



The Impact of Strategic Entrepreneurship Inside the Organization: Examining Job Stress and Employee Retention

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How do managers and staff react to strategic entrepreneurship? How can we minimize resulting job stress and maximize employee retention? We surveyed 1,975 managers and staff in 110 departments of a diversified healthcare organization on department-level entrepreneurial orientation (EO) (e.g., risk taking, proactiveness, and innovativeness), degree of role ambiguity in their job, and their strength of intention to quit. After validating manager and staff reports of EO, we estimated structural equation models for managers and staff. Our results demonstrate that strategic entrepreneurship can impact management and staff differently and thus requires a correspondingly customized design philosophy.

Introduction

To date, most theoretical development and empirical research on strategic research has been from the external perspective and has treated the organization as a black box. In this paper, we endeavor to open up the black box that is the organization and examine the implications of strategic entrepreneurship inside. In particular, we investigate in how managers and staff members react to entrepreneurial strategies and what this can tell us in the short term about the longer term future success of strategic entrepreneurship initiatives. Two short-term performance indicators that we investigate in this study are job stress and employee retention.

Based on recent research, we know that employee retention, as reported by founders and CEOs of fast-growth firms, is a critical issue for entrepreneurial firms (Henricks, 2006, 2007). This issue is not new. At the height of the Internet boom, Katz, Aldrich, Welbourne, and Williams (2000) similarly reported that "Internet companies fueling part of the boom are unable to find the managerial and technological expertise they need" (p. 7). Katz et al. further claimed that "it is the human resources that paradoxically spell success or failure for all firms, and especially entrepreneurial ones" (p. 7). Despite

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increasing research on human resource management (see, for example, Cardon & Stevens, 2004; Hayton, 2005), mid-level managers (Hornsby, Kuratko, & Zahra, 2002; Kuratko, Ireland, Covin, & Hornsby, 2005) and front-line employees (Åmo & Kolvereid, 2005; Kemelgor, 2002; Pearce, Kramer, & Robbins, 1997; Rutherford & Holt, 2007) in entrepreneurial contexts, a substantial amount of work still needs to be done in the area of management and staff turnover, particularly in the area of behavior, attitudes, and cognition (cf. Ucbasaran, Lockett, Wright, & Westhead, 2003).

From entrepreneurship research, we know that the pursuit of entrepreneurship as a corporate strategy creates a potentially complex set of challenges, as “it involves radically changing internal organizational behavior patterns” (Kuratko, Montagno, & Hornsby, 1990, p. 49). Instead of certainty and long-term stability, Burgelman (1985) proposes that new venture divisions need to design for ambiguity. In the particular context of strategic entrepreneurship, “managers may feel threatened by the idea of pursuing disruptive innovations that deviate from the firm’s current recipes” (Ireland, Hitt, & Sirmon, 2003, p. 982) and their “natural tendency” is “to protect the firm against such ‘disruptive innovations’” (Covin & Slevin, 2002, p. 313). In fact, Rutherford and Holt (2007) use change readiness as a proxy for innovativeness and corporate entrepreneurship. Designing job roles to better manage change and optimize stress levels is therefore important for strategic entrepreneurship, given that “if managerial roles are not carefully designed and orchestrated, the results can include excessive stress, poor job performance . . . and, ultimately, wealth erosion (cf. Ketchen, Ireland, & Snow, 2007, p. 382; Upson, Ketchen, & Ireland, 2007).

Strategic entrepreneurship (SE), which integrates entrepreneurship and strategic management (Hitt, Ireland, Camp, & Sexton, 2001, 2002; Ireland et al., 2003), can be uncertain and ambiguous as it seeks to combine and synthesize “opportunity-seeking behavior and advantage-seeking behavior” to promote wealth creation (Ireland et al., p. 966). When effectively implemented “SE leads to a comprehensive and integrated commitment to both sustaining and disruptive innovations as drivers of wealth” (Ireland et al., p. 983). Integrating theoretical perspectives from the resource-based view of the firm, human capital, social capital, organizational learning, and creative cognition, Ireland et al. developed a process model of strategic entrepreneurship that describes how, beginning with an entrepreneurial mindset, an entrepreneurial culture, and entrepreneurial leadership, a firm can manage resources more strategically, apply creativity, and develop innovation, which can in turn lead to competitive advantage and wealth creation (see Figure 1 in Ireland et al., p. 967).

