1042-2587

The Conflicting Cognitions of Corporate Entrepreneurs

Andrew C. Corbett
Keith M. Hmieleski

Research in the entrepreneurial cognition domain has demonstrated that entrepreneurs tend to draw from similar sets of *event* schemas when considering to start a new venture. The social cognition literature also explains that *role* schemas affect how individuals encode, process, and use information. In this article, we examine the interplay and divergence between the role schema of individuals in corporations and the event schemas necessary to launch a new venture. By examining these schemas together, we show how the corporate context can create tension between corporate entrepreneurs' role schemas and the event schemas necessary for entrepreneurship. We then construct a theoretical framework for explaining why this tension results in corporate entrepreneurs emphasizing certain event schemas in a manner that is distinct from independent entrepreneurs. Important implications regarding the relationship between context and entrepreneurial cognition are outlined for researchers, entrepreneurs, corporate managers, and educators.

Introduction

The emerging view of entrepreneurial cognition suggests that an understanding of the mental processes of entrepreneurs will enable researchers to build a well-grounded foundation toward systematically explaining the individual's role within the process of entrepreneurship (Mitchell, Busenitz et al., 2002). The current article places another stone on the path toward understanding entrepreneurial cognitions by examining the conflict between the role schemas and event schemas of individuals charged with developing new ventures within existing corporations. Previous research tells us that entrepreneurs think differently from others (Baron, 1998; Busenitz & Barney, 1997). However, do entrepreneurs think differently because they are innately more creative, deviant, or alert than others? Or do they think differently because of their context and the demands of their entrepreneurial role? In this article, we draw out the importance that both context and role schema have on entrepreneurial thinking.

We address these questions by using social cognitive theory to highlight the impact that role schemas have on the new venture-creation decision process within large, established organizations. A *role schema* is a cognitive structure or mental framework relating

Please send correspondence to: Andrew C. Corbett, tel.: (518) 276-2223; e-mail: corbea@rpi.edu, and to Keith M. Hmieleski, tel.: (817) 257-7280; e-mail: k.hmieleski@tcu.edu.

to how one's knowledge is organized about the set of behaviors expected of a person in a certain job, function, or role. An *event schema* is a mental road map: It describes the appropriate sequence of events in a well-known situation (Abelson, 1981). With respect to entrepreneurship, schemas have been examined in research investigating the utility of expert scripts[1] (Mitchell, Smith, Seawright, & Morse, 2000). Expert scripts, or expert schemas, can be seen as the knowledge structures that individuals have with respect to the arrangements, willingness, and abilities necessary to start a new venture. There are different types of schemas, but all schemas perform a similar function. Schemas encode information and are defined as cognitive structures that represent knowledge about a concept, including its attributes and the relationships among those attributes (Fiske & Taylor, 1991). It is our assertion that within the corporate context, the event schemas necessary for entrepreneurship cannot be fully understood without a corresponding understanding of the effect of role schemas. In the current article, we extend the work of Mitchell et al. (2000) to argue that organizations must better understand the concept of entrepreneurial cognition—particularly the influence of role schemas—in order to develop corporate entrepreneurs and corporate entrepreneurship initiatives.

Since corporate entrepreneurship represents an important segment within the domain of entrepreneurship research (Dess, Lumpkin, & McGee, 1999; Hisrich, 1990), the lack of knowledge relating to intrapreneurial cognitions poses an opportunity for a theoretical contribution to be made to the field. By shifting the focus of entrepreneurial cognition research toward the corporate venturing realm, we are able to extend the current body of entrepreneurship research by demonstrating the role that context has on individuals' entrepreneurial cognitions. Specifically, we argue that, due to the context of large, established organizations, individuals will develop role schemas that necessitate event schemas that differ significantly from their counterparts who create "traditional," independent start-ups. This is because the corporate context perpetuates a role schema that is often in conflict with the event schema that is used by entrepreneurs creating independent new ventures.

The article proceeds by first briefly reviewing some of the most influential work on entrepreneurial cognition and then demonstrating the need for extending this work into the realm of corporate entrepreneurship. This is followed by an exploration of social cognitive theory, which is used as a foundation for importing entrepreneurial cognition theory into the corporate entrepreneurship domain. Propositions are developed and then implications for research, education, and practice are discussed.

Entrepreneurial Cognition: Schemas and Context

Recently, significant advances have been made toward demystifying the role of individual cognitions in entrepreneurship (e.g., Ardichvilli, Cardozo, & Ray, 2003; Baron, 1998; Busenitz & Barney, 1997; Corbett, 2005, 2007; Shane 2000; Shapero 1984; Venkataraman 1997; Ward 2004). In an attempt to connect much of the current work on individual cognition with the recent explosion of research on cognition and entrepreneurship, Mitchell, Busenitz et al. (2002) build toward a theory of entrepreneurial cognition, which links specific mental processes with entrepreneurial behavior. More specifically,

1. The terms script and schema are synonymous. In their work, Mitchell et al. (2000) use the term "script" most likely due to the fact that they build their arguments from the information systems and expert systems literature. Within the social cognition literature, the term "schema" is more common. We use the term schema except when directly referencing the work of Mitchell et al. (2000).

their theory states that "entrepreneurial cognitions are the knowledge structures that people use to make assessments, judgments, or decisions involving opportunity evaluation, venture creation, and growth" (p. 97).

Empirical research examining the connection between entrepreneurial cognitions and venture creation has demonstrated that entrepreneurs across many different national cultures do, in fact, use similar cognitive scripts (Mitchell et al., 2000; Mitchell, Smith et al., 2002). This work by Mitchell and his colleagues is an extension of previous research that suggests that entrepreneurs across cultures hold similar perceptions about what it means to be an entrepreneur (McGrath & MacMillan, 1992), but its importance lies in the fact that it is the first stream of research connecting the schemas of individuals to their venture-creation decisions.

We build upon this foundational work to argue that by bringing a cognition lens to bear upon the corporate context we can begin to understand the subtle, yet important, differences between the cognitions of corporate and independent entrepreneurs.

The Corporate Context. Mitchell, Busenitz et al.'s (2002) theory of entrepreneurial cognition focuses on the "people side of entrepreneurship research." And while these authors touch upon the importance of the person–environment interaction within the process of entrepreneurship research, with the exception of a few (e.g., Ensley, Pearce, & Hmieleski, in press; Shepherd & Krueger, 2002; Simon & Houghton 2002), the large majority of studies today that focus on the individual give less regard to contextual concerns. Simon and Houghton examine the relationship between firm size, firm age, and the extent to which firms of varying size and age will introduce "pioneering products." Shepherd and Krueger build an intentions-based model of entrepreneurial thinking and consider how it can be used in a corporate context. Ensley et al. empirically investigates how the ideal leadership style for leading a new venture is dependent upon the degree of industry environmental dynamism. In a somewhat similar vein, we argue that a change in context also impacts the connection between individuals' role schemas and event schemas. In this case, it necessitates a change in behavior (i.e., the development of a corporate role schema that affects the event entrepreneurial event schema). We worry that the failure to recognize the context as an important aspect of the entrepreneurial puzzle might precipitate the formulation of one-best-way approaches, which could potentially narrow the rich and diverse nature of the field. To this end, a discussion of the importance of context and role schemas and their affect on the expert event schemas of corporate entrepreneurs seems warranted. We argue that the corporate context perpetuates the development of norms for expected behavior within individuals (i.e., role schemas) that are in conflict with the event scripts commonly used by independent entrepreneurs. In turn, intrapreneurs then develop event schemas that differ from those of independent entrepreneurs.

