP section will be better in line with lexical concreteness and have a stronger and positive effect on the investors.

H4c: In the UP section, the level of language concreteness will have a stronger positive effect than will the level of language imagery.

MD&A. In the MD&A section, management discusses their assessment of the IPO firm's

past performance and future predictions. Prior research argued that this section is valuable in informing investors about the firm's future prospects and will have strong influence on pricing, thus investors are expecting more substantive information from this section (Hanley & Hoberg, 2010). This is because as insiders, managers have the best information about the firms' activities, strategies, and outcomes. Investors will likely seek details and specific numbers as evidence for the firm's past activities and performance. In addition, investors want to grasp managers' analyses and forecasts for the firm's future performance and search for solid evidence to believe managers' predictions. Concrete words can provide specific information and facilitate comprehension by using familiar terms. Thus, investors are likely to respond more favorably when the MD&A section includes more concrete language. In addition, audiences generally are more convinced if the message source shows greater expertise and trustworthiness (Clark et al., 2012; DeBono & Harnish, 1988; Tobin & Raymundo, 2009). Therefore, language that could help the investors to build trust in the firm is likely to have a stronger effect for resource acquisition. According to the literature on concrete language, when investors notice that management presents the information and analysis in a clear and comprehensible way, they are more likely to hold positive feelings toward firm management. Similar to the Use of Proceeds, investors are likely to care less about whether the information disclosed and discussed by the firm's management is emotionally or sensationally appealing because the investors' focus is more on facts and evidence. Therefore, concrete words and the MD&A section align to produce a stronger positive effect on the investors than imagery words.

H4d: In the MD&A section, the level of language concreteness will have a stronger positive effect than the level of language imagery.

METHODS

Sample and data

To test the hypotheses, I collected data from multiple sources. First, to construct the sample, I began with IPOs between January 2004 and December 2015 in the United States as reported in ThompsonOne database. Following prior literature (Liu, Sherman, & Zhang, 2014; Loughran & McDonald, 2013), I excluded financial firms (i.e., banks and savings and loans), real estate investment trusts (REITs), American depositary receipts (ADRs), and limited partnerships. In addition, because I need to collect firm financial data (e.g., stock prices and returns after IPO) from Center for Research in Security Prices (CRSP) and other firm data from COMPUSTAT. Following prior studies, I further required the firms to be in the (CRSP) and COMPUSTAT data sets in the issue year. In addition, I hand collected data from NASDAQ website for the percent of shares firms decided to sell for the IPO. I have full data in the selected industries on 679 IPO firms.

I then collected IPO prospectuses of those firms from the SEC's website. I collected four types of filings which firms filed to SEC: S-1, 424A, 424B1, and 424B3. Form S-1 is the initial document on SEC's EDGAR system for registering IPO stock offerings. According to SEC regulations, firms need to file S-1 at least 21 days before their roadshow. The S-1 file contains the first official version of the prospectus. After the initial S-1 filing, firms may also submit additional filings of 424 variants if they make changes to the initial filings. I collected three variants of 424 filings: 424A, 424B1 and 424B3. According to the regulations, firms file 424A when they make substantive changes or additions to the information in the initial prospectus filed with SEC as part of the registration statement (i.e., S-1). 424B1 is a form of prospectus that firms need to file for disclosing information previously omitted from the prospectus filed as part of a

registration statement. Firms need file 424B3 which reflects facts or events that constitute a substantive change from or addition to the information set forth in the last form of prospectus filed with the SEC. Because firms sometimes file 424 variants on the day of IPO or even a few days after the IPO date, they are not the appropriate data for a study about how a firm's language in prospectus influences its IPO outcome on the IPO date. Therefore, I used the S-1 document as the primary documents to measure an entrepreneurial firm's language characteristics. However, I included a dummy control for whether a firm has any 424 variant(s) to account for any influence associated with having a 424.

Dependent variable

My dissertation examines how the language IPO firms used in their prospectuses influenced their short-term IPO performance. Short-term performance reflects the performance of IPO firm's stock price on the first day of trading or shortly thereafter (Certo, 2003). The offer price and number of shares sold largely reflects the information available to the general market and expectations by the stock market regarding the firm's future earnings (Fama, 1970). According to prior research, I adopted a commonly used measure to capture a firm's short-term IPO performance. The measure is the amount of IPO proceeds a firm raised through an offering scaled by the percent of shares offered by the firm. Proceeds reflect the capital an offering creates. IPO proceeds not only reflect the IPO performance (Gulati & Higgins, 2003) but also reflect the market valuation of the entire company (Certo, Daily, Cannella, & Dalton, 2003; Deeds, Decarolis, & Coombs, 1997; Finkle, 1998).

Independent variables

I used the LIWC 2015 (the Linguistic Inquiry and Word Count) to content analyze the IPO firms' prospectus for the independent variables. LIWC includes predefined dictionaries of

words. The program counts the number of words from each dictionary appearing in a given text and outputs the percentage of words in the text that belonged to each specific dictionary. LIWC has been used extensively in psycho-linguistic studies and it has been increasingly used in management research (Bednar, 2012; Crilly, Hansen, & Zollo, 2016; Gamache, McNamara, Mannor, & Johnson, 2015; Pfarrer, Pollock, & Rindova, 2010).

Language concreteness. I followed prior study and created a composite measure for language concreteness (Pan et al., 2018). Extant theory and empirical research from linguistics and psychology suggests that the use of verbs, numbers, and past focused words features concrete language while adjectives, non-specific quantifiers, and the use of future focused words features abstract (non-concrete) language (Elliot, Rennekamp, and White, 2015; Semin and Fiedler, 1988; Snefjella and Kuperman, 2015). First, the linguistics literature theorizes and shows that compare to adjectives, verbs are considered more concrete because verbs describe actions and behaviors that are typically observable and verifiable. In contrast, adjectives are descriptions that generalize and summarize characteristics across different contexts and situations. Therefore, adjectives dependent less on contextual factors and thus are more abstract (non-concrete) (Semin *et al.*, 2005; Semin and Fiedler, 1988). Prior research has found that in communication, audiences consider verbs as more concrete terms while adjectives as more abstract terms for generalizing situations, objects, or behaviors (e.g., Assilaméhou, Lepastourel, and Testé, 2013; Maass, 1999; Rubini and Semin, 1994; Rubini and Sigall, 2002). Thus, the argument that verbs are more reflective of concrete language and adjectives are more reflective of abstract language receives support from the literature.

Second, quantitative numbers such as digits are considered as more concrete than quantifiers, such as “many” or “few”, because research suggests that quantitative numbers are

more specific than quantifiers (Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Zhang and Schwarz, 2012). In particular, accounting scholars argued that specific numbers, or digits represent concrete language in firms' financial disclosures (Elliot et al., 2015). Similarly, Larrimore et al. (2011) argued that specific numbers are "concrete financial details." In support, their study showed that the use of specific numbers in loan applications was positively associated with peer-to-peer loan funding success.

Finally, prior research has shown that audiences are likely to assess past-focused language as concrete while future-focused language as less concrete. This is because audiences can link past-focused language to events that have already happened while future-focused language involves greater speculation and cannot be factually verified. Consistent with this argument, when linguistic scholars assessed the degree of language concreteness, they concluded that past events are described with richer and more specific sensorial detail and greater specificity in terms of time and location than future events by audiences (D'Argembeau and Van der Linden, 2004). Similarly, other scholars found that social media users tend to represent past experiences in more detail than future events (Snefjella and Kuperman, 2015: 1455). Thus past-focused language indicates higher level of concreteness.

To get the measure, I included six LIWC word categories: past focused, future focused, verbs, adjectives, numbers, and non-specific quantifiers. Afterwards, to obtain an aggregated measure, I first standardized each score from the individual measure. Then I reversed the scores for future focused, adjectives, and non-specific quantifiers. Finally, I added up the standardized scores of concreteness to obtain an aggregated continuous measure.

Language imagery. Following previous research (Emrich et al., 2001), I used Martindale's Regressive Imagery Dictionary (RID) to measure the level of imagery words in the

prospectus. Martindale's RID has been used in studies across disciplines including arts and literature, linguistics, psychology, and management. For instance, Emrich and colleagues used the dictionary to content analyze presidential speech. RID contains 2900 image-based words, which I used as self-defined dictionaries in LIWC to get the output for the frequency of image-based words against the total number of words in the prospectus.

Moderators

Hotness of IPO market. Prior studies suggested that because periods of high valuations vary across industries and not always the same for the general market, an industry-specific index is preferred for capturing the favorability of the equity markets (Gulati & Higgins, 2003; Lerner, 1994). As the result, I captured whether the IPO market is hot or cold by each industry. To measure the degree of hotness of an IPO issue market, I used a two month window around the IPO filing date (one month before and one month after the IPO filing date). I counted the total number of IPOs completed in each month (Helwege & Liang, 2004). I used three-digit SIC code to classify the industries because entrepreneurial firms are mostly at their early stage of development, they may be somewhat uncertain about their specific market or industry categories. Thus four-digit SIC codes might be too stringent.

Similarity of linguistic strategy. Similarity of linguistic strategy is defined as the degree that a firm's language concreteness or language imagery in its prospectus is similar to the average language concreteness or imagery in the prospectuses of the other firms undergoing IPO around the same time as the focal firm within the same industry. The time window I use for measuring this variable is 90 days before the firm's IPO issuing date. I used a broad measure of firm industry, one-digit SIC level, since this ensures that that for each firm undergoing IPO, I would be able to have at least two IPOs within the time window in order to obtain meaningful

mean statistics about other firms' language concreteness and language imagery. I measured similarity of linguistic strategy the following way: I calculated a standardized average language concreteness and language imagery scores for each industry for the specified time window, excluding the IPO firm.