In this study, we open both the black box of the organization and the black boxes of Ireland et al.’s (2003) model of strategic entrepreneurship, in order to answer two questions. First, how do managers and staff react to strategic entrepreneurship? Second, how can we minimize resulting job stress and maximize employee retention? Several researchers have begun to address these questions. For example, Antoncic (2003) and Hayton (2005) recently proposed conceptual models that link individual-level risk attitudes, intentions, and behaviors to organizational-level behavior and performance. In this study, we focus on Kuratko et al.’s (2005) model for mid-level managers, which gives us first insights into what this cognitive process might look like. In particular, Kuratko et al.’s dynamic model suggests that middle-level managerial entrepreneurial behavior depends on individual perceptions of organizational antecedents, future personal and organizational outcomes, and perceptions of the relationship between behaviors (Kuratko et al.). While expectations of future outcomes are important, given the uncertainty of these long-term outcomes in an entrepreneurial setting, it “may be insightful” to assess “near-term outcomes,” such as employee retention (Dess, Lumpkin, & McGee, 1999, p. 98) and

the causes of employee departure, such as job stress (Floyd & Lane, 2000; Ketchen et al., 2007; Upson et al., 2007).

Integrating and extending Ireland et al.'s (2003) model of strategic entrepreneurship and Kuratko et al.'s (2005) model for mid-level managers, the first step in this process is to validate a measure of individual manager and staff perceptions of strategic entrepreneurship in the workplace. We begin with the 9-item, 3-factor entrepreneurial-orientation scale (Covin & Slevin, 1989, 1990, 1991), which is one of the most widely accepted measures of firm-level entrepreneurship (Kreiser, Marino, & Weaver, 2002; Lyon, Lumpkin, & Dess, 2000). Using survey data from 1,975 staff and managers in 110 departments, we conduct statistical invariance tests (cf. Cole & Bruch, 2006; Cole, Bedeian, & Feild, 2006) to determine if we can reliably compare individually reported perceptions of entrepreneurial orientation (EO) items from managers and staff. Kemelgor's (2002) study of English and Dutch managers and staff suggest that Covin and Slevin's (1989, 1990) scale can in fact be used reliably at both levels. We will conduct more extensive validation and invariance testing to confirm this.

After establishing that perceptions of EO can be used reliably for both managers and staff, we can move forward to examining its impact on job stress (e.g., role ambiguity) and employee retention (e.g., intention to quit), first for managers and then for staff. Here we follow the example of Kacmar, Bozeman, Carlson, and Anthony (1999), who applied structural equation modeling to testing a similar model of the impact of employee perceptions of organization politics on job anxiety, job satisfaction, and intention to quit. By similarly comparing the impact of employee perceptions of EO on role ambiguity and intention to quit, we hope to better understand the relative impact of strategic entrepreneurship on the attitudes and behaviors of individual managers and staff members. In addition, going beyond the conceptual model of Kuratko et al. (2005) and the empirical work of Kacmar et al., we expect to see that the modeled relationships are in some ways similar and in some ways different for managers and staff, as well as for different classifications of staff members. With this information in hand, we can then begin to address the more practical question: How can we minimize resulting job stress and maximize employee retention?

Conceptual Framework

Before outlining our theory and hypotheses, we discuss the concept of strategic entrepreneurship and our use of EO as a multidimensional measure of one key element of the strategic entrepreneurship process.