Our assertion is that the role schemas of intrapreneurs working within large, established organizations will partly shape their event schemas in regard to the new venture-creation process. In drawing out this assertion, we begin by examining the corporate entrepreneurship context and the differences between entrepreneurs and corporate entrepreneurs. We then rely on research from economics, decision making, and learning to build a case for the difference in role schemas between entrepreneurs and fledgling intrapreneurs.

The innovation literature highlights important contextual differences between start-up firms and existing organizations (Burns & Stalker, 1961; Guth & Ginsberg, 1990; Leifer et al., 2000). For example, the work of Burns and Stalker suggests that large organizations tend to be more bureaucratic and less able to innovate, whereas smaller firms are able to innovate more easily by taking advantage of their organic form. Similarly, Guth and

Ginsberg (1991) suggest that a firm's organizational context and conduct (i.e., its strategy, structure, processes, core values, and belief) significantly impact its ability to conduct entrepreneurial operations. We draw from these previous works not to suggest that large organization cannot innovate, but to simply reaffirm the argument that the context of established firms may require intrapreneurs to think and act differently in order to outsmart their smaller and less established rivals (Leifer et al., 2000). This perspective is augmented by numerous studies that demonstrate the differences between entrepreneurs and managers (Palich & Bagby, 1995; Schell, 1991; Stewart, Watson, Carland, & Carland, 1998).

Additionally, a number of other studies drawn from economics provide evidence for the fact that entrepreneurs and managers think differently, and that they develop and apply different role schemas to the same task. For example, Kahneman and Tversky (1979) have demonstrated that an individual may view the same opportunity (with the same end state) differently depending on whether he or she is primed to view the opportunity as a potential gain or loss (Kahneman & Tversky, 1979; Tversky & Kahneman, 1986). This is an important point for our argument because, as Thaler's (1991) theory of asset protection suggests, people tend to act differently when they have assets to protect. The context of a large firm primes individuals to view potential opportunities through a prism that must be concerned with protecting the existing business. Conversely, while an individual entrepreneur has personal assets to protect, he or she is more likely to attune to potential gains for his or her new venture (Krueger & Brazeal, 1994). Recently, within the entrepreneurship literature, Mullins and Forlani (2005) have provided additional support for this position by demonstrating that risk taking is situation specific with respect to the magnitude of loss or gain and the likelihood of loss or gain.

Also in support of our general thesis, research on situated learning (Billett, 1996; Lave & Wenger, 1991; Wenger, 1998) suggests that managers, intrapreneurs, and entrepreneurs not only have different perspectives, but that they also develop different role schemas. Traditionally, managers are focused on mature markets, entrepreneurs on new markets, and intrapreneurs are charged with making a transition from the former to the latter (Markides & Geroski, 2004). As Billett (1996) explains, individuals develop expertise in one of these areas based in part on their social context. Similarly, it is difficult to learn new tasks without the aid of the appropriate context or schema. As Billett (1996) states, "They may, however, lack that knowledge which is accessible from experience within a particular domain of knowledge (Glaser, 1990; Sternberg, 1989; Wagner & Sternberg, 1986) or situation which permits the conceptualization and categorization of problems, and deployment of cognitive structures to secure goals. Becoming expert is thereby premised on access to the particular social practice and what that practice privileges" (p. 267).

Situated learning explains how context can affect an individual's role schemas and behavior (Billett, 1996). Having the ability to perform a certain task is partially reliant upon gaining experience in that domain and developing the schemas necessary to execute the task. With respect to our argument, the situated learning perspective suggests that managers within large corporations develop role schemas that can make it difficult for them to carry out the event script of entrepreneurship. Their context supports the development of schemas needed to consolidate or ramp-up existing markets, rather than to colonize or create new markets (Markides & Geroski, 2004). This notion is further supported by Brown and Duguid's (1991) research on the tensions between working, learning, and innovation which suggests that individuals within organizations develop a community of practice and that they cannot easily modify their behavior by simply being told to change the way they operate (e.g., "starting today you're responsible for internal ventures"). There often is a disconnect between an individual's role and the expectations of the organization with respect to learning and innovating (Brown & Duguid, 1991).

Taken together, we argue that since corporate ventures and independent ventures face different obstacles (Shrader & Simon, 1997), the role schemas of individuals working within corporations are less likely to be in alignment with the event scripts that are necessary for creating new ventures. Corporate employees are most often primed through their organizations to act cautiously, with protection and safety of the company's assets as their chief concern. This creates a mental framework geared toward the refinement of current processes, and is likely to inhibit the development of the event schemas that are suggested by Mitchell et al. (2000) as being essential for the creation of new ventures. For this reason, we suggest that corporate managers will tend to apply a different set of event schemas toward the new venture-creation process, which is in greater alignment with their role schema.

Using this foundation, we propose an extension of Mitchell et al. (2000) and Mitchell, Smith et al.'s (2002) work on schemas in the venture-creation decision process. We argue that taking different paths necessitates different schemas and in the next section we use a social cognitive framework to propose a set of unique schemas that are necessary for corporate entrepreneurial activity.

Social Cognitive Theory within the Process of Corporate Entrepreneurship

The situated learning perspective is akin to social cognitive theory in that they both rely on an interaction between cognitive learning processes and social learning processes. Social cognitive theory is particularly useful for our purposes because it illustrates how an individual's context may affect his schemas, behavior, and actions (Bandura, 1977b, 1986, 1991; Wood & Bandura, 1989). Specifically, Bandura (1986) uses the following simple equation to show that behavior (B) is a function of individual's cognitive and personal factors (p) and the environment (e).

$$B = f(p, e)$$

Social cognitive theory states that there is a continuous reciprocal interaction between cognitive and personal factors, the environment, and the behavior of the individual. The theory explains human functioning in terms of a bidirectional triadic relationship in which behavior, cognition and other personal factors, and the environment all operate as interacting determinants of each other. For example, individuals' intention to start a new business (i.e., behavior) is likely to be partly shaped by the extent to which they are surrounded by family and friends who are successful entrepreneurs (i.e., environment), as well as individual characteristics such as their level of self-efficacy (i.e., personal factors). At the same time, an individual with high self-efficacy might seek out other individuals who are entrepreneurs (i.e., personal factors influencing environment). Further, past behavior (e.g., previous success starting a new venture) may influence future intentions toward starting a new business, and may also affect personal factors (e.g., entrepreneurial self-efficacy). As one can see, these factors are continuously interacting to shape one another. Of most importance to our argument is that context impacts cognition and behavior, suggesting that a significant change in environmental factors will have a corresponding change in cognition and behavior. This implies that continuous reciprocal interactions occur between the context and the cognitive perceptions and behavior of entrepreneurs.