Content domain. According to research on IPO prospectuses, the most important four sections in an IPO firm's prospectus are Summary of Prospectus, Risk Factor, Use of Proceeds, and Management Discussion and Analysis. Therefore, I used those four sections for testing the moderating effects of content domain on the association between language concreteness and language imagery and IPO performance.

Controls

I controlled a number of firm, industry, and tone related characteristics that are likely to influence a firm's IPO outcome. At firm level, I controlled *firm age,* which is measured as the difference between the founding year of a firm and its IPO date. Firm age has a positive impact on market valuation because relatively older firms are likely to have less risk due to their longer operating history (Loughran & Ritter, 2004). In addition, an IPO firm's quality is likely to influence its IPO performance. To account for the quality of the IPO firm, I used two control variables. I controlled for the firm's revenue and whether the firm has VC backing prior to IPO. *Firm revenue* reflects the performance of the firm and is likely to affect investors' assessment of the opportunities associated with the firm. *VC backing* is likely to have a positive effect because IPO firms with VC backing will be perceived as more legitimate and promising (Gulati & Higgins, 2003; Megginson & Weiss, 1991). Follow prior studies, I used a binary variable indicating the presence of venture capital (VC) backing prior to the IPO (1= if the firm has VC backing and 0 otherwise) (Barry, Muscarella, Peavy, & Vetsuypens, 1990; Hanley & Hoberg,

2010). Finally, I created a dummy variable to control for whether a firm has filed revision(s) of its registration file S-1[1].

Underwriter reputation signals the quality and resource of an IPO (Pollock & Rindova, 2003). To measure underwriter reputation, I used underwriter ranking developed by Carter and Manaster (1990) and updated by Carter et al. (1998) and Loughran and Ritter (2004). The logic for the measure is as following: When a firm undertakes an IPO, in the underwriting section, the prospectus lists all the investment banking firms that are part of the underwriting syndicate. It also lists the number of shares that each firm underwrites. The section lists lead underwriters first, co-managing underwriters second, and then other syndicate members. In the non-managing underwriting section, underwriters with higher reputation are listed first in brackets: Underwriters in higher brackets underwrite more shares. If an underwriter always appears in the highest bracket among non-managing underwriters, it is assigned the top ranking of 9 on a 0-9 scale.

Industry dynamism reflects the rate and unpredictability of the changes in an industry. When industry dynamism is high, the risks and uncertainty associated with the communication context become high, which may influence investors' investment decisions. To calculate industry *dynamism*, I used five-year windows. I first regressed industry sales on a year counter variable. I then divided the standard error of the regression coefficient for each industry by the average value of that industry's sales (McNamara, Haleblian, & Dykes, 2008)

Industry munificence reflects industry growth. Industry *munificence* reflects industry growth and is measured as the rate of the percent change in industry gross sales between the current and the previous year (Connelly, Tihanyi, Certo, & Hitt, 2010). When the growth rate in

[1] To test whether having 424 variant changes the impact of language concreteness or language imagery on a firm's IPO performance, I also interacted the dummy variable with each of the language variable. The test results showed that neither interaction effect is significant.

an industry is high, investors may want to invest in the firms; when the growth rate is low, they may be less likely to invest in the firms within the industry.

Industry Tobin's q, which scales an industry's average market value over its average book value, reflects the average market valuation of an industry over its average industrial assets. A higher market value indicates a positive valuation of the market toward the industry. This control accounts for the differences of firms due to its industry membership.

I controlled the *tone* (positive vs. negative) of the prospectuses. Prior work has found that the tone of the prospectus influenced investors' behaviors and pricing of IPO firms (Hanley & Hoberg, 2010).

Finally, the year between 2006 and 2016 included period which the US economy has experienced significant variability that likely influenced IPO outcomes. To account for periodical effect, I used year dummies.

ANALYSES AND RESULTS

Because the data is cross-sectional and the Huber-White test indicated the presence of heteroscedasticity in the data, I used OLS regression with robust standard errors (Wooldridge, 2015). I standardized all independent variables and moderators. Test of multicollinearity revealed that the highest VIFs are around 7, below the recommended level of 10. Therefore, multicollinearity is not a concern.

Table 1 presents the descriptive statistics and correlations for variables included in all models. Table 2 reports the OLS regression results. Model 1 is the baseline model with controls only. Model 2 tests the main effects of language concreteness and language imagery. Model 3 tests the interaction of hotness of IPO market and language variables. Models 4 and 5 test the moderating effect of industry language concreteness and language imagery. Model 6 includes all interaction terms in the model. Table 3 reports the OLS regression results for the effects of language concreteness and language imagery in the four sections of IPO prospectuses.

Table 1. Descriptive statistics and correlations.

	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	IPO performance	6.13	1.11	1														
2	Language concreteness	-0.13	3.04	.080	1													
3	Language imagery	2.48	0.71	.249	.195	1												
4	Firm revenue	2.79	5.21	.384	.123	.337	1											
5	Firm age	2.05	0.82	.020	.127	.172	.124	1										
6	Venture backing	0.40	0.49	-.207	.036	-.197	-.444	-.025	1									
7	Underwriter reputation	6.04	2.87	.089	-.038	-.068	.031	.026	.030	1								
8	Filing variant	0.54	0.50	-.121	-.019	.008	-.158	-.003	.277	.009	1							
9	IPO market hotness	1.49	0.51	-.165	-.107	-.223	-.472	-.066	.449	.049	.260	1						
10	Industry language concreteness	0	3.26	-.074	.257	.024	.069	.029	.010	-.006	-.043	-.131	1					
11	Industry language imagery	2.47	0.50	.147	.054	.277	.360	.065	-.208	-.051	-.004	-.209	.151	1				
12	Industry dynamism	0.04	0.04	.103	.042	.071	.203	.103	-.173	-.073	-.202	-.395	.113	.000	1			
13	Industry munificence	0.17	0.91	.004	.032	.019	.008	.016	-.024	-.023	-.045	-.077	.040	.043	.135	1		
14	Industry Tobin's q	1.62	0.79	-.020	.102	.002	-.044	.014	.181	.077	.217	.276	.197	.124	-.213	-.021	1	
15	Positive emotion	0.01	0.99	-.003	.235	.175	-.215	.030	.212	-.003	.130	.245	.048	-.050	-.143	-.071	.064	1
16	Negative emotion	0.01	0.96	-.083	-.195	-.045	-.161	-.040	.206	.004	.160	.206	-.081	-.021	-.139	-.046	.186	-.097

N = 816 for majority of the variables; N = 679 for IPO performance; N=722 for industry language concreteness and industry language imagery.
Correlation coefficient equal to or greater than .071 is significant at .05 level.

Table 2. Regression results.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Controls	Main effect	IPO hotness	IPO hotness interaction	Language similarity	Language similarity interaction	Overall tests
Intercept	6.694***	6.915***	6.920***	6.893***	6.782***	6.783***	6.919***
	(0.555)	(0.504)	(0.507)	(0.513)	(0.831)	(0.835)	(0.824)
Firm revenue	0.332***	0.284***	0.281***	0.277***	0.285***	0.285***	0.283***
	(0.059)	(0.056)	(0.056)	(0.056)	(0.056)	(0.056)	(0.056)
Firm age	0.015	0.008	0.009	0.010	0.015	0.015	0.017
	(0.043)	(0.042)	(0.042)	(0.042)	(0.047)	(0.047)	(0.047)
Venture backing	-0.033	-0.016	-0.011	-0.000	-0.016	-0.016	-0.002
	(0.121)	(0.118)	(0.118)	(0.118)	(0.128)	(0.128)	(0.128)
Underwriter reputation	0.091*	0.103**	0.102**	0.108**	0.083	0.083	0.090*
	(0.040)	(0.039)	(0.039)	(0.039)	(0.043)	(0.043)	(0.043)
Filing variant (424)	-0.239*	-0.256**	-0.257**	-0.256**	-0.264**	-0.264**	-0.263**
	(0.095)	(0.092)	(0.092)	(0.092)	(0.101)	(0.101)	(0.101)
Industry dynamism	0.135**	0.124**	0.123**	0.122**	0.120**	0.120**	0.118**
	(0.043)	(0.041)	(0.041)	(0.041)	(0.044)	(0.044)	(0.044)
Industry munificence	0.068**	0.067*	0.067*	0.066*	0.072**	0.072**	0.070**
	(0.025)	(0.027)	(0.027)	(0.027)	(0.024)	(0.024)	(0.024)
Industry Tobin's *q*	1.069	1.517*	1.499*	1.433*	-1.184	-1.188	-1.476
	(0.697)	(0.606)	(0.612)	(0.626)	(1.400)	(1.412)	(1.399)
Positive emotion	0.075	-0.001	0.001	0.012	-0.002	-0.002	0.009
	(0.044)	(0.045)	(0.045)	(0.045)	(0.049)	(0.051)	(0.051)
Negative emotion	-0.032	-0.023	-0.022	-0.022	-0.022	-0.022	-0.022
	(0.043)	(0.042)	(0.042)	(0.042)	(0.045)	(0.045)	(0.045)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Language concreteness		0.108*	0.108*	0.170	0.149*	0.149*	0.257*
		(0.050)	(0.050)	(0.092)	(0.060)	(0.060)	(0.106)
Language imagery		0.208***	0.206***	0.079	0.158**	0.158**	0.006
		(0.056)	(0.055)	(0.090)	(0.057)	(0.057)	(0.093)
IPO market hotness			-0.066	-0.043	-0.086	-0.086	-0.070
			(0.151)	(0.151)	(0.157)	(0.157)	(0.157)
Language concreteness × IPO market hotness				-0.138			-0.228
				(0.154)			(0.164)