Strategic Entrepreneurship

Broadly speaking, "strategic entrepreneurship is entrepreneurial action with a strategic perspective" (Hitt et al., 2001, p. 480) and "results from the integration of entrepreneurship and strategic management knowledge" (Ireland et al., 2003, p. 966). More specifically, "entrepreneurial action using a strategic perspective is helpful to identify the most appropriate opportunities to exploit and then to facilitate the exploitation" of these opportunities in order "to continuously create competitive advantages that lead to maximum wealth creation" (Hitt et al., 2002, pp. 2, 13). Strategic entrepreneurship addresses how to combine and synthesize "opportunity-seeking behavior and advantage-seeking behavior" to promote wealth creation (Ireland et al., p. 966). Beyond benefiting simply the organization itself, strategic entrepreneurship can create advances from which

society can benefit “through new value propositions that better serve the needs of some segment, or the whole, of society” (Schendel & Hitt, 2007, p. 1).

It is important to note that strategic entrepreneurship is not limited to large, established firms and the domain of corporate entrepreneurship. Instead, both “new ventures and established firms need to be simultaneously entrepreneurial and strategic” (Hitt et al., 2001, p. 488) and “small and large firms that learn how to integrate strategic entrepreneurship and collaborative innovation are well positioned to create wealth” (Ketchen et al., 2007, p. 371). While some more recent authors take a narrower view and define strategic entrepreneurship as a subdomain of corporate entrepreneurship that includes entrepreneurial activities that do not necessarily include the creation of new business units (e.g., strategic renewal, sustained regeneration, domain redefinition, organizational rejuvenation, and business model reconstruction) (Kuratko, 2007, p. 157; Morris, Kuratko, & Covin, 2008, p. 81), in this paper, we adopt the broader definition of strategic entrepreneurship that Hitt, Ireland, and colleagues outlined earlier.

Integrating perspectives from the resource-based view of the firm, human capital, social capital, organizational learning, and creative cognition, Ireland et al. (2003) developed a dynamic model of strategic entrepreneurship that describes how, beginning with an entrepreneurial mindset, an entrepreneurial culture, and entrepreneurial leadership, a firm can manage resources more strategically, apply creativity and develop innovation, in order to generate competitive advantage and create wealth (see Figure 1 in Ireland et al., p. 967). In this study, we focus on the *applying creativity and developing innovation* box in their model, which encompasses “both sustaining and disruptive innovations as drivers of wealth” (Ireland et al., p. 983). Given their statements that “disruptive innovators try to proactively influence their competitive destiny . . .” (Barney, 2002; Ireland et al., p. 982) and “innovative first movers destroy incumbents’ market power . . .” (Ireland et al., p. 980; Thesmar & Thoenig, 2000), we propose expanding this box to explicitly include the concept of proactiveness. Finally, given that “it is risky to cannibalize a successful good or service in favor of an unproven one with potential” (Ireland et al., p. 983), we propose that risk taking be likewise explicitly added to this box. In summary, following our suggestions that innovativeness, proactiveness, and risk taking are key elements of this box in the Ireland et al. model, we now discuss how the concept of EO can be used to examine this aspect of strategic entrepreneurship.

Entrepreneurial Orientation

Given that the strategic entrepreneurship is a domain “in its infancy” (Ireland, 2007, p. 9), we need to be creative and innovative in selecting constructs and measures to empirically investigate the various aspects of their model of strategic entrepreneurship (see Figure 1 in Ireland et al., 2003, p. 967). For a number of strategic reasons, we select the existing EO scale. To begin, “an effective EO may be an example of good strategic management” (Lumpkin & Dess, 1996, p. 162) and “the degree to which the firm acts entrepreneurially in terms of innovativeness, risk-taking, and proactivity is related to dimensions of strategic management” (Ireland, Hitt, Camp, & Sexton, 2001, p. 53; cf. Barringer & Bluedorn, 1999). Further, EO can be viewed as the content of strategy and as “contingent upon the characteristics of a firm’s strategic decision-making and information management process—processes that broadly reflect strategizing activity” (Covin, Green, & Slevin, 2006, p. 59). Given these points of view, it is a logical extension to propose that these dimensions are related to dimensions of strategic entrepreneurship.