Also of importance to our argument, March (1991) argues that the learning of individual group members may accumulate over time and result in shared mental models. Social cognition is the way in which individuals perceive their organization and this perspective "lies at the heart of decision making, communication, strategic action and virtually every important organizational process" (Sims, Gioia, & Associates, 1986). Ickes and Gonzalez (1996) state that social cognition is a reaction of individuals to their experiences and is the shared meaning that they concurrently construct through their common behavior. Taken together, the behavior of individuals in organizations can be modified by both coworkers and the environment, which itself is collectively constructed by individuals.

Entrepreneurial Schemas in the Corporate Context

People who are expert at a particular task are able to outperform others because over time, they develop domain specific knowledge structures or mental schemas (Lord & Maher, 1990) which confers an ability for superior performance due to continued mapping of ordered mental steps pertinent to a particular action, activity, or field of interest (Read, 1987). Leddo and Abelson (1986) explain that a script sequence includes three subscripts: arrangements, willingness, and ability.

In bringing the concept of expert scripts to bear upon the venture-creation decision process, Mitchell et al. (2000) outline the expert scripts necessary for new venture decision making. They describe *arrangement scripts* as the knowledge structures people have about the use of specific arrangements at their disposal (e.g., tools, contacts, relationships, resources, and assets) that are necessary to form a new venture. *Willingness scripts* are the knowledge structures that lie beneath an individual's commitment to start a new venture. *Ability scripts* are the knowledge structures that individuals have regarding the skills, capabilities, and attitudes that are necessary to get the venture up and running. While arrangement scripts are specific to understanding and organizing the external environment, willingness and ability scripts relate to how individuals perceive their internal motives and individual competencies. Again, as defined by Fiske and Taylor (1991), these expert scripts are specific forms of event schemas. Building from this work, we theorize about a different set of entrepreneurial event schemas—those that are used by corporate entrepreneurs. Following social cognitive theory, it is our thesis that the context of large, established organizations directly influences the development and activation of entrepreneurial scripts for those individuals engaged in corporate venturing due to the role schemas they have developed during their time in the organization. These schemas are qualitatively different from—and in some cases directly contrasting to—the entrepreneurial schemas that are most commonly used by individuals starting up independent new ventures. This is to say that variations in the context and structure between independent and corporate new ventures differentially influence the mental models of individuals working within these contrasting contexts. Building from this view, we deconstruct each of the entrepreneurial schemas that have been outlined by Mitchell et al. (2000) and Mitchell, Smith et al. (2002) and develop testable propositions regarding how these schemas may differ for corporate entrepreneurs.

Arrangement Schemas. These schemas consist of metal maps of the human and physical resources that individuals have available to engage in entrepreneurial activity. According to Mitchell et al. (2000), arrangement schemas can be manifest through a number of different pathways. The first is called *idea protection* and involves the use of arrangement scripts to block instances of infringement through various means—such as patents, copyrights, and franchise agreements (Rumelt, 1987). Second, arrangement schemas are used to determine when and how individuals use their *network* contacts to make entrepreneurial decisions (Aldrich & Zimmer, 1986). Third, arrangement schemas are used to determine how best to make use of *business resources*—the possession of or access to specific human, financial, or other types of capital that are necessary for the formation of new ventures (Bull & Willard, 1993).

After examining the components of Mitchell et al.'s (2000) entrepreneurial arrangement schemas, we begin to see how independent entrepreneurs and corporate entrepreneurs might develop fundamentally different arrangement scripts. For example, let us briefly consider differences in the strategic focus of these two groups of individuals. Theory and research tell us that corporate managers tend to engage in *prevention focus* behavior, as opposed to the *promotion focus* behavior of entrepreneurs (Palich & Bagby, 1995; Peterson & Berger, 1971). A prevention focus is characterized by concerns with protection, safety, and responsibility, whereas a promotion focus is distinguished by concern for advancement, growth, and accomplishment (Brockner, Higgins, & Low, 2004; Higgins, 1998). Individuals tend to regulate their behavior primarily through either a prevention or promotion focus, which may be considered as a chronic or trait-like disposition (Higgins, 1998). McMullen and Shepherd (2002) empirically examined differences in the regulatory focus of nascent entrepreneurs as compared to individuals with no desire to start an independent new venture. As expected, their findings demonstrate that nascent entrepreneurs display significantly higher levels of chronic promotion focus than other persons. Further, and of particular importance to our argument, studies by Higgins and his colleagues (Brendl, Higgins, & Lemm, 1995; Crowe & Higgins, 1997) have shown that differences in context can be used to activate either a prevention or promotion focus—independent of the chronic regulatory focus of the individual. For example, Crowe and Higgins had participants read scripts that triggered either a prevention or promotion focus and then required them to identify and list characteristics of different object, such as pieces of furniture. Individuals in the promotion focus condition identified more characteristic and used more elaborate evaluation criteria than participants receiving the prevention focus treatment—who instead used more restricted evaluation criteria. These results, in conjunction with the theoretical work of other authors (Pennington & Rose, 2003), suggest that individuals in a prevention focus are inclined toward attaining *correct rejections* (i.e., recognizing and failing to exploit false opportunities) and avoiding *false alarms* (i.e., recognizing and exploiting opportunities that are thought to be true, but are actually false). In contrast, people in a promotion focus are inclined toward attaining *hits* (i.e., recognizing and exploiting true opportunities) and avoiding *misses* (i.e., failing to recognize and exploit true opportunities). Therefore, it seems that not only can context influence the types of schemas that are developed within the individual, but also which schemas become activated in the moment. This would explain why many individuals who are successful in the corporate world are able to switch contexts and become highly successful at creating their own independent ventures.

Here we suggest that it is not necessarily the case that entrepreneurs and intrapreneurs possess different schemas regarding the entrepreneurial process, but rather that the context that they work in dictates which schemas become more frequently activated, and as a result, more well developed. Because they work within the corporate structure, the role schemas of intrapreneurs are more likely to be aligned with a prevention focus (e.g., protect current products and defend against competitors) rather than with a promotion focus (e.g., find new products and markets, cannibalize if necessary), and this makes for a difference in what scripts or event schemas these individuals activate with respect to internal venturing. This is in alignment with Shrader and Simon's (1997) findings that large organizations tend to make more use of patents to protect their intellectual property than do startups. As such, we expect that corporate entrepreneurs are more likely than independent entrepreneurs to use role schemas focused on patents, copyrights, trademarks, and so forth (i.e., idea protection).

> **Proposition 1a:** Due to a difference in context, corporate entrepreneurs will use their idea protection schemas more often than their counterparts who are starting independent new ventures.