Table 2 (cont'd)

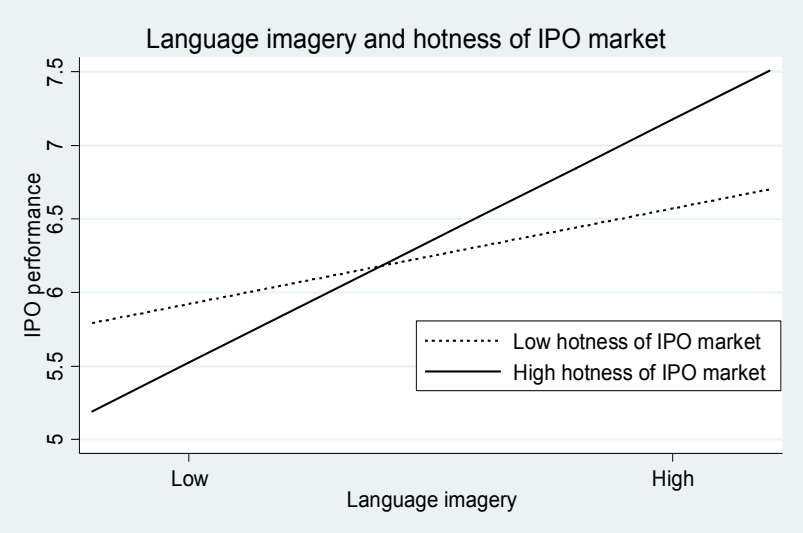
Language imagery × IPO market hotness				0.257* (0.130)			0.298* (0.133)
Industry language concreteness					-0.079 (0.046)	-0.079 (0.047)	-0.078 (0.047)
Industry language imagery					0.042 (0.041)	0.042 (0.041)	0.038 (0.042)
Firm language concreteness × Industry language concreteness						0.001 (0.037)	-0.000 (0.037)
Firm language imagery × Industry language imagery						-0.001 (0.035)	-0.001 (0.035)
N	679	679	679	679	605	605	605

Robust standard errors in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The regression results showed that several controls influence entrepreneurial firms' IPO performance. At firm level, firm revenue and underwriter reputation are positively associated with IPO performance, indicating that firms with better prior performance and working with more reputable underwriters are getting greater amount of IPO proceeds. In addition, a firm's filing of revised registration form is negatively associated with IPO performance. At industry level, industry dynamism and industry munificence are positively associated with IPO performance, suggesting that entrepreneurial firms in industries that have higher growth rates and greater level of market dynamics will get more funding from their IPOs.

Hypotheses 1a and 1b predicted that entrepreneurial firms' a) language concreteness and b) language imagery in IPO prospectus is positively associated with IPO performance respectively. As reported by model 2 in table 2, language concreteness and language imagery each is positively associated with IPO performance (b = 0.108, p < 0.05; b = 0.208, $p < 0.001$), supporting hypotheses 1a and 1b.

Figure 1.



For Hypotheses 2a and 2b, the study posited that the hotness of IPO market will positively moderate the association between the level of language concreteness and language imagery in entrepreneurial firms' IPO prospectus and those firms' IPO performance. Model 4 shows that the interaction effect for language imagery is positive and significant (b = 0.257, $p <$ 0.05). As shown in the interaction plot (Figures 1), the effect of language imagery is more positive when the level of hotness of the IPO market is higher. As such, Hypothesis 2b is supported. The test also revealed that the interaction for language concreteness is insignificant (b = - 0.138, *ns*), thus hypothesis 2a receives no support.

Hypotheses 3a and 3b predicted that the industry average level of concrete language and imagery language will exert negative moderation effect. Test results in model 6 showed that neither hypothesis received support.

Table 3. Regression results for language concreteness and language imagery in the four sections.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Prospectus Summary		Risk Factors		Management Discussion		Use of Proceeds	
Intercept	6.702***	6.841***	6.702***	6.764***	6.720***	6.592***	6.035***	5.979***
	(0.558)	(0.530)	(0.558)	(0.591)	(0.559)	(0.555)	(0.397)	(0.398)
Firm revenue	0.325***	0.321***	0.325***	0.310***	0.316***	0.316***	0.268***	0.249***
	(0.058)	(0.056)	(0.058)	(0.056)	(0.057)	(0.057)	(0.058)	(0.058)
Firm age	0.014	0.015	0.014	-0.002	0.016	0.015	0.027	0.021
	(0.042)	(0.041)	(0.042)	(0.042)	(0.042)	(0.042)	(0.048)	(0.049)
Venture backing	-0.033	-0.058	-0.033	-0.032	-0.038	-0.038	-0.106	-0.081
	(0.121)	(0.121)	(0.121)	(0.119)	(0.121)	(0.121)	(0.133)	(0.135)
Underwriter reputation	0.090*	0.100*	0.090*	0.105**	0.091*	0.085*	0.097*	0.095*
	(0.039)	(0.040)	(0.039)	(0.038)	(0.040)	(0.040)	(0.046)	(0.045)
Filing variant (424)	-0.239*	-0.251**	-0.239*	-0.260**	-0.251**	-0.255**	-0.245*	-0.255*
	(0.095)	(0.093)	(0.095)	(0.093)	(0.094)	(0.095)	(0.105)	(0.105)
Industry dynamism	0.133**	0.130**	0.133**	0.128**	0.137**	0.136**	0.128**	0.123**
	(0.043)	(0.042)	(0.043)	(0.041)	(0.043)	(0.043)	(0.046)	(0.044)
Industry munificence	0.069**	0.065*	0.069**	0.063*	0.067**	0.075**	0.071**	0.074**
	(0.026)	(0.026)	(0.026)	(0.027)	(0.026)	(0.028)	(0.025)	(0.026)
Industry Tobin's q	1.057	1.313*	1.057	1.210	1.065	0.961	-0.095	0.088
	(0.690)	(0.643)	(0.690)	(0.750)	(0.693)	(0.675)	(0.279)	(0.293)
Positive emotion	0.074	0.041	0.074	0.041	0.070	0.075	0.065	0.065
	(0.044)	(0.045)	(0.044)	(0.044)	(0.044)	(0.047)	(0.047)	(0.045)
Negative emotion	-0.031	-0.033	-0.031	-0.022	-0.036	-0.047	-0.014	-0.031
	(0.042)	(0.041)	(0.042)	(0.042)	(0.042)	(0.043)	(0.049)	(0.049)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Language concreteness		0.072		-0.161		0.042		0.071
		(0.046)		(0.086)		(0.067)		(0.088)
Language imagery		0.131**		0.292***		-0.102*		0.157*
		(0.043)		(0.058)		(0.046)		(0.071)
N	679	679	679	679	678	678	540	540

Robust standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Hypotheses 4a through 4d proposed that language concreteness and language imagery have differential effect across the four sections. To test these hypotheses, I used OLS regression, followed by Wald Chi-squared tests to compare regression coefficients of language concreteness and language imagery in each section. The Wald chi-square is as expressed as

$$\frac{(b_C - b_I)^2}{[s.e.(b_C)]^2 + [s.e.(b_I)]^2},$$

where b_C is the coefficient for concrete words, b_I is the coefficient for imagery words, and *s.e.* is the estimated standard error. A significant chi-square value indicates that the difference between the pair of regression coefficients is statistically significant, indicating that the effect of language concreteness and language imagery differs.

More specific, Hypothesis 4a proposed that in the Prospectus Summary section, the level of language imagery will have a stronger positive effect than will the level of language concreteness. As shown in Table 3, model 2, the coefficient of language imagery is positive (b = 0.131, $p < 0.01$) while the coefficient of language concreteness has no effect (b = 0.072, ns). However, Wald Chi-square test showed that the two coefficients are not significantly different. Thus Hypothesis 4a did not receive support. Hypothesis 4b proposes that in the Risk Factor section, the level of language concreteness will have a stronger positive effect than will the level of language imagery. As shown in Model 4, the coefficient of language imagery is positive (b = 0.292, $p < 0.001$) while the coefficient of language concreteness is negative but is not significant (b = -0.161, ns). The Wald Chi-square test results showed that the differences between the two coefficients are significant ($p < 0.001$). However, these test results are contrary to Hypothesis 4b, thus Hypothesis 4b did not receive support. Hypothesis 4c proposes that in the Use of Proceeds section, the level of language concreteness will have a stronger positive effect than will the level of language imagery. As shown in Model 6, language concreteness has no effect (b = 0.042, ns)

while language imagery has negative effect (b = -0.102, p < 0.05). The Wald Chi-square test indicated that the two coefficients are not significantly different. Thus, Hypothesis 4c did not receive support. Hypothesis 4d proposes that in the MD&A section, the level of language concreteness will have a stronger positive effect than will the level of language imagery. As shown in Model 6, language concreteness has no effect (b = 0.071, ns) while language imagery has positive effect (b = 0.157, p < 0.05). The Wald Chi-square test results showed that the differences between the two coefficients are significant (p < 0.05). However, the results are opposite to what is hypothesized. Thus Hypothesis 4d did not receive support.