The concept of EO has its roots in the work of Khandwalla (1977), Kets de Vries (1977), and Miller (1983). In particular, Miller defined a firm as being entrepreneurial

when it behaves in a risk taking, innovative, and proactive manner. Covin and Slevin (1989, 1990) used this conception to define *strategic posture* as a firm's general competitive orientation, on a spectrum from conservative to entrepreneurial. This idea was later refined into the concept of EO, which refers "to the processes, practices, and decision-making activities that lead to new entry" (Lumpkin & Dess, 1996, p. 136). Regarding the individual dimensions, "*innovativeness* refers to a willingness to support creativity and experimentation in introducing new products/services, and novelty, technological leadership, and R&D in developing new processes"; "*risk taking* means a tendency to take bold actions such as venturing into unknown new markets, committing a large portion of resources to ventures with uncertain outcomes, and/or borrowing heavily"; and "proactiveness is an opportunity-seeking, forward-looking perspective involving introducing new products or services ahead of the competition and acting in anticipation of future demand to create change and shape the environment" (Lumpkin & Dess, 2001, p. 431).

Originally, Covin, Slevin, and colleagues used the strategic posture scale to investigate a number of strategic management and entrepreneurship issues, including environmental hostility (Covin & Slevin, 1989), structure and industry life cycle (Covin & Slevin, 1990), technology sophistication (Covin, Prescott, & Slevin, 1990; Covin, Slevin, & Covin, 1990), and strategic missions (Covin, Slevin, & Schultz, 1994), and, most recently, strategic process effects (Covin et al., 2006). While EO has often been used in the context of corporate entrepreneurship (Dess & Lumpkin, 2005; Kemelgor, 2002), its roots are clearly in the broader tradition of strategic management and thus is well suited for investigations of strategic entrepreneurship.

Referring back to our earlier discussion of Ireland et al.'s (2003) model of strategic entrepreneurship, the multidimensional concept of EO (e.g., risk taking, innovativeness, proactiveness) most closely represents Ireland et al.'s concept of *applying creativity and developing innovation*. As previously mentioned, in the presence of an entrepreneurial mindset, an entrepreneurial culture, entrepreneurial leadership, and the strategic management of resources, creativity and innovation can flourish and result in competitive advantage and wealth creation (see Figure 1 in Ireland 2003, p. 967). In terms of EO, Covin and Slevin (1991) proposed a similar conceptual model of entrepreneurship as firm behavior, in which external variables, strategic variables, and internal variables impact a firm's entrepreneurial posture and in turn firm performance (see Figure 1 in Covin & Slevin, p. 10). In a recent empirical study, Covin et al. (2006) have taken this one step further and demonstrated that "EOs appear most facilitative of firm growth when firms with these orientations employ strategic formation processes that match the unique requirements of acting entrepreneurially" and explicitly state that these findings are "consistent with Ireland et al.'s (2003) observations on the concept of strategic entrepreneurship" (2006, p. 72). In other words, while this particular application of EO is relatively new, the logic is rooted in a long and ongoing research tradition.

In this study, we treat EO as a multidimensional construct, and we assume that the three dimensions—risk taking, innovativeness and proactiveness—can vary independent of one another. While many researchers, beginning with Miller (1983) and Covin and Slevin (1989, 1990), have promoted a unidimensional view of EO, more recent researchers have provided both theoretical and empirical justification for a multidimensional view of EO. Lumpkin and Dess (1996) were one of the first to break with the unidimensional tradition and theoretically propose why "the salient dimensions of an entrepreneurial orientation . . . may vary independently of each other in a given context" (p. 151) and the relationships between the dimensions of EO and performance may likewise differ based on the context (pp. 159–161).