Due to the size and scale of large organizations, corporate entrepreneurs often have easier and more abundant access to human and physical resources (i.e., business resources) than independent entrepreneurs (Bhide, 2000). For this reason, corporate entrepreneurs are more readily able to develop and enact detailed processes and strategic plans related to the creation of new ventures (Meyer & Heppard, 2000), whereas independent entrepreneurs are forced to often make do with what is at hand (Baker, Miner, & Eesley, 2003). Thus, by relying more heavily on improvisation (Moorman & Miner, 1998) rather than strategic planning, independent entrepreneurs are less likely to employ the use of precomposed business resource scripts than their more planning-oriented corporate counterparts. Therefore, corporate entrepreneurs' use of role schemas should be enhanced by their control of (or ready access to) abundant business resources both within the organization and through the organization's formal connections (e.g., alliances, affiliations, and so forth). Independent entrepreneurs will not have the same access or control. Therefore, we offer our next proposition.

> **Proposition 1b:** Due to a difference in context, corporate entrepreneurs will use their business resources schemas more often than their counterparts who are starting independent new ventures.

Lastly, with respect to arrangement scripts, we argue that independent entrepreneurs are more inclined to use a broader array of network schemas. Aldrich and Zimmer (1986) describes using one's unique social contacts in order to develop a venture. This is partly because independent entrepreneurs are often left to rely on family, friends, and other acquaintances to help them cobble together whatever resources they can to get the job done (Baker & Nelson, 2005). Simply put, independent entrepreneurs must often follow this route because they are not likely to have as wide a network of formal business professionals available as that of persons working in a multifirm corporation. Through their experience working in the corporation, corporate entrepreneurs develop mental frameworks of where to go and who to see to get professional assistance with discipline specific tasks. As a result, such individuals are likely to become conditioned to follow these cognitive protocols in order to gain assistance (Brendl et al., 1995; Crowe & Higgins, 1997). In contrast, independent entrepreneurs are less likely to have, for example, legal, accounting, and marketing departments to call for assistance. Instead, they must draw from their personal contacts, which are more likely to be external to their firms. As such, we offer our next proposition:

> **Proposition 1c:** Due to a difference in context, corporate entrepreneurs will use formal networks schemas more often than their counterparts who are starting independent new ventures.

Willingness Scripts. Similar to entrepreneurial arrangement scripts, Mitchell et al. (2000) describe the various pathways through which willingness scripts are manifest, including actionable thoughts about opportunity seeking, commitment tolerance, and opportunity pursuit. Commitment tolerance refers to a predilection to "put your money where you mouth is" (Mitchell et al., 2000, p. 978). Thus, these scripts comprise the knowledge structures that inform one's willingness to start a new venture.

Here we look toward the work on entrepreneurial activities within established organizations and the literature on self-efficacy to explain why corporate versus independent entrepreneurs might differ in their degree of commitment tolerance. Miles and Covin (2002) report that despite a willingness to engage in entrepreneurial activities, most firms lack the skills necessary to develop, organize, and execute successful internal venturing activities. Additionally, even organizations that are thought to be successful at corporate venturing (Chesbrough & Socolof, 2000; Leifer et al., 2000) have suffered from managerial upheaval and large financial losses due to their inability to adopt venturing as a regular part of their business (Miles & Covin, 2002). This lack of ability to execute new venture-creation event schemas appears to be related to a lack of understanding of their role schemas. Miles and Covin (2002, p. 22) explain, "In short, while the value-creating potential of corporate entrepreneurship is increasingly recognized, current knowledge regarding the role, risks, and effective conduct of entrepreneurial activities in corporations remains quite limited."

We argue that confusion about role and risk is likely to affect one's self efficacy. Self-efficacy relates to the general belief in one's ability to produce high levels of performance in tasks undertaken in life (Bandura, 1977a, 1977b). Individuals with high levels of self-efficacy tend to set challenging goals, persist toward the achievement of their goals, even under difficult and stressful circumstances, and recover quickly from failure, even in the face of conditions that would appear to be overwhelming to the average person (Bandura, 1997). Research by Krueger and Dickson (1994) has shown that individuals high in self-efficacy tend to perceive entrepreneurial opportunity where others do not, independent of framing effects with regard to potential gains or losses. Other research has demonstrated that individuals intending to start independent new ventures tend to be higher in self-efficacy than others (Krueger & Brazeal, 1994; Markman, Balkin, & Baron, 2002). This supports the general notion that independent entrepreneurs are more likely to put themselves on the line in order to move forward and commit toward making their entrepreneurial ideas come to fruition. Conversely, we believe that the uncertainty about entrepreneurial roles and tasks within the corporate context (Miles & Covin, 2002) is likely to restrict the execution of new venture-creation schemas of the corporate entrepreneurs and, at a minimum, cause confusion and delay. To this end, we offer the following proposition:

> **Proposition 2a:** Due to a difference in context, individuals considering independent new ventures are more likely than their corporate entrepreneur counterparts to take actions to start a new venture.

While commitment tolerance relates to actions involved in starting the venture, opportunity pursuit scripts relate to concerns with risk and, most importantly, the underlying motivation for pursuing and persisting with the new venture opportunity. Mitchell et al. (2000) tell us that venture opportunity pursuit is the script focused on getting on with the task at hand because, for entrepreneurs, missing an opportunity is often viewed as worse than trying and failing. In a recent study, Mullins and Forlani (2005) found, somewhat surprisingly, that independent entrepreneurs tend to be relatively risk averse with respect to their decisions to start new ventures. However, when comparing their findings with previous research on the risk taking of corporate managers, these authors argued that it is unlikely that corporate managers would ever be pioneering risk takers, even though they are not risking their own money. Mullins and Forlani speculate that this difference in decision making is likely to be related to the differing motives between independent entrepreneurs and corporate managers.

Additionally, previous research suggests that individuals involved in corporate venturing have different motives (Block, 1982; Burns & Stalker, 1961; O'Connor & Rice, 2001), and that members of the internal venture team are often involved with a given venture as only a part-time position alongside their "regular job" within the corporation (Leifer et al., 2000; Van de Ven, Polley, Garud, & Venkataraman, 1999). Lastly, Peterson and Berger (1971) argue that top management is often not committed to internal venturing, stating that it is more often viewed as an insurance policy than a true strategic objective. As such, corporations might consider potential internal ventures as options that can be cashed in when the probability for success crosses a certain threshold (Hackett & Dilts, 2004; McGrath, 1999). Therefore, we propose that the corporate context affects the commitment to continue pursuing entrepreneurial opportunities.

> **Proposition 2b:** Due to a difference in context, independent entrepreneurs are more likely than their corporate entrepreneur counterparts to persist in their pursuit of opportunities for new venture creation.

Ability Scripts. Venture ability scripts are the knowledge structures related to "capabilities, skills, knowledge, norms, and attitudes" that individuals must possess in order to start a new venture. Mitchell et al. (2000) suggest that both situational knowledge scripts and ability opportunity scripts are important parts of the overall venture ability script.