Supplemental analyses

Interaction between language concreteness and language imagery. It is possible that the level of language concreteness and language imagery in the IPO prospectus jointly influence investors' decisions. I included the interaction term in the model and test results showed that the interaction is not significant (b = 0.04, ns).

The effect of language concreteness and language imagery across the four sections. Besides the interests of the study on the different effects of language concreteness and language imagery in each of the four sections, I also conducted tests to explore how the effect of language concreteness and language imagery differ across the four sections. To examine these differences, I first created dummy variables for each of the sections: 1) Prospectus summary = 1, all else = 0; 2) Risk factor =1, all else = 0; 3) Use of proceeds = 1, all else = 0; and 4) Management discussion = 1, all else = 0. Then I interacted language concreteness and language imagery with each of the dummy variables in separate regression models. The results are shown in Table 4 below. The results patterns revealed that neither the effect of language concreteness nor that of language imagery vary significantly across the content domains.

Table 4. Regression results.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Controls	Prospectus Summary		Risk Factors		Use of Proceeds		Management Discussion	
Intercept	6.617***	6.669***	6.690***	6.648***	6.640***	6.643***	6.614***	6.639***	6.632***
	(0.285)	(0.286)	(0.285)	(0.287)	(0.293)	(0.287)	(0.282)	(0.287)	(0.284)
Firm revenue	0.313***	0.311***	0.311***	0.311***	0.309***	0.310***	0.308***	0.312***	0.309***
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
Firm age	0.017	0.016	0.017	0.016	0.014	0.016	0.015	0.016	0.016
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Venture backing	-0.046	-0.044	-0.049	-0.044	-0.044	-0.043	-0.045	-0.045	-0.041
	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)
Underwriter reputation	0.092***	0.094***	0.094***	0.093***	0.095***	0.093***	0.092***	0.093***	0.093***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.019)	(0.020)	(0.020)
Filing variant (424)	-0.244***	-0.247***	-0.248***	-0.247***	-0.249***	-0.247***	-0.252***	-0.247***	-0.248***
	(0.047)	(0.046)	(0.046)	(0.047)	(0.046)	(0.047)	(0.046)	(0.047)	(0.047)
Industry dynamism	0.133***	0.132***	0.132***	0.132***	0.132***	0.132***	0.130***	0.132***	0.132***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Industry munificence	0.069***	0.068***	0.068***	0.068***	0.068***	0.068***	0.070***	0.068***	0.068***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.013)	(0.012)	(0.012)
Industry Tobin's q	0.903*	0.963**	0.981**	0.954**	0.958*	0.962**	0.967**	0.951**	0.956**
	(0.361)	(0.361)	(0.361)	(0.362)	(0.372)	(0.364)	(0.354)	(0.361)	(0.356)

Table 4 (cont'd)

Positive emotion	0.071***	0.065**	0.063**	0.066**	0.062**	0.064**	0.062**	0.067**	0.067**
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.022)	(0.021)	(0.021)
Negative emotion	-0.031	-0.032	-0.032	-0.032	-0.029	-0.033	-0.039	-0.031	-0.033
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Language concreteness		-0.005	-0.012	-0.001	0.015	0.009	0.016	-0.010	-0.013
		(0.019)	(0.022)	(0.019)	(0.020)	(0.022)	(0.023)	(0.026)	(0.028)
Language imagery		0.063**	0.048	0.051*	0.027	0.056**	0.116***	0.052*	0.048*
		(0.022)	(0.028)	(0.021)	(0.022)	(0.021)	(0.025)	(0.020)	(0.021)
Prospectus Summary		-0.060	-0.071						
		(0.044)	(0.045)						
Risk Factor				0.005	0.018				
				(0.042)	(0.045)				
Management Discussion						0.047	0.023		
						(0.050)	(0.061)		
Use of proceeds								0.029	-0.063
								(0.062)	(0.111)
Prospectus Summary × Language concreteness			0.069						
			(0.046)						

Table 4 (cont'd)

Prospectus Summary × Language imagery			0.041 (0.041)						
Risk Factor × Language concreteness					-0.148 (0.077)				
Risk Factor × Language imagery					0.173 (0.050)				
Use of Proceeds × Language concreteness							0.036 (0.058)		
Use of Proceeds × Language imagery							-0.197 (0.044)		
Management Discussion × Language concreteness									0.064 (0.080)
Management Discussion × Language imagery									0.085 (0.062)
N	2576	2576	2576	2576	2576	2576	2576	2576	2576

Robust standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

DISCUSSION

My dissertation contributes to research about strategic use of language by entrepreneurs. A review of the current literature in the field showed that the focus of prior research is mostly on the use and effect of higher levels of language. In particular, scholarly works has delved much into how narratives, storytelling, or claims by the entrepreneurs enhance their opportunity to obtain legitimacy and funding. My research switches the focus from macro-level language to micro- or word- level language, and particularly examines the persuasive words representing by concrete words and imagery words—two types of vivid language. To explore the function of vivid language in entrepreneurial firms' resource acquisition, I chose to examine the language strategy in entrepreneurial firms' IPO prospectuses they filed to SEC, and understand whether and how the persuasive words in their prospectuses influence their IPO outcome. The empirical results lent support to some of my hypotheses.

Contribution of my dissertation study

By studying language strategy at word level by entrepreneurs, my dissertation adds new insights to the emerging interest in entrepreneurship literature about the role of language in obtaining financial resources for entrepreneurs. My study shows that, vivid language, a micro level persuasive language shown to be effective in other communication contexts, is effective in drawing funding for entrepreneurial firms. More specifically, the study findings revealed that in the setting of an entrepreneurial firm's IPO event, higher level of language concreteness and language imagery in its IPO prospectuses is positively related to its IPO performance respectively, as indicated by the amount of proceeds the firm raised on the day of IPO.

In addition, my dissertation attempts to parse out the mechanisms of the two primary dimensions of language vividness—language concreteness and language imagery. I tried to not

only explore their individual, main effect but also theorize and test contingencies which may distinctively impact the two dimensions. Thus my research allows me to refine our understanding of vivid language effects in entrepreneurship setting. First, I argued that while language concreteness is persuasive because it provides details and contextualized information to the audiences to satisfy their information needs and reduce uncertainty; language imagery persuades audiences through appealing to their emotions and sensations so that they are more likely to pay attention and process the information.

I also theorized two important contingencies of vivid language grounded in communication and linguistics literature—selective attention and vividness congruency—and proposed that they have differential moderating effects on the association between entrepreneurial firms' IPO performance and language concreteness and language imagery. Regarding selective attention, I argued that the effectiveness of language concreteness and language imagery will be stronger when less similarity exists between the linguistic strategy of the focal entrepreneurial firm and that of other entrepreneurial firms in the same industry. Meanwhile, I proposed that the hotness of IPO market positively affects the effect of language concreteness and language imagery. Finally, I argued that because the function of language depends fundamentally on drawing or distracting audience attention, factors concerning audience's selection of attention are more likely to change the trajectory of language imagery than language concreteness. The test results revealed that the level of hotness of IPO market indeed strengthen the effect of language imagery but does not impact the effect of language concreteness. Although the test results did not support the hypotheses that the industry average language vividness moderates the firm level language effect, the findings do indicted that the industry average level of language concreteness is negatively associated with the entrepreneurial

firm's IPO performance. This finding is interesting, suggesting that when other firms in the industry provide details and specific information with high level of language concreteness, the funding outcome for the entrepreneurial firm is lower. One explanation of this is that when other firms are concrete in communicating with investors, they draw the interest of investors and pull potential investment away from the focal firm. In contrast, industry average language imagery showed no effect. Together, these results provide evidence that language concreteness and language imagery function differently under certain conditions: While the hotness of IPO market impacts the effect of language imagery on entrepreneurial firms' funding outcome and has no influence on the association between language concreteness and entrepreneurial firms' funding outcome; industry average level of language concreteness affects entrepreneurial firms' IPO outcome and industry average level of language imagery shows no effect. Thus my study offers new insights to language vividness literature.

Apart from selective attention, I theorized that vividness congruency, the idea that when the content of the message and the language attribute fit, the language attribute is more persuasive. I explored this idea using four sections of entrepreneurial firms' IPO prospectuses: Prospectus Summary, Risk Factors, Management Discussion, and Use of Proceeds. The findings are mixed and unexpected. In particular, for Risk Factor section, I hypothesized that the level of language concreteness will have a stronger positive effect than the level of language imagery. The test results revealed the opposite: While language concreteness has no significant effect, language imagery has a positive effect; and the difference is significant as shown by the Chi-square test. At first glance, this seems not sensible. Because entrepreneurial firms discuss the risks and threats they face in their businesses or environments in this section, it seems that these firms would not want to trigger increased attention. On the basis of the theory, high level of

language imagery tends to induce investors' attention to the risks and consider the risks in their assessment of the firm; while by providing needed, detailed information about their firms using concrete language will help investors assuage the uncertainty and risk associated with the firms. Thus firms using high level language concreteness should benefit while using high level language imagery will suffer. However, one plausible explanation may be that in the Risk Factors section, concrete information provided by the firms may be seen by investors as hard evidence of potential risks. Thus, the use of concrete language in this section may simple increase the perceived salience of risk. In contrast, since imagery language does not provide specific information about the risks, investors may not treat the information as solid evidence of risks or threats against the firms. Below are two examples from the Risk Factor section of IPO prospectus to illustrate this explanation: one example is by Cascade MicroTech Inc., which has relatively high level of language imagery; another example comes from Dresser-Rand Group Inc., which uses relatively high level of language concreteness:

High imagery:

"The semiconductor industry is highly cyclical with recurring periods of wide fluctuations in product supply and demand. From time to time, this industry has experienced significant downturns, often in connection with, or in anticipation of, periods of oversupply, maturing product and technology cycles, excess inventories and declines in general economic conditions."