Evidence for multidimensionality is provided by empirical research using large multi-industry random samples of firms (Brown, Davidsson, & Wiklund, 2001; Lumpkin & Dess, 2001), across multiple-country contexts (Kreiser et al., 2002), and even for healthcare executives (Stetz, Howell, Stewart, Blair, & Fottler, 2000). As summarized by Covin et al. (2006), “given the extensiveness of Stetz et al.’s and Kreiser et al.’s data collection efforts and the sophistication of their analytical techniques, the debate over the dimensionality of the EO construct could be regarded as largely resolved” (p. 79) and “whether risk taking, innovation, and proactiveness can exist as distinct dimensions is not a point of disagreement” (p. 80). In fact, in a *post hoc* analysis of the unique effects of risk taking, innovativeness, and proactiveness on firm sales growth rate, Covin et al. (2006, p. 81) found significant differences in terms of main effects and interactions of risk taking, innovativeness, and proactiveness with three strategic process variables. Therefore our treatment of risk taking, innovativeness, and proactiveness as separate but correlated constructs is justified and our expectations of differential effects on outcome variables are realistic.

Further, Covin et al. (2006) contend that the “intellectual advancements pertaining to EO will likely occur as a function of how clearly and completely scholars can delineate the pros and cons of alternative conceptualizations of the EO construct and the conditions under which the alternative conceptualizations may be appropriate” (p. 80). From a conceptual perspective, Dess et al. (1999) suggest that “an appreciation of the multidimensionality and independence of the subdimensions of ‘entrepreneurial orientation’ (e.g. risk taking, proactiveness, innovativeness) can enhance normative and descriptive theory building” (p. 87). Similar to Covin et al. (2006), Dess et al. also state that there is a “corresponding imperative for researchers to explicitly address tradeoffs associated with generalizability, accuracy, and simplicity (Weick, 1979) in the development and measurement of the constructs” (p. 96). This raises the methods question, what are the advantages and disadvantages to looking at the EO construct at the disaggregate level? As outlined by Bagozzi and Edwards (1998), two advantages of disaggregated, multidimensional constructs are “that it gives the most detailed level of analysis . . . in that statistical properties are evaluated for each individual item” and that it provides “the ability to specify and test the distinctiveness of components” (p. 51). While a unidimensional conceptualization of a construct is not necessarily superior to a multidimensional one, “much depends on the nature of the research question under study” (p. 47). To gain the best understanding of the impact of different entrepreneurial strategies on individuals inside organizations, we claim that this fine-grained approach is essential. Of course this comes at a price. In comparison to more aggregated and unidimensional models, “the likelihood of achieving poorly fitting models is greater” and therefore “it requires a larger sample size to achieve a reasonable ratio of cases to parameter estimates” (p. 53).

Theory and Hypothesis Development

Having defined our concepts, we now present the more detailed theoretical justification for our six sets of research hypotheses. To begin, we lay out three hypotheses for managers. We present first the baseline hypothesis relating role ambiguity and intention to quit (hypothesis 1), followed by the hypotheses regarding the impact of the risk taking, innovativeness, and proactiveness on role ambiguity (hypothesis 2) and intention to quit (hypothesis 3). Having laid the foundation at the management level, we then hypothesize why we expect to see different results for managers and staff members (hypotheses 4, 5, and 6). To be consistent, all six sets of hypotheses are tested in the context of the same structural model, in which role ambiguity and intention to quit are endogenous factors and

risk taking, innovativeness, and proactiveness represent three exogenous factors. Furthermore, in line with our decision to handle EO as a multidimensional construct in this study, hypotheses 2, 3, 5, and 6 refer to the *unique* impact of the three individual dimensions of EO (risk taking, innovativeness, and proactiveness), and not to the impact of EO itself, which is based on the *common* aspects or intersection of risk taking, innovativeness, and proactiveness. While a study of the latter would provide additional insights, it is outside of the scope of this article.