Situational knowledge scripts refer to one's ability to learn from a variety of experiences and put those lessons into practice in new situations (Cooper & Dunkelberg, 1987; Stuart & Abetti, 1990). Because corporate entrepreneurs often have the benefit of being connected directly to more resources than independent entrepreneurs, they are able to learn from the experience of the larger corporation (Burgelman, 1984; von Hippel, 1977). For example, corporate employees have the benefit of learning from established best practices (Christmann, 2000; Szulanski, 1996), and they also benefit over time not only from their own learning, but also from group learning and organizational learning (Crossan, Lane, & White, 1999). This allows corporate entrepreneurs to learn more systematically, such as through trial and error, whereas independent entrepreneurs often must improvise and make quick decisions in the moment without the benefit of being able to look back (Baker et al., 2003; Hmieleski & Corbett, 2006). As such, we offer the following proposition:

> **Proposition 3a:** Due to a difference in context, corporate entrepreneurs will be more likely to use their *situational knowledge schemas* than their counterparts who are starting independent new ventures.

Ability-opportunity scripts refer to the knowledge structures related to the ability to derive value for both the customer and the venture by combining available resources (Mitchell et al., 2000). These resources may include people, processes, raw materials, or existing products (Glade, 1967; Kirzner, 1982). Again due to their larger resources and experience, as well as their abilities and experiences in developing cross functional teams to solve innovation-based challenges (Burgelman, 1984), corporate entrepreneurs often have a larger stock of experiences to draw upon in relation to their independent counterparts. Further, the recent trend within large organizations to move toward flattened hierarchical management structures (Joyce, 2005), boundary spanning (Ashkenas, Ulrich, Jick, & Kerr, 1998), and cross-functional teams (Randel & Jaussi, 2003) has reinforced the development of a wide array of ability-opportunity scripts within corporate workers.

In contrast, independent entrepreneurs must focus on a more narrow set of ability-opportunity scripts in order to get one product or service off the ground before they are able to shift their attention toward diversifying their offerings (Shane, 2000). Therefore, we offer our final proposition:

> **Proposition 3b:** Due to a difference in context, corporate entrepreneurs will be more likely to use their *ability-opportunity fit schemas* than their counterparts who are starting independent new ventures.

Discussion

In this article, we explored the relationship between the role schemas of individuals working in large, established corporations and the event schemas necessary to launch new ventures. By contrasting these mental models against each other, we have argued that the corporate context can create tension between corporate entrepreneurs' role schemas and the event schemas necessary for new venture creation. We used social cognitive theory to expand our thesis and explain why this tension results in corporate entrepreneurs emphasizing certain event schemas in a manner that is distinct from independent entrepreneurs.

The most direct implication of our work is to suggest that the corporate context affects role schemas which in turn influence how event schemas for the process of corporate entrepreneurship are formed. The importance of our argument is twofold. First, we have illustrated the need and opportunity to research the effect of various forms of cognitions on corporate entrepreneurship. Second, we have demonstrated the need for further work examining the interplay of cognition and context within the field of entrepreneurship research. Addressing the former, Mitchell et al. (2000) and Mitchell, Smith et al. (2002) have done an excellent job in exploring the universal nature of expert scripts of entrepreneurs. In this article, we have used social cognition theory to demonstrate that expert schemas are just one of many schemas and that there are other schemas that could affect entrepreneurial activity. This is an important distinction because our arguments have shown that the scripts identified by Mitchell and his colleagues may need to be altered to fit within the corporate domain. The corporate context perpetuates the development of role schemas that may necessitate event schemas that differ from what the research on independent new venture creation tells us.

Future Research

Perhaps the next step in the current research would be to design a study to investigate the propositions put forward herein. Mitchell et al. (2000) were successful in uncovering the event schemas of entrepreneurs through a systematic and detailed survey approach. One option for researchers would be to mirror this design with a sample of corporate entrepreneurs. This would likely require making subtle alterations to the measures used in their study, in order to account for the change in context. However, given our focus on the knowledge structures of individuals and our trying to understand the effect that context has on them, a design that allows for an exchange between the researcher and the subjects might be more appropriate. For example, the use of the long interview (McCracken, 1988), "extended" case methodology (Burawoy, 1991; Danneels, 2002), or multi-case methods (Eisenhardt, 1989; Yin, 1994) might enable scholars to gain a more detailed understanding of various schemas related to new venture creation and other entrepreneurial activities. Later we discuss questions and important issues that could be investigated using the designs described here.

Role Schemas. Our delineation of role schema within the entrepreneurship context offers numerous possibilities for future research. How do individuals' role schemas play out when forming new venture teams? Researchers could examine the links between role schemas and success (or failure). More fundamentally, one could ask the question if an entrepreneurs' need to adjust their role schemas over time. For instance, when individuals with a technology background decide to start their own company, do they have to develop a new role schema in order to be successful?

Within the role schema literature, we know that beyond having a role related to one's job or organization, there is also the concept of ascribed roles: roles that one acquires at birth (e.g., age, race, and gender). While the current study detailed the importance of achieved roles (i.e., job or position), it also opens up a potential parallel track for scholars who study minority and women's entrepreneurship issues (ascribed roles) to bring cognition into their work.

Corporate versus Independent Entrepreneurship. With respect to corporate entrepreneurship, there appears to be great opportunity for investigating the interplay between cognition and the context of corporate entrepreneurs. At its essence, we have argued for a greater recognition of the effects that the context can have on an individual's cognitive role and what effects that role then has on entrepreneurial success. Specifically, we have argued here that there is a misalignment between the event schemas for entrepreneurship and the role schema of an individual within a corporation, and that this tension creates the eventual development of different event schemas. Therefore, a first step of empirically testing the propositions put forth here seems warranted.

Teams. As we have focused primarily at the individual level of analysis in the current study, there is certainly room for future theoretical and empirical work regarding the entrepreneurial scripts of corporate and independent venture teams. As suggested by Shepherd and Krueger (2002), individual-level cognitions do not necessarily map onto the group level of analysis. We agree that certain instrumental factors within the social cognition realm, such as self-efficacy, do not necessarily aggregate from the individual level to equal the equivalent team-level construct (i.e., team potency in this case). Despite this fact, the same social context within the organization—to a large extent—influences both individual and group cognition and behavior. For example, Hornsby, Kuratko, and Zahra (2002) describe the appropriate use of rewards, gaining support from upper management, resource availability, supportive organizational structure, risk taking, and tolerance for failure as factors that influence middle managers to initiate corporate entrepreneurship. Somewhat similarly, Anderson and West (1998) outline vision, participative safety, support for innovation, task orientation, and interaction frequency as variables that are likely to influence the innovative practices of work groups. We would argue that many of the factors proposed by each of these studies are likely to similarly impact the formation of both individual and team-level schemas for entrepreneurial activity.