High concreteness:

"Our financial performance could be affected by our substantial indebtedness. As of September 30, 2005, our total indebtedness was approximately $599.2 million. In addition, we had $171.3 million of letters of credit outstanding and additional

borrowings available under the revolving portion of our senior secured credit facility of $178.7 million. We may also incur additional indebtedness in the future."

In addition, I hypothesized that in the Management Discussion section, the level of language concreteness will have a stronger positive effect than will the level of language imagery. In this section, management of entrepreneurial firms explain the past performance of the firms and future plans and trajectories of the firms. It seems that a detailed, more concrete description or prediction should benefit and using imagery words should not help. However, the test results showed the opposite: While using concrete language has no effect on the IPO performance, using imagery language brings more favorable IPO outcome. This finding counters to the theoretical arguments presented in this paper. Looking into the IPO prospectuses with higher level of language imagery may help explain why imagery language increases IPO outcome. Below is an example from the Management Discussion section of the IPO prospectus by RenTech Nitrogen Partners, L.P.:

In addition, we do not maintain a fleet of trucks and, unlike some of our major competitors, we do not maintain a fleet of rail cars because our customers generally are located close to our facility and prefer to be responsible for transportation. Having no need to maintain a fleet of trucks or rail cars lowers our fixed costs. The combination of our proximity to our customers and our storage capacity at our facility also allows for better timing of the pick-up and application of our products, as nitrogen fertilizer product shipments from more distant locations have a greater risk of missing the short periods of favorable weather conditions during which the application of nitrogen fertilizer may occur.

The above example shows that using imagery language in fact enables RenTech to illustrate its

competitive advantage over its competitors or how the company can differentiate with other competing firms. Looking at the means and standard deviations of language concreteness (mean = 1.27, *s.d.* = 0.55) and language imagery (mean = 0.21, *s.d.* = 0.63) in the Management Discussion, a potential explanation may be on average, firms may all use relatively high language concreteness to provide details or specific information for their past performance or future projection. However, the average level of language imagery by those firms is relatively low. Therefore, firms using higher level of language imagery stand out and have more positive outcomes.

To summarize, this study reveals that in general, language concreteness and language imagery will benefit entrepreneurial firms in resource acquisition. In addition, the effect of language imagery fluctuates at greater level than that of language concreteness, depending on the market characteristics or communication content. Thus in communicating with investors, entrepreneurs may leverage the persuasive function of language concreteness and language imagery. But they want to be more mindful when integrating language imagery because under certain conditions, higher level of language imagery benefits entrepreneurs even more; but in other circumstances, higher level of language imagery hurts rather than helps with intended purposes of entrepreneurs.

Future research

My dissertation adds to the inquiry of the role of language in entrepreneurs' resource acquisition, ample opportunities exist for future research both theoretically and methodologically. Theory wise, my dissertation is focused on whether and how entrepreneurial firms' linguistic strategies influence the firms' IPO outcome. Future studies can extend the current research in multiple ways. First, future studies may explore antecedents explaining why entrepreneurs adopt

certain linguistic patterns. Logical antecedents at managerial level include demographic characteristics of founding members or leaders, such as gender, career experience, education background, or expertise, influence the type of language an entrepreneur or entrepreneurial firms use. For instance, founding members who have engineering backgrounds and those who have finance backgrounds may use different language patterns in communication. Additionally, managers' cognitive or personality traits, such as their perception or interpretation of market opportunities or perceived risk of the firm, may affect the language they choose to communicate about the firm and its leadership as well. Managers who are risk-taking or confident may use more positive words in communication while managers who are risk-averse may use more risk-related words in communication.

Other possible antecedents could be at the industry level. This study looks at the language concreteness and language imagery by entrepreneurial firms relative to other entrepreneurial firms in the same industry. Future research may slice the industry average differently by taking account into other, incumbent firms, and theorize and test whether industry norms exist for how and what type of language should be used; and whether conformity to the industry language norm affects the outcome of an entrepreneurial firm's linguistic strategy. Additionally, other industrial conditions may be of interest for future research, such as, the industry growth rate or changes. For instance, when an industry is more volatile, investors will face greater amounts of information about what is going on in the industry. Thus, their attention or processing capacity is more likely to be distracted and challenged. On the basis of the attention selection logic discussed above, such a situation is likely to influence the effect of firms' language on investors or other stakeholders.

In addition to antecedents of entrepreneurs' language, future research can explore

moderating effect or outcomes associated with the source of communication—entrepreneurs or entrepreneurial firms. According to the communication and persuasion literatures, source characteristics directly or indirectly influence the effectiveness of communication and persuasion. Prior studies have given particular attention to source credibility, defined as to what extend the source can show its expertise or trustworthiness to the audiences in the subject area. In an entrepreneurial setting, because those firms are relatively new, if they could demonstrate to the investors that they are credible or have business potential, investors are more likely to be persuaded by their communication. For instance, if the entrepreneurial firms provide evidence of large revenue or greater number of patents, the language they use to deliver information or promote their businesses may be more persuasive. One other possible feature of entrepreneurial firms may be their salience in the media. According to communication theory, the more exposure a topic or subject receives, the more likely the audiences are to recognize and grant legitimacy to it. Such legitimacy may increase the persuasiveness of entrepreneurs' language and communication.

Finally, future research may also investigate the implications of audience characteristics for entrepreneurs' linguistic strategies. Audience characteristics have been a critical area of research in communication and media studies. Audience characteristics can include relatively stable ones, such as their pre-existing knowledge structures, beliefs, or value systems. In the context of entrepreneurs' resource acquisition, the key audiences they concern are financial providers. Accounting and finance scholars have initiated the first step to use experiments in related study and revealed that the level of investors' sophistication, operationalized by their capability to process complicated information about a firm's earnings performance, affects investors' valuation of the firm's future potentials (Tan et al., 2015). In an entrepreneurial setting,

investors' prior knowledge about the firm, the product or technology, or the industry the firms operates may all influence investors' investment decisions. Equally relevant, whether the investors are independent investors or corporate investors may affect their investment decisions as well. It is argued in innovation and entrepreneurship literature that independent investors and corporate investors resort to different logics in assessing the potential of entrepreneurs. For instance, independent investors may give priority to profit potential and thus be more sensitive to risk related descriptions. In contrast, corporate investors may be more exploratory in seeking expansion of their product or market focus by obtaining new technologies or radical innovations. Thus, they may be more sensitive to information about what is new but less sensitive to information about risks. As a result, even when the information content and type are equal, the resource acquisition outcome of entrepreneurs' communication efforts may vary depending on the investor type. Aside from relatively stable characteristics, the audience reactions may also be influenced by less stable characteristics, such as positive and negative mood or engagement in the communication. For instance, if investors consider information in the communication as noteworthy and provocative, they may resort to systematical information processing, thus they may be more focused on the information delivered by entrepreneurs and less affected by the language entrepreneurs use.

Additional to opportunities for theoretical expansion, methodology wise, future studies may try to obtain communication by entrepreneurs in other forms. My dissertation focuses on entrepreneurial firms' IPO outcome. Thus, IPO prospectuses filed by entrepreneurial firms constitute the corpus of communication from entrepreneurs to investors. To obtain all the measures of language variables, my research uses content analysis of the texts. Future research may obtain communication or language data using other types of data source including the pitch

deck (which are short PowerPoint presentations by entrepreneurs to investors), the firms' press releases, news, or statements on the website. Aside from written text by the entrepreneurs, future research may study language characteristics of verbal communications. A few persuasive linguistic features, such as the use of hedges or intensive language, are more relevant to speeches than written texts, and their effectiveness in communication have been shown by communication and linguistic scholars.

CONCLUDING THOUGHTS

Social and financial resources are critical for entrepreneurs to survive and grow. Although the quality and capability of the leaders, products, innovations, or businesses are fundamental for investors to judge potential success of entrepreneurs, entrepreneurs largely depend on communication to convince investors and general stakeholders. The various forms of communication, such as pitch decks, media reports, and business proposals, require entrepreneurs to effectively communicate. Otherwise, entrepreneurs may put themselves in a disadvantaged position in competing for attention and resources. This study represents one among many linguistic approaches that may be useful for entrepreneurs. It not only shows that the strategic use and design of language in communicating with stakeholders can better persuade investors to improve the firm's financial resource acquisition, but also speaks to under what conditions different forms of language better function.

REFERENCES

REFERENCES

Ackert, L. F., & Athanassakos, G. 1997. Prior uncertainty, analyst bias, and subsequent abnormal returns. ***Journal of Financial Research***, 20(2): 263-273.

Afifi, W. A., & Weiner, J. L. 2004. Toward a theory of motivated information management. ***Communication Theory***, 14(2): 167-190.

Aldrich, H. E., & Fiol, C. M. 1994. Fools rush in? The institutional context of industry creation. ***Academy of management review***, 19(4): 645-670.

Arnold, T., Fishe, R. P., & North, D. 2010. The effects of ambiguous information on initial and subsequent IPO returns. ***Financial Management***, 39(4): 1497-1519.