Managers' Role Ambiguity and Intention to Quit

The dominant paradigm in turnover (e.g., quitting or exiting an organization) research has its roots in Mobley's (1977) model of turnover, which "posits that job and working conditions affect job satisfaction which in turn leads to thoughts of quitting, to evaluation of the utility of searching behavior, job search, evaluation of alternatives, comparison of alternatives vs. the present job, intention to quit or stay, and finally to turnover or retention behavior" (Staw, 1984, p. 642). Furthermore, models of role stress, an antecedent of turnover, typically include the first two or all three of the following factors: role conflict, role ambiguity, and role overload (Netemeyer, Burton, & Johnston, 1995). In these models, increasing role stress is typically associated with increased tension, decreased job satisfaction, decreased organizational commitment, increased intention to leave, and increased employee turnover (Netemeyer et al.). Designing job roles to optimize stress levels is therefore important for strategic entrepreneurship, given that "if managerial roles are not carefully designed and orchestrated, the results can include excessive stress, poor job performance . . . and, ultimately, wealth erosion" (Ketchen et al., 2007, p. 382; cf. Upson et al., 2007).

While it is certain that entrepreneurs and their employees face role conflict and role overload, what is unique to entrepreneurial firms is the ambiguity. For example, it has been stated that "the entrepreneurial context can be characterized in terms of peaks and valleys, or periods of relatively high pressure, stress, uncertainty, and ambiguity and periods of relative stability and predictability" (Schindehutte, Morris, & Allen, 2006, p. 349). It is not without cause that tolerance for ambiguity is often cited as an important trait for successful entrepreneurship (Markman & Baron, 2003; Shane, Locke, & Collins, 2003). In fact, Burgelman (1985) proposes that new venture divisions need to design for ambiguity. Therefore, we propose that role ambiguity is the most relevant aspect of role stress for strategic entrepreneurship.

Going back to the 1950s, organizational researchers began to study the link between role ambiguity and decreased productivity (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Rizzo, House, & Lirtzman, 1970). More specific to our study, Ashforth and Saks (1996) found that role ambiguity was positively correlated with intention to quit. Furthermore, Rafferty and Griffin (2006) demonstrate that perceptions of the uncertainty associated with organizational change can directly impact job satisfaction and intentions to quit. In short, where an employee perceives his or her role in the organization to be uncertain or not well defined, possible reactions include hesitancy, indecision, procrastination (McMullen & Shepherd, 2006) and in the extreme case, withdrawal from or leaving the organization (Harris & Mossholder, 1996). From the entrepreneurial perspective, this proposition also has roots in Knight's (1921) work on risk and uncertainty. "For Knight, the rational response to uncertainty is to seek to reduce it to risk or, if that is not possible, to avoid investing altogether" (Miller, 2007, p. 59). Therefore, based on theory and empirical research, we expect that:

Hypothesis 1. Role ambiguity is positively related to intention to quit.

Managers' Perceptions of Risk Taking, Innovativeness, and Proactiveness: Impact on Role Ambiguity

Management of entrepreneurial organizations is different than traditional organizations because of conditions of greater uncertainty, boundaries which are very loose and ever shifting, the need to quickly choose among multiple competing courses of action, and insufficient information for rationale decisions (Hayton, 2005, p. 24). Individuals in entrepreneurial organizations need to perform a number of boundary-spanning tasks and are often performing tasks that they were neither trained to do nor expected to have to do. In such an entrepreneurial climate, we expect that perceptions of all aspects of role stress, and in particular role ambiguity, to be high. For example, in an empirical study of the effect of formalization (e.g., moving away from an entrepreneurial environment), Organ and Greene (1981) found that formalization does reduce role ambiguity. This would imply that employees in a more entrepreneurial environment should experience more role ambiguity. In support of this, Buttner (1992) found that entrepreneurs reported significantly more role ambiguity than traditional managers. Furthermore, from the social psychology literature, we know that perceptions of transformational change and high-frequency change are associated with reports of uncertainty in how to respond to the change (Rafferty & Griffin, 2006), which lends support to the original premise that risk taking, innovativeness, and proactiveness are associated with greater role ambiguity.