At the team level, there are other important factors such as team dynamics and social interactions between members, however, which add complexity to the formation of entrepreneurial schemas. For example, West and Anderson (1996) found the social processes of teams to be particularly important in developing innovative strategies. Recent research by Ensley and Hmieleski (2005) has emphasized this point by empirically demonstrating how variables such as shared strategic cognition, potency, cohesion, and conflict shape the overall dynamic of venture teams, and subsequently impact their performance. Although beyond the scope of the current article, future research may examine the interaction between individual and team scripts for both corporate and independent venturing. Such research may benefit from employing a longitudinal approach and the use of HLM procedures (see Griffin, 1997) for examining the extent to which individual schemas influence the formation of team-level schemas or scripts, and vice versa.

Lastly, our work on role schemas has the potential to contribute to the ongoing debate regarding the domain of entrepreneurship and the issues of how opportunities for new venture creation arise (Shane & Venkataraman, 2000; Venkataraman, 1997). Although it is outside the primary scope of this article, a comment on this debate is warranted because our argument for the importance of role schemas suggests the primacy of not just the individual's prior knowledge and experience, but also his or her context and role in recognizing and exploiting entrepreneurial opportunities. This line of inquiry should add a further layer to the debate for scholars to consider.

Entrepreneurship Education

The most pressing educational implication of this article is the need to bring more detailed cognition and schema-based pedagogy into corporate entrepreneurship courses. We want to emphasize that the need here is targeted toward corporate entrepreneurship classes—courses designed specifically for corporate clients, and executive MBAs, where the majority of students will be returning to a large corporation. Why? Because these are the students who are most likely to experience the tension between the role and event schemas that we have outlined in the article. These are the individuals who will be asked to be part of a new venture team in their organization. And if they are not armed with an understanding of the potential conflict between their current role and the new task (internal start-up), they will be starting from a disadvantaged position.

The good news is that many of the top entrepreneurship texts now incorporate some form of cognition-related information, and many leading universities have infused work on entrepreneurial cognition into their courses. For educators, we provide part of the solution that should help their students of corporate entrepreneurship succeed by going beyond the tools, resources, and scripts for business plans and providing information to help them understand and deal with the conflict of an individual's role and responsibility.

Suggestions for Practitioners

CEOs and other top management team executives who are responsible for creating strategic renewal through corporate venturing are no doubt aware that it is not going far enough to simply provide entrepreneurship training to their personnel. So what else can be done in addition to educational training to help individuals become more effective within the corporate venturing arena? Research suggests that part of the solution comes from creating an "entrepreneurial mindset" throughout the organization (McGrath & MacMillan, 2000; Meyer & Heppard, 2000). But how exactly can individuals develop such a mindset? Mitchell, Smith et al. (2002) begin to answer this question in their work on expert scripts for entrepreneurship. Here, we help practitioners by demonstrating the important part that role schemas play in this equation. We argue that practitioners must recognize that thinking entrepreneurially is intertwined with an individual's role. This implies that having such a mindset requires the development of specific role schemas. Corporate managers can provide their employees with the tools, resources, contacts, and the expert scripts, but if they do not allow them to step out of their traditional "corporate role schemas" and cultivate new entrepreneurial schemas, success is unlikely to follow.

For practitioners, there are positives and negatives to take away from our explication of the importance of role schemas. Working from the premise that entrepreneurs think differently, it may be difficult to get people in large organizations to think entrepreneurially, because they have already self-selected themselves out of the role of an independent entrepreneur. They may not be predisposed to think like an independent entrepreneur because they have already shown themselves not willing to take on the role of starting their own independent new venture. Such persons, however, should be able to think entrepreneurially if their role requires it. As such, top managers should be careful not to reinforce the development of event schemas (i.e., encourage or mandate that employees build the knowledge structures to create new ventures) without recognizing the need to simultaneously develop, encourage, and change the corresponding role schemas necessary to carry out the events. This is a clear challenge for top management. To this end, top management team leaders need to understand the positive and negative effects that various schemas and scripts can have on their efforts to meet this challenge.

Conclusion

Our primary contribution has been to highlight the importance of role schemas and their potential conflict with the task of creating new ventures within the context of large, established corporations. Why do internal new venture initiatives often fail? It is usually not attributed to financial resources, since these large firms are generally more liquid than most start-ups. It is also not often due to research acumen, since these organizations generally possess this capacity as well. We believe that part of the solution lies in a synchronization of the role and event schemas of the individuals charged with bringing forward the initiatives. It is not necessarily the conservative nature of the firm or their risk aversion at play here. If this was the case, the leaders of the organizations would never step forward with entrepreneurial initiatives. The fact that many corporations do create entrepreneurial initiatives leads us to believe that part of the disconnect lies in the cognition of the individuals: the tension between their customary role and their newly changed event schemas for entrepreneurship. Thus, we have illustrated the importance of this assertion, which should be seen as another step forward for the field of entrepreneurial cognition.

REFERENCES

Abelson, R.P. (1981). The psychological status of the script concept. *American Psychologist*, *36*, 715–729.

Aldrich, H. & Zimmer, C. (1986). Entrepreneurship through social networks. In D.L. Sexton & R. Smilor (Eds.), *The art and science of entrepreneurship* (pp. 154–167). Cambridge, MA: Ballinger.

Anderson, N.R. & West, M.A. (1998). Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behavior*, *19*(3), 235–258.

Ardichvilli, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, *18*(1), 105–123.

Ashkenas, R., Ulrich, D., Jick, T., & Kerr, S. (1998). *The boundaryless organization: Breaking the chains of organizational structure*. San Francisco: Jossey-Bass.

Baker, T. & Nelson, R.E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, *50*(3), 329–366.

Baker, T., Miner, A., & Eesley, D. (2003). Improvising firms: Bricolage, account giving, and improvisational competency in the founding process. *Research Policy*, *32*, 255–276.

Bandura, A. (1977a). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215.

Bandura, A. (1977b). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior & Human Decision Processes*, *50*(2), 248–287.

Bandura, A. (1997). *Self-efficacy: The exorcize of control*. New York: W. H. Freeman.

Baron, R.A. (1998). Cognitive mechanisms in entrepreneurship: Why and when entrepreneurs think differently than other people. *Journal of Business Venturing*, *13*(4), 275–294.

Bhide, A.V. (2000). *The origin and evolution of new businesses*. Oxford: Oxford University Press.

Billett, S. (1996). Situated learning: Bridging sociocultural and cognitive theorizing. *Learning and Instruction*, *6*(3), 263–280.

Block, Z. (1982, Fall). Can corporate venturing succeed? *Journal of Business Strategy*, *3*(2), 21–33.

Brendl, C.M., Higgins, E.T., & Lemm, K.M. (1995). Sensitivity to varying gains and losses: The role of self-discrepancy and event framing. *Journal of Personality and Social Psychology*, *69*, 1028–1051.

Brigham, K.H. & DeCastro, J.O. (2003). Entrepreneurial fit: The role of cognitive misfit. In J.A. Katz & D.A. Shepherd (Eds.), *Cognitive approaches to entrepreneurship research* (pp. 37–71). Oxford: Elsevier.