Babrow, A. S. 2001. Uncertainty, value, communication, and problematic integration. ***Journal of communication***, 51(3): 553-573.

Barber, B. M., & Odean, T. 2008. All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. ***Review of Financial Studies***, 21(2): 785-818.

Barry, C. B., Muscarella, C. J., Peavy, J. W., & Vetsuypens, M. R. 1990. The role of venture capital in the creation of public companies: Evidence from the going-public process. ***Journal of Financial economics***, 27(2): 447-471.

Baum, J. A., & Silverman, B. S. 2004. Picking winners or building them? Alliance, intellectual, and human capital as selection criteria in venture financing and performance of biotechnology startups. ***Journal of business venturing***, 19(3): 411-436.

Beatty, R. P., & Ritter, J. R. 1986. Investment banking, reputation, and the underpricing of initial public offerings. ***Journal of financial economics***, 15(1-2): 213-232.

Beatty, R. P., & Welch, I. 1996. Issuer expenses and legal liability in initial public offerings. ***The Journal of Law and Economics***, 39(2): 545-602.

Bednar, M. K. 2012. Watchdog or lapdog? A behavioral view of the media as a corporate governance mechanism. ***Academy of Management Journal***, 55(1): 131-150.

Benford, R. D., & Snow, D. A. 2000. Framing processes and social movements: An overview and assessment. ***Annual review of sociology***, 26(1): 611-639.

Benner, M. J., & Tripsas, M. 2012. The influence of prior industry affiliation on framing in nascent industries: the evolution of digital cameras. ***Strategic Management Journal***, 33(3): 277-302.

Benson, D. F., Brau, J. C., Cicon, J., & Ferris, S. P. 2015. Strategically camouflaged corporate governance in IPOs: Entrepreneurial masking and impression management. ***Journal of Business Venturing***, 30(6): 839-864.

Berger, C. R., & Calabrese, R. J. 1975. Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. ***Human communication research***, 1(2): 99-112.

Berry, D. S., Pennebaker, J. W., Mueller, J. S., & Hiller, W. S. 1997. Linguistic bases of social perception. ***Personality and Social Psychology Bulletin***, 23(5): 526-537.

Bingham, C. B., & Kahl, S. J. 2013. The process of schema emergence: Assimilation, deconstruction, unitization and the plurality of analogies. ***Academy of Management Journal***, 56(1): 14-34.

Bolls, P. D., Lang, A., & Potter, R. F. 2001. The effects of message valence and listener arousal on attention, memory, and facial muscular responses to radio advertisements. ***Communication Research***, 28(5): 627-651.

Brau, J. C., Francis, B., & Kohers, N. 2003. The choice of IPO versus takeover: Empirical evidence. ***The Journal of Business***, 76(4): 583-612.

Brush, C. G., Greene, P. G., & Hart, M. M. 2001. From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. ***The academy of management executive***, 15(1): 64-78.

Burgoon, M., Jones, S. B., & Stewart, D. 1975. Toward a message‐centered theory of persuasion: three empirical investigations of language intensity. ***Human Communication Research***, 1(3): 240-256.

Certo, S. T. 2003. Influencing initial public offering investors with prestige: Signaling with board structures. ***Academy of management review***, 28(3): 432-446.

Certo, S. T., Daily, C. M., Cannella, A. A., & Dalton, D. R. 2003. Giving money to get money: How CEO stock options and CEO equity enhance IPO valuations. ***Academy of Management Journal***, 46(5): 643-653.

Chaiken, S., & Maheswaran, D. 1994. Heuristic processing can bias systematic processing: Effects of source credibility, argument ambiguity, and task importance on attitude judgment. ***Journal of personality and social psychology***, 66: 460-460.

Chaiken, S., & Stangor, C. 1987. Attitudes and attitude change. ***Annual review of psychology***, 38(1): 575-630.

Clark, J. K., Wegener, D. T., Habashi, M. M., & Evans, A. T. 2012. Source expertise and persuasion the effects of perceived opposition or support on message scrutiny. ***Personality and Social Psychology Bulletin***, 38(1): 90-100.

Cohen, B. D., & Dean, T. J. 2005. Information asymmetry and investor valuation of IPOs: Top management team legitimacy as a capital market signal. ***Strategic Management Journal***, 26(7): 683-690.

Connelly, B. L., Tihanyi, L., Certo, S. T., & Hitt, M. A. 2010. Marching to the beat of different drummers: The influence of institutional owners on competitive actions. ***Academy of Management Journal***, 53(4): 723-742.

Cornelissen, J. P., & Clarke, J. S. 2010. Imagining and rationalizing opportunities: Inductive reasoning and the creation and justification of new ventures. ***Academy of Management Review***, 35(4): 539.

Crilly, D., Hansen, M., & Zollo, M. 2016. The grammar of decoupling: A cognitive-linguistic perspective on firms' sustainability claims and stakeholders' interpretation. ***Academy of Management Journal***, 59(2): 705-729.

Daily, C. M., Dalton, D. R., & Cannella, A. A. 2003. Corporate governance: Decades of dialogue and data. ***Academy of management review***, 28(3): 371-382.

DeBono, K. G., & Harnish, R. J. 1988. Source expertise, source attractiveness, and the processing of persuasive information: A functional approach. ***Journal of Personality and social Psychology***, 55(4): 541.

Deeds, D. L., Decarolis, D., & Coombs, J. E. 1997. The impact of firmspecific capabilities on the amount of capital raised in an initial public offering: Evidence from the biotechnology industry. ***Journal of Business venturing***, 12(1): 31-46.

Dodd, S. D. 2002. Metaphors and meaning: A grounded cultural model of US entrepreneurship. ***Journal of Business Venturing***, 17(5): 519-535.

Duru, A., & Reeb, D. M. 2002. International diversification and analysts' forecast accuracy and bias. ***The Accounting Review***, 77(2): 415-433.

Eagly, A. H. 1974. Comprehensibility of persuasive arguments as a determinant of opinion change. ***Journal of Personality and Social Psychology***, 29(6): 758.

Eagly, A. H., & Chaiken, S. 1993. ***The psychology of attitudes***: Harcourt Brace Jovanovich College Publishers.

Elliott, L. 1973. Imagery versus repetition encoding in short-and long-term memory. ***Journal of Experimental Psychology***, 100(2): 270.

Elliott, W. B., Rennekamp, K. M., & White, B. J. 2015. Does concrete language in disclosures increase willingness to invest? ***Review of Accounting Studies***, 20(2): 839-865.

Elsbach, K. D. 2004. Interpreting workplace identities: The role of office décor. ***Journal of Organizational Behavior***, 25(1): 99-128.

Emrich, C. G., Brower, H. H., Feldman, J. M., & Garland, H. 2001. Images in words: Presidential rhetoric, charisma, and greatness. ***Administrative Science Quarterly***, 46(3): 527-557.

Estes, W. K. 1982. Learning, memory, and intelligence. ***Handbook of human intelligence***: 170-224.

Fama, E. F. 1970. Efficient capital markets: A review of theory and empirical work. ***The journal of Finance***, 25(2): 383-417.

Fama, E. F., & French, K. R. 1992. The cross‐section of expected stock returns. ***the Journal of Finance***, 47(2): 427-465.

Fazio, R. H., & Williams, C. J. 1986. Attitude accessibility as a moderator of the attitude–perception and attitude–behavior relations: An investigation of the 1984 presidential election. ***Journal of personality and social psychology***, 51(3): 505.

Ferris, S. P., Hao, Q., & Liao, M.-Y. 2013. The Effect of Issuer Conservatism on IPO Pricing and Performance. ***Review of Finance***, 17(3): 993-1027.

Finkle, T. A. 1998. The relationship between boards of directors and initial public offerings in the biotechnology industry. ***Entrepreneurship Theory & Practice***, 22(3).

Fiske, S. T., & Taylor, S. E. 1991. Social cognition, 2nd. ***NY: McGraw-Hill***: 16-15.

Forgas, J. P. 2007. When sad is better than happy: Negative affect can improve the quality and effectiveness of persuasive messages and social influence strategies. ***Journal of experimental social psychology***, 43(4): 513-528.

Friendly, M., Franklin, P. E., Hoffman, D., & Rubin, D. C. 1982. The Toronto Word Pool: Norms for imagery, concreteness, orthographic variables, and grammatical usage for 1,080 words. ***Behavior Research Methods & Instrumentation***, 14(4): 375-399.

Gamache, D. L., McNamara, G., Mannor, M. J., & Johnson, R. E. 2015. Motivated to acquire? The impact of CEO regulatory focus on firm acquisitions. ***Academy of Management Journal***, 58(4): 1261-1282.

Gao, H., Yu, T., & Cannella, A. A. 2015. The Use of Public Language in Strategy A Multidisciplinary Review and Research Agenda. ***Journal of Management***: 0149206315615675.

Garud, R., Schildt, H. A., & Lant, T. K. 2014. Entrepreneurial storytelling, future expectations, and the paradox of legitimacy. ***Organization Science***, 25(5): 1479-1492.

Goldberg, M. E., & Hartwick, J. 1990. The effects of advertiser reputation and extremity of advertising claim on advertising effectiveness. ***Journal of Consumer Research***, 17(2): 172-179.

Grégoire, D. A., De Koning, A. J., & Oviatt, B. M. 2008. Do VCs evaluate 'live'presentations like they evaluate business plans? ***Frontiers of Entrepreneurship Research***, 28(3): 1.