“Work events carry ambiguities and complexities. Some are ambiguous because they are unusual or unprecedented, and others because they do not fit people’s established interpretive frames” (Peterson et al., 1995, p. 431). Both situations are the case in entrepreneurial organizations, and social identity theory can be used to better understand this complex empirical phenomenon and bridge the gap between entrepreneurial strategies at the organizational level (firm, business unit, or department) and role ambiguity at the individual level. Social identity theory posits that individuals partly define themselves in terms of salient group memberships or social categories (Hogg & Terry, 2000; Tajfel & Turner, 1986). Social identity is defined as “that part of an individual’s self-concept which derives from his knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership” (as cited in Riketta, 2005, p. 360; Tajfel, 1978, p. 63). Social identity theory therefore argues that people do not behave as isolated individuals, but as members of social groups and organizations. Therefore, given that an organization’s strategy is one aspect of an organization’s identity (Corley, 2004) and that role ambiguity is one aspect of an individual’s job role identity (Netemeyer et al., 1995; Peterson et al., 1995), social identity theory is useful in understanding the impact of the risk taking, innovative, and proactive organizational strategies on individual role ambiguity.

Further, an individual’s social identity tends to define and dictate individuals’ attitudes as members of a group, i.e., “Who and what am I to be in this group?” and “What should I think and feel and how should I behave?” (cf. Hogg & Terry, 2001, p. 3; Schein, 1988, p. 42, 1999, p. 173). These social identity questions are reflected in Milliken’s (1987) typology of uncertainty, as summarized by McMullen and Shepherd (2006) in the following three questions: “(1) What’s happening out there? (state uncertainty), (2) How will it impact me (effect uncertainty), and (3) What am I going to do about it? (response uncertainty)” (p. 135). If an employee does not have satisfactory answers to these questions, a company’s decision to pursue a more aggressive and entrepreneurial strategy may cause a “sense of insecurity and dissatisfaction” among employees (compare Dess et al., 1999, p. 98). We therefore expect that in an organizational environment that is entrepreneurial and uncertain, where there is less formalization of roles, individuals

will correspondingly perceive their role to be unclear and ambiguous (compare Sine, Mitsuhashi, & Kirsch, 2006; Tang, Tang, Marino, Zhang, & Li, 2008). Thus, based on social identity theory and related empirical research on change and uncertainty, we posit that:

Hypothesis 2a. Individual perceptions of department-level risk taking are positively related to role ambiguity.

Hypothesis 2b. Individual perceptions of department-level innovativeness are positively related to role ambiguity.

Hypothesis 2c. Individual perceptions of department-level proactiveness are positively related to role ambiguity.

Managers' Perceptions of Risk Taking, Innovativeness, and Proactiveness: Impact on Intention to Quit

To understand the potential direct effects of risk taking, innovativeness and proactiveness on intention to quit, we draw again on social identity theory (Hogg & Terry, 2000; Tajfel & Turner, 1986), which further claims that an individual's social identity impacts his or her perception of and involvement in and commitment to a group and its outcomes, whether positive or negative (Ashforth & Mael, 1989). In particular, the social identity theory can be used to describe how individual and group processes interact to determine individual motivation (Ellemers, de Gilder, & Haslam, 2004). For example, in situations where people "think of themselves as part of a collective, they are [more] *energized* by different experiences or events than when they identify themselves as separate individuals" and we can expect that "they are more likely to *sustain* their efforts on behalf of the group across changing circumstances" (Ellemers et al., p. 464). Additionally, social identity has been identified as a significant issue for knowledge-intensive companies, in particular with regards to encouraging employee loyalty and preventing employee exit (Alvesson, 2000). Given that entrepreneurial firms gain and maintain competitive advantage from the special knowledge they possess, this is a significant issue for this study, and it demonstrates the relevance of a social identity perspective for our study of entrepreneurial employees and strategic entrepreneurship.