Brockner, J., Higgins, E.T., & Low, M.B. (2004). Regulatory focus theory and the entrepreneurial process. *Journal Business Venturing*, *19*(2), 203–220.

Brown, J.S. & Duguid, P. (1991). Organizational learning and communities-of-practice: Toward a unified view of working, learning and innovation. *Organization Science*, *2*, 40–57.

Bull, I. & Willard, G.E. (1993). Towards a theory of entrepreneurship. *Journal of Business Venturing*, *8*, 183–195.

Burawoy, M. (1991). *Ethnography unbound*. Berkeley: University of California Press.

Burgelman, R.A. (1984). Designs for corporate entrepreneurship in established firms. *California Management Review*, *26*(3), 154–166.

Burns, T. & Stalker, G.M. (1961). *The management of innovation*. London: Tavistock Publications, Ltd.

Busenitz, L. & Barney, J. (1997). Differences between entrepreneurs and managers in organizations: Biases and heuristics in strategic decision-making. *Journal of Business Venturing*, *12*(1), 9–30.

Chesbrough, H. & Socolof, S. (2000). Creating new ventures from Bell Lab technologies. *Research Technology Management*, *43*(2), 13–17.

Christmann, P. (2000). Effects of best practices of environmental management on cost advantage: The role of complementary assets. *Academy of Management Journal*, *43*(4), 663–680.

Cooper, A.C. & Dunkelberg, W.C. (1987). Entrepreneurial research: Old questions, new answers, and methodological issues. *American Journal of Small Business*, *11*(3), 1–20.

Corbett, A.C. (2005). Experiential learning within the process of opportunity identification and exploitation. *Entrepreneurship Theory and Practice*, *29*(4), 473–492.

Corbett, A.C. (2007). Learning asymmetries and the discovery of entrepreneurial opportunities. *Journal of Business Venturing*, *22*(1), 97–118.

Crossan, M.M., Lane, H.W., & White, R.E. (1999). An organizational learning framework: From intuition to institution. *Academy of Management Review*, *24*(3), 522–537.

Crowe, E. & Higgins, E.T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes*, *69*, 117–132.

Danneels, E. (2002). The dynamics of product innovation and firm competences. *Strategic Management Journal*, *23*(12), 1095–1121.

Dess, G.G., Lumpkin, G.T., & McGee, J.E. (1999). Linking corporate entrepreneurship to strategy, structure, and process: Suggested research directions. *Entrepreneurship Theory and Practice*, *23*(3), 85–102.

Eisenhardt, K.M. (1989). Building theories from case study research. *Academy of Management Review*, *4*(4), 532–550.

Ensley, M.D. & Hmieleski, K.M. (2005). A comparative study of new venture top management team composition, dynamics and performance between university-affiliated and independent startups. *Research Policy*, *34*(7), 1091–1105.

Ensley, M.D., Pearce, C.L., & Hmieleski, K.M. (2006). Environmental dynamism: A moderator of the entrepreneur leadership behavior—new venture performance linkage. *Journal of Business Venturing*, *21*(2), 243–263.

Fiske, S.T. & Taylor, S.E. (1991). *Social cognition*. New York: McGraw Hill.

Glade, W.P. (1967). Approaches to a theory of entrepreneurial information. *Explorations in Entrepreneurial History*, *4*, 245–259.

Glaser, R. (1990). Re-emergence of learning theory within instructional research. *American Psychologist*, *45*(1), 29–39.

Griffin, M.A. (1997). Interaction between individuals and situations: Using HLM procedures to estimate reciprocal relationships. *Journal of Management*, *23*(6), 759–773.

Guth, W.D. & Ginsberg, A. (1990). Guest editors' introduction: Corporate entrepreneurship. *Strategic Management Journal*, *11*, 5–15.

Hackett, S.M. & Dilts, D.M. (2004). A real options-driven theory of business incubation. *Journal of Technology Transfer*, *29*, 41–54.

Higgins, E.T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In M.P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 30, pp. 1–46). New York: Academic Press.

von Hippel, E. (1977). Successful and filing internal corporate ventures: An empirical analysis. *Industrial Marketing Management*, *6*, 163–174.

Hisrich, R.D. (1990). Entrepreneurship/intrapreneurship. *American Psychologist*, *45*(2), 209–222.

Hmieleski, K.M. & Corbett, A.C. (2006). Proclivity for improvisation as a predictor of entrepreneurial intentions. *Journal of Small Business Management*, *41*(1), 45–63.

Hornsby, J.S., Kuratko, D.F., & Zahra, S.A. (2002). Middle managers' perception of the internal environment for corporate entrepreneurship: Assessing a measurement scale. *Journal of Business Venturing*, *17*, 253–273.

Ickes, W. & Gonzalez, R. (1996). Social cognition and social cognition: From the subjective to the intersubjective. In J.L. Nye & A.M. Brower (Eds.), *What's social about social cognition?* (pp. 285–308). Thousand Oaks, CA: Sage Publications.

Joyce, W. (2005). What really works: HR's role in building the 4 + 2 organization and an introduction to the case studies in the HR leadership forum. *Human Resource Management*, *44*(1), 67–72.

Kahneman, D. & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, *47*, 263–291.

Kirzner, I.M. (1982). The theory of entrepreneurship in economic growth. In C.A. Kent, D.L. Sexton, & K.H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 273–276). Englewood Cliffs, NJ: Prentice-Hall.

Krueger, N. & Brazeal, D. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship Theory and Practice*, *18*(3), 91–104.

Krueger, N. & Dickson, P.R. (1994). How believing in ourselves increases risk taking: Perceived self-efficacy and opportunity recognition. *Decision Sciences*, *25*(3), 385–400.

Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Leddo, J. & Abelson, R.P. (1986). The nature of explanations. In J.A. Galambos, R.P. Abelson, & J.A. Black (Eds.), *Knowledge structures* (pp. 103–122). Hillsdale, NJ: Erlbaum.

Leifer, R., McDermott, C., O'Connor, G., Peters, L., Rice, M., & Veryzer, R. (2000). *Radical innovation: How mature companies can outsmart upstarts*. Boston: Harvard Business School Press.

Lord, R.G. & Maher, K.J. (1990). Alternative information-processing models and their implication for theory, research, and practice. *Academy of Management Journal*, *15*, 9–28.

March, J.G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, *2*, 71–87.

Markides, C.C. & Geroski, P.A. (2004). *Fast second: How smart companies bypass radical innovation to enter and dominate new markets*. San Francisco: Jossey-Bass.

Markman, G., Balkin, D., & Baron, R. (2002). Inventors and new venture formation: The effects of general self-efficacy and regretful thinking. *Entrepreneurship Theory and Practice*, *27*(2), 149–166.

McCracken, G. (1988). *The long interview*. Thousand Oaks, CA: Sage.

McGrath, R.G. (1999). Falling forward: Real options reasoning and entrepreneurial failure. *Academy of Management Review*, *24*(1), 13–30.