Gulati, R., & Higgins, M. C. 2003. Which ties matter when? The contingent effects of interorganizational partnerships on IPO success. ***Strategic Management Journal***, 24(2): 127-144.

Hafer, C. L., Reynolds, K. L., & Obertynski, M. A. 1996. Message comprehensibility and persuasion: Effects of complex language in counterattitudinal appeals to laypeople. ***Social Cognition***, 14(4): 317-337.

Hales, J., Kuang, X. J., & Venkataraman, S. 2011. Who believes the hype? An experimental examination of how language affects investor judgments. ***Journal of Accounting Research***, 49(1): 223-255.

Hamilton, M. A., Hunter, J. E., Allen, M., & Preiss, R. 1998. The effect of language intensity on receiver evaluations of message, source, and topic. ***Persuasion: Advances through meta-analysis***: 99-138.

Hanley, K. W., & Hoberg, G. 2010. The information content of IPO prospectuses. ***Review of Financial Studies***, 23(7): 2821-2864.

Hansen, J., & Wänke, M. 2010. Truth from language and truth from fit: The impact of linguistic concreteness and level of construal on subjective truth. ***Personality and Social Psychology Bulletin***: 0146167210386238.

Helwege, J., & Liang, N. 2004. Initial public offerings in hot and cold markets. ***Journal of Financial and Quantitative Analysis***, 39(03): 541-569.

Herron, T. L. 1996. ***The persuasion effects of time pressure and source expertise in an audit setting: An elaboration likelihood application***. University of Texas at Arlington.

Hirshleifer, D. 2001. Investor psychology and asset pricing. ***The Journal of Finance***, 56(4): 1533-1597.

Hirshleifer, D., & Teoh, S. H. 2003. Limited attention, information disclosure, and financial reporting. ***Journal of accounting and economics***, 36(1): 337-386.

Hirshleifer, D. A., Lim, S. S., & Teoh, S. H. 2004. Disclosure to an audience with limited attention.

Hoffman, A. J., & Ocasio, W. 2001. Not all events are attended equally: Toward a middle-range theory of industry attention to external events. ***Organization science***, 12(4): 414-434.

Hosman, L. A. 2002. Language and persuasion. ***The persuasion handbook: Developments in theory and practice***: 371-390.

Hovland, C. I., Janis, I. L., & Kelley, H. H. 1953. Communication and persuasion; psychological studies of opinion change.

Ibbotson, R. G., & Ritter, J. R. 1995. Initial public offerings. ***Handbooks in operations research and management science***, 9: 993-1016.

Jerez-Fernandez, A., Angulo, A. N., & Oppenheimer, D. M. 2014. Show Me the Numbers Precision as a Cue to Others' Confidence. ***Psychological science***, 25(2): 633-635.

Joseph, W. B. 1982. The credibility of physically attractive communicators: A review. ***Journal of advertising***, 11(3): 15-24.

Kennedy, M. T. 2008. Getting counted: Markets, media, and reality. ***American sociological review***, 73(2): 270-295.

Kieras, D. 1978. Beyond pictures and words: Alternative information-processing models for imagery effect in verbal memory. ***Psychological Bulletin***, 85(3): 532.

Kounios, J., & Holcomb, P. J. 1994. Concreteness effects in semantic processing: ERP evidence supporting dual-coding theory. ***Journal of Experimental Psychology: Learning, Memory, and Cognition***, 20(4): 804.

Kramer, M. W. 1999. Motivation to reduce uncertainty: A reconceptualization of uncertainty reduction theory. ***Management Communication Quarterly***, 13(2): 305-316.

Langacker, R. W. 1987. Nouns and verbs. ***Language***: 53-94.

Larrimore, L., Jiang, L., Larrimore, J., Markowitz, D., & Gorski, S. 2011. Peer to peer lending: The relationship between language features, trustworthiness, and persuasion success. ***Journal of Applied Communication Research***, 39(1): 19-37.

Lee, C., Lee, K., & Pennings, J. M. 2001. Internal capabilities, external networks, and performance: a study on technology‐based ventures. ***Strategic management journal***, 22(6‐7): 615-640.

Lee, W., & Gretzel, U. 2012. Designing persuasive destination websites: A mental imagery processing perspective. ***Tourism management***, 33(5): 1270-1280.

Lehavy, R., Li, F., & Merkley, K. 2011. The effect of annual report readability on analyst following and the properties of their earnings forecasts. ***The Accounting Review***, 86(3): 1087-1115.

Leone, A. J., Rock, S., & Willenborg, M. 2007. Disclosure of intended use of proceeds and underpricing in initial public offerings. ***Journal of Accounting Research***, 45(1): 111-153.

Lerner, J. 1994. Venture capitalists and the decision to go public. ***Journal of financial Economics***, 35(3): 293-316.

Lester, R. H., Certo, S. T., Dalton, C. M., Dalton, D. R., & Cannella, A. A. 2006. Initial public offering investor valuations: An examination of top management team prestige and environmental uncertainty. ***Journal of Small Business Management***, 44(1): 1-26.

Liu, L. X., Sherman, A. E., & Zhang, Y. 2014. The long-run role of the media: Evidence from initial public offerings. ***Management Science***, 60(8): 1945-1964.

Lou, D. 2014. Attracting investor attention through advertising. ***Review of Financial Studies***: hhu019.

Loughran, T., & McDonald, B. 2013. IPO first-day returns, offer price revisions, volatility, and form S-1 language. ***Journal of Financial Economics***, 109(2): 307-326.

Lounsbury, M., & Glynn, M. A. 2001. Cultural entrepreneurship: Stories, legitimacy, and the acquisition of resources. ***Strategic management journal***, 22(6‐7): 545-564.

Ludwig, S., De Ruyter, K., Friedman, M., Brüggen, E. C., Wetzels, M., & Pfann, G. 2013. More than words: The influence of affective content and linguistic style matches in online reviews on conversion rates. ***Journal of Marketing***, 77(1): 87-103.

March, J. G., & Simon, H. A. 1958. Organizations.

Marschark, M., & Cornoldi, C. 1991. Imagery and verbal memory, ***Imagery and cognition***: 133-182: Springer.

Marschark, M., Richman, C. L., Yuille, J. C., & Hunt, R. R. 1987. The role of imagery in memory: On shared and distinctive information. ***Psychological Bulletin***, 102(1): 28.

Martens, M. L., Jennings, J. E., & Jennings, P. D. 2007. Do the stories they tell get them the money they need? The role of entrepreneurial narratives in resource acquisition. ***Academy of Management Journal***, 50(5): 1107-1132.

Mazzocco, P. J., & Brock, T. C. 2006. Understanding the role of mental imagery in persuasion: A cognitive resources model analysis. ***Creating images and the psychology of marketing communication***: 65-78.

McCammon, H. J., Muse, C. S., Newman, H. D., & Terrell, T. M. 2007. Movement framing and discursive opportunity structures: The political successes of the US women's jury movements. ***American Sociological Review***, 72(5): 725-749.

McClelland, J. L., & Rumelhart, D. E. 1985. Distributed memory and the representation of general and specific information. ***Journal of Experimental Psychology: General***, 114(2): 159.

McNamara, G. M., Haleblian, J. J., & Dykes, B. J. 2008. The performance implications of participating in an acquisition wave: Early mover advantages, bandwagon effects, and the moderating influence of industry characteristics and acquirer tactics. ***Academy of Management Journal***, 51(1): 113-130.

Megginson, W. L., & Weiss, K. A. 1991. Venture capitalist certification in initial public offerings. ***The Journal of Finance***, 46(3): 879-903.

Menon, T., & Blount, S. 2003. The messenger bias: A relational model of knowledge valuation. ***Research in Organizational Behavior***, 25: 137-186.

Miller, B. P. 2010. The effects of reporting complexity on small and large investor trading. ***The Accounting Review***, 85(6): 2107-2143.

Miller, C. H., Lane, L. T., Deatrick, L. M., Young, A. M., & Potts, K. A. 2007. Psychological reactance and promotional health messages: The effects of controlling language, lexical concreteness, and the restoration of freedom. ***Human Communication Research***, 33(2): 219-240.

Moore, D. L., Hausknecht, D., & Thamodaran, K. 1986. Time compression, response opportunity, and persuasion. ***Journal of Consumer Research***, 13(1): 85-99.

Moser, S. 1992. The visual language of archaeology: a case study of the Neanderthals. ***Antiquity***, 66(253): 831-844.

Munir, K. A., & Phillips, N. 2005. The birth of the'Kodak Moment': Institutional entrepreneurship and the adoption of new technologies. ***Organization studies***, 26(11): 1665-1687.

Navis, C., & Glynn, M. A. 2010. How new market categories emerge: Temporal dynamics of legitimacy, identity, and entrepreneurship in satellite radio, 1990–2005. ***Administrative Science Quarterly***, 55(3): 439-471.

Nisbett, R. E., & Ross, L. 1980. Human inference: Strategies and shortcomings of social judgment.

Noriega, J., & Blair, E. 2008. Advertising to bilinguals: Does the language of advertising influence the nature of thoughts? ***Journal of Marketing***, 72(5): 69-83.

O'Connor, E. 2004. Storytelling to be real: narrative, legitimacy building and venturing.

Ocasio, W. 1997. Towards an attention-based view of the firm. ***Strategic management journal***: 187-206.

Owayne, J. S., & Rheenen, D. 1984. Spoken language indices of uncertainty. ***Human Communication Research***, 11(2): 221-230.