McGrath, R. & MacMillan, I. (1992). More like each other than anyone else? A cross cultural study of entrepreneurial perceptions. *Journal of Business Venturing*, *7*, 419–429.

McGrath, R. & MacMillan, I. (2000). *The entrepreneurial mindset*. Cambridge, MA: Harvard Business School Press.

McMullen, J.S. & Shepherd, D.A. (2002). *Regulatory focus and entrepreneurial intention: Action bias in the recognition and evaluation of opportunities*. Paper presented at the Babson-Kauffman Entrepreneurship Research Conference, Boulder, CO.

Meyer, G.D. & Heppard, K.A. (2000). *Entrepreneurship as strategy: Competing on the entrepreneurial edge*. Thousand Oaks, CA: Sage Publications.

Miles, M.P. & Covin, J.G. (2002). Exploring the practice of corporate venturing: Some common forms and their organizational implications. *Entrepreneurship Theory and Practice*, *26*(3), 21–40.

Mitchell, R., Busenitz, L., Lant, T., McDougall, P., Morse, E., & Smith, E. (2002). Toward a theory of entrepreneurial cognition: Rethinking the people side of entrepreneurship research. *Entrepreneurship Theory and Practice*, *27*(2), 93–104.

Mitchell, R.K., Smith, J.B., Morse, E.A., Seawright, K.W., Peredo, A.M., & McKenzie, B. (2002). Are entrepreneurial cognitions universal? Assessing entrepreneurial cognitions across cultures. *Entrepreneurship Theory and Practice*, *27*(2), 9–29.

Mitchell, R., Smith, B., Seawright, K., & Morse, E. (2000). Cross-cultural cognitions and the venture creation process. *Academy of Management Journal*, *43*(5), 974–993.

Moorman, C. & Miner, A. (1998). Organizational improvisation and organizational memory. *Academy of Management Review*, *23*(4), 698–723.

Mullins, J.W. & Forlani, D. (2005). Missing the boat or sinking the boat: A study of new venture decision making. *Journal of Business Venturing*, *20*, 47–69.

O'Connor, G. & Rice, M. (2001). Opportunity recognition and breakthrough innovation in large established firms. *California Management Review*, *32*(2), 95–116.

Palich, L.E. & Bagby, D.R. (1995). Using cognitive theory to explain entrepreneurial risk-taking: Challenging conventional wisdom. *Journal of Business Venturing*, *10*(6), 425–438.

Pennington, G.L. & Rose, N.J. (2003). Counterfactual thinking and regulatory focus. In S.J. Spencer & S. Fein (Eds.), *Motivated social perception: The Ontario symposium* (Vol. 9, pp. 277–298). Mahwah, NJ: Lawrence Erlbaum Associates.

Peterson, R.A. & Berger, D.G. (1971). Entrepreneurship in organizations: Evidence from the popular music industry. *Administrative Science Quarterly*, *16*, 97–106.

Randel, A.E. & Jaussi, K.S. (2003). Functional background identity, diversity, and individual performance in cross-functional teams. *Academy of Management Journal*, *46*(6), 763–774.

Read, S.J. (1987). Constructing causal scenarios: A knowledge structure approach to causal reasoning. *Journal of Personality and Social Psychology*, *52*, 288–302.

Rumelt, R.P. (1987). Theory, strategy, and entrepreneurship. In D.J. Teece (Ed.), *The competitive challenge: Strategies for industrial innovation and renewal* (pp. 137–158). Cambridge, MA: Ballinger.

Schell, J. (1991). In defense of the entrepreneur. *Inc.*, *13*(5), 28–30.

Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science*, *11*(4), 448–46.

Shane, S. & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, *25*(1), 217–226.

Shapero, A. (1984). The entrepreneurial event. In C.A. Kent (Ed.), *The environment for entrepreneurship* (pp, 21–40). Lexington, MA: DC Heath and Company.

Shepherd, D.A. & Krueger, N.F. (2002). An intentions-based model of entrepreneurial teams' social cognition. *Entrepreneurship Theory and Practice*, *27*(2), 167–185.

Shrader, R.C. & Simon, M. (1997). Corporate versus independent new ventures: Resource, strategy, and performance differences. *Journal of Business Venturing*, *12*, 47–66.

Simon, M. & Houghton, S. (2002). The relationship among biases, misperceptions and introducing pioneering products: Examining differences in venture decision contexts. *Entrepreneurship Theory and Practice*, *27*(2), 105–125.

Sims, H., Gioia, D., & Associates. (1986). *The thinking organization*. San Francisco. Jossey-Bass, Inc., Publishers.

Sternberg, R.J. (1989). Domain-generality versus domain-specificity: The life and impending death of a false dichotomy. *Merrill-Palmer Quarterly*, *35*(1), 115–130.

Stewart, W.H., Watson, W.E., Carland, J.C., & Carland, J.W. (1998). A proclivity for entrepreneurship: A comparison of entrepreneurs, small business owners, and corporate managers. *Journal of Business Venturing*, *14*, 189–214.

Stuart, R.W. & Abetti, P.A. (1990). Impact of entrepreneurial and management experience on early performance. *Journal of Business Venturing*, *5*, 151–162.

Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practices within the firm. *Strategic Management Journal*, *17*(Winter Special Issue), 27–43.

Thaler, R.H. (1991). *Quasi rational economics*. New York: Russell Sage Foundation.

Tversky, A. & Kahneman, D. (1986). Rational choice and the framing of decisions. *Journal of Business*, *59*(4), 251–279.

Van de Ven, A.H., Polley, D.E., Garud, R., & Venkataraman, S. (1999). *The innovation journey*. New York: Oxford Press.

Venkataraman, S. (1997). The distinctive domain of entrepreneurship research. In J.A. Katz (Ed.), *Advances in entrepreneurship, firm emergence and growth* (Vol. 3, pp. 119–138). Greenwich, CT: JAI Press.

Wagner, R.K. & Sternberg, R.J. (1986). Tacit knowledge and intelligence in the everyday world. In R.J. Sternberg & R.K. Wagner (Eds.), *Practical intelligence—nature and origins of competence in the everyday world* (pp. 51–83), Cambridge: Cambridge University Press.

Ward, T.B. (2004). Cognition, creativity, and entrepreneurship. *Journal of Business Venturing*, *19*(2), 173–188.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

West, M.A. & Anderson, N.R. (1996). Innovation in top management teams. *Journal of Applied Psychology*, *81*(6), 680–693.

Wood, R. & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review*, *14*(3), 361–384.

Yin, R.K. (1994). *Case study research*. Thousand Oaks, CA: Sage Publications.

Andrew C. Corbett is an Assistant Professor in the Lally School of Management and Technology at Rensselaer Polytechnic Institute. His research examines the cognitive aspects of entrepreneurship, specifically focusing on learning and the decision-making processes of entrepreneurs.

Keith M. Hmieleski is an Assistant Professor of Management in the M.J. Neeley School of Business at Texas Christian University. His research focuses on the intersection of entrepreneurship and organizational behavior, including the leadership, improvisational behavior, and decision-making of new venture founders.