Paivio, A., Yuille, J. C., & Madigan, S. A. 1968. Concreteness, imagery, and meaningfulness values for 925 nouns. ***Journal of experimental psychology***, 76(1p2): 1.

Payne, G. T., Moore, C. B., Bell, R. G., & Zachary, M. A. 2013. Signaling organizational virtue: an examination of virtue rhetoric, country‐level corruption, and performance of foreign IPOs from emerging and developed economies. ***Strategic Entrepreneurship Journal***, 7(3): 230-251.

Peng, L., & Xiong, W. 2006. Investor attention, overconfidence and category learning. ***Journal of Financial Economics***, 80(3): 563-602.

Pennebaker, J. W. 1993. Putting stress into words: Health, linguistic, and therapeutic implications. ***Behaviour research and therapy***, 31(6): 539-548.

Pennebaker, J. W., & Francis, M. E. 1996. Cognitive, emotional, and language processes in disclosure. ***Cognition & Emotion***, 10(6): 601-626.

Pennebaker, J. W., & King, L. A. 1999. Linguistic styles: language use as an individual difference. ***Journal of personality and social psychology***, 77(6): 1296.

Petty, R. E., Cacioppo, J. T., & Goldman, R. 1981. Personal involvement as a determinant of argument-based persuasion. ***Journal of personality and social psychology***, 41(5): 847.

Pfarrer, M. D., Pollock, T. G., & Rindova, V. P. 2010. A tale of two assets: The effects of firm reputation and celebrity on earnings surprises and investors' reactions. ***Academy of Management Journal***, 53(5): 1131-1152.

Plumlee, M. A. 2003. The effect of information complexity on analysts' use of that information. ***The Accounting Review***, 78(1): 275-296.

Pollock, T. G., & Rindova, V. P. 2003. Media legitimation effects in the market for initial public offerings. ***Academy of Management Journal***, 46(5): 631-642.

Pollock, T. G., Rindova, V. P., & Maggitti, P. G. 2008. Market watch: Information and availability cascades among the media and investors in the US IPO market. ***Academy of Management Journal***, 51(2): 335-358.

Pornpitakpan, C. 2004. The persuasiveness of source credibility: A critical review of five decades' evidence. ***Journal of Applied Social Psychology***, 34(2): 243-281.

Rasheed, A. M., Datta, D. K., & Chinta, R. R. 1997. Determinants of price premiums: A study of initial public offerings in the medical diagnostics and devices industry. ***Journal of Small Business Management***, 35(4): 11.

Ratneshwar, S., & Chaiken, S. 1991. Comprehension's role in persuasion: The case of its moderating effect on the persuasive impact of source cues. ***Journal of Consumer Research***, 18(1): 52-62.

Reber, R., & Schwarz, N. 1999. Effects of perceptual fluency on judgments of truth. ***Consciousness and cognition***, 8(3): 338-342.

Reber, R., Winkielman, P., & Schwarz, N. 1998. Effects of perceptual fluency on affective judgments. ***Psychological science***, 9(1): 45-48.

Reuber, A. R., & Fischer, E. 2005. The company you keep: How young firms in different competitive contexts signal reputation through their customers. ***Entrepreneurship theory and practice***, 29(1): 57-78.

Rhee, E. Y., & Fiss, P. C. 2014. Framing controversial actions: Regulatory focus, source credibility, and stock market reaction to poison pill adoption. ***Academy of Management Journal***, 57(6): 1734-1758.

Rindova, V. P., Petkova, A. P., & Kotha, S. 2007. Standing out: How new firms in emerging markets build reputation. ***Strategic Organization***, 5(1): 31-70.

Rindova, V. P., Williamson, I. O., Petkova, A. P., & Sever, J. M. 2005. Being good or being known: An empirical examination of the dimensions, antecedents, and consequences of organizational reputation. ***Academy of Management Journal***, 48(6): 1033-1049.

Ritter, J. R. 1984. The" hot issue" market of 1980. ***Journal of Business***: 215-240.

Sadoski, M. 2001. Resolving the effects of concreteness on interest, comprehension, and learning important ideas from text. ***Educational Psychology Review***, 13(3): 263-281.

Santos, F. M., & Eisenhardt, K. M. 2009. Constructing markets and shaping boundaries: Entrepreneurial power in nascent fields. ***Academy of Management Journal***, 52(4): 643-671.

Schmidt, D. F., & Sherman, R. C. 1984. Memory for persuasive messages: A test of a schema-copy-plus-tag model. ***Journal of Personality and Social Psychology***, 47(1): 17.

Semin, G. R. 2008. Language Puzzles A Prospective Retrospective on the Linguistic Category Model. ***Journal of Language and Social Psychology***, 27(2): 197-209.

Semin, G. R., & Fiedler, K. 1988. The cognitive functions of linguistic categories in describing persons: Social cognition and language. ***Journal of personality and Social Psychology***, 54(4): 558.

Semin, G. R., Higgins, T., de Montes, L. G., Estourget, Y., & Valencia, J. F. 2005. Linguistic signatures of regulatory focus: how abstraction fits promotion more than prevention. ***Journal of personality and social psychology***, 89(1): 36.

Shane, S., & Stuart, T. 2002. Organizational endowments and the performance of university start-ups. ***Management science***, 48(1): 154-170.

Shane, S. A. 2003. ***A general theory of entrepreneurship: The individual-opportunity nexus***: Edward Elgar Publishing.

Sherblom, J., & Reinsch Jr, N. 1981. Stylistic concomitants of persuasion in conversations. ***Communication Quarterly***, 29(1): 55-63.

Shipp, A. J., Edwards, J. R., & Lambert, L. S. 2009. Conceptualization and measurement of temporal focus: The subjective experience of the past, present, and future. ***Organizational Behavior and Human Decision Processes***, 110(1): 1-22.

Sine, W. D., & Lee, B. H. 2009. Tilting at windmills? The environmental movement and the emergence of the US wind energy sector. ***Administrative Science Quarterly***, 54(1): 123-155.

Starr, J. A., & MacMillan, I. C. 1990. Resource cooptation via social contracting: Resource acquisition strategies for new ventures. ***Strategic Management Journal***: 79-92.

Stoltenberg, C. D., & Davis, C. S. 1988. Career and study skills information: Who says what can alter message processing. ***Journal of Social and Clinical Psychology***, 6(1): 38-52.

Stuart, T. E., Hoang, H., & Hybels, R. C. 1999. Interorganizational endorsements and the performance of entrepreneurial ventures. ***Administrative science quarterly***, 44(2): 315-349.

Taylor, S. E., & Fiske, S. T. 1978. Salience, attention, and attribution: Top of the head phenomena. ***Advances in experimental social psychology***, 11: 249-288.

Taylor, S. E., & Thompson, S. C. 1982. Stalking the elusive" vividness" effect. ***Psychological review***, 89(2): 155.

Ter Doest, L., Semin, G. R., & Sherman, S. J. 2002. Linguistic context and social perception: Does stimulus abstraction moderate processing style? ***Journal of Language and Social Psychology***, 21(3): 195-229.

Tobin, S. J., & Raymundo, M. M. 2009. Persuasion by causal arguments: The motivating role of perceived causal expertise. ***Social Cognition***, 27(1): 105-127.

Toma, C. L., & D'Angelo, J. D. 2015. Tell-tale words: Linguistic cues used to infer the expertise of online medical advice. ***Journal of Language and Social Psychology***, 34(1): 25-45.

Toma, C. L., & Hancock, J. T. 2012. What lies beneath: The linguistic traces of deception in online dating profiles. ***Journal of Communication***, 62(1): 78-97.

Tversky, A., & Kahneman, D. 1973. Availability: A heuristic for judging frequency and probability. ***Cognitive psychology***, 5(2): 207-232.

Van Dijk, E., & Zeelenberg, M. 2003. The discounting of ambiguous information in economic decision making. ***Journal of Behavioral Decision Making***, 16(5): 341-352.

Von Burg, U., & Kenney, M. 2000. Venture capital and the birth of the local area networking industry. ***Research Policy***, 29(9): 1135-1155.

Weber, K., Heinze, K. L., & DeSoucey, M. 2008. Forage for thought: Mobilizing codes in the movement for grass-fed meat and dairy products. ***Administrative Science Quarterly***, 53(3): 529-567.

Wilson, E. J., & Sherrell, D. L. 1993. Source effects in communication and persuasion research: A meta-analysis of effect size. ***Journal of the Academy of Marketing Science***, 21(2): 101.

Wood, W. 1982. Retrieval of attitude-relevant information from memory: Effects on susceptibility to persuasion and on intrinsic motivation. ***Journal of Personality and Social Psychology***, 42(5): 798.

Woodall, W. G., Davis, D. K., & Sahin, H. 1983. From the boob tube to the black box: Television news comprehension from an information processing perspective. ***Journal of Broadcasting & Electronic Media***, 27(1): 1-23.

Wooldridge, J. M. 2015. ***Introductory econometrics: A modern approach***: Nelson Education.

Zhang, Y. C., & Schwarz, N. 2012. How and why 1 year differs from 365 days: A conversational logic analysis of inferences from the granularity of quantitative expressions. ***Journal of Consumer Research***, 39(2): 248-259.

Zott, C., & Huy, Q. N. 2007. How entrepreneurs use symbolic management to acquire resources. ***Administrative Science Quarterly***, 52(1): 70-105.

Zuckerman, E. W. 1999. The categorical imperative: Securities analysts and the illegitimacy discount. ***American journal of sociology***, 104(5): 1398-1438.