We therefore expect a relationship between department-level risk taking, innovativeness, and proactiveness and individual attitudes staying at or leaving their organization, but are these relationships positive or negative? First, we know that perceptions of transformational and high-frequency change can directly impact intentions to quit (Rafferty & Griffin, 2006). In addition, in a study of the effect of formalization (e.g., moving away from an entrepreneurial environment), Organ and Greene (1981) found that formalization provides a basis for identification with the organization, which is associated with lower intentions to quit. This implies that a more entrepreneurial environment should induce less identification and greater intentions to quit. Thus, while entrepreneurs may react well to an entrepreneurial environment, their managers and staff may not. As suggested by person-organization fit research, the closer the match between the individual and their perceptions of their organizational environment, such as that of an entrepreneurial start-up, the better their job satisfaction and performance, and the more likely that they will not quit the organization (Markman & Baron, 2003). Likewise, individuals may withdraw from an organization to avoid undesirable activities, such as firm politics (Kacmar et al., 1999). In the particular context of entrepreneurship, "managers may feel threatened by the idea of pursuing disruptive innovations that deviate from the firm's current recipes" (Ireland et al., 2003, p. 982), and their

“natural tendency” is “to protect the firm against such ‘disruptive innovations’” (Covin & Slevin, 2002, p. 313). If they cannot “protect” the firm or if their current skills do not fit the new entrepreneurial environment, their alternative is to quit and leave the firm. Therefore, based on social identity theory and research on the entrepreneurial context, we suggest that

Hypothesis 3a. Individual perceptions of department-level risk taking are positively related to intention to quit.

Hypothesis 3b. Individual perceptions of department-level innovativeness are positively related to intention to quit.

Hypothesis 3c. Individual perceptions of department-level proactiveness are positively related to intention to quit.

Comparing Staff and Management

Now that we have presented the three baseline hypotheses regarding managers, we will now present the three sets of hypotheses comparing managers and staff members. After discussing general differences between managers and staff regarding organizational strategy and social identity, we present our specific arguments and hypotheses regarding differences between managers and staff members for the five paths in our structural model.

First, there are noteworthy differences between managers and staff in terms of organization strategy and social identity. First, individuals at different levels of an organization’s hierarchy are involved to a greater or lesser degree in the strategy-making process (Floyd & Lane, 2000). In particular, top-level managers focus on making effective strategic decisions, middle-level managers focus on communicating information from top to operating-level managers, and operating-level managers focus on responding to middle-level managers (Floyd & Lane; Kuratko et al., 2005). As such, individual perceptions of what the firm-level strategy are biased by the degree to which they are involved in creating the strategy and how accurately it is communicated to them. Furthermore, and in line with the social identity perspective, research on organizational identity has shown that individuals at different levels in a organization’s hierarchy can perceive an organization’s identity in different ways (Corley, 2004). Given that a firm’s strategic orientation is part of its identity, we again expect that reports of a firm’s strategic orientation would vary depending on an individual’s hierarchical level in the organization.

As a result of these differences, managers and staff members report different levels of firm-level entrepreneurial strategies. For example, reviewing Kemelgor’s (2002, p. 79) EO data, we see in six out of eight companies studied that mean EO score reported by employee was lower than the mean entrepreneurship score reported by management. Further support can be in related research on middle-manager perceptions of corporate entrepreneurship, in which Hornsby et al. (2002) found that upper-middle management, on average, reported more entrepreneurial perceptions on all five of their corporate entrepreneurship dimensions (management support, work discretion, rewards/reinforcement, time availability, and organizational boundaries) than middle and lower-middle management. We likewise expect differences in the relationships between risk taking, innovativeness, and proactiveness and role ambiguity and intention to quit.

Regarding the impact of role ambiguity on intention to quit, we expect that managers can better manage role ambiguity than staff members, and thus role ambiguity will have a stronger negative effect on intention to quit for staff members than for managers. For

example, Cole and Bruch (2006) found that the relationships between organizational identification, organizational commitment, and intention to quit differed for corporate officers, middle-management, and workers, and in fact had the opposite sign for corporate officers at one end of the hierarchy and for workers at the other end of the hierarchy. Similar results were published by Singh (1998), who found a positive relationship between role ambiguity and turnover intentions for sales people with high-task variety and with a negative relationship between role ambiguity and turnover intentions for sales people with a low-task variety. In line with social identity theory and these research findings, we claim that

Hypothesis 4. Role ambiguity is more positively related to intention to quit for staff than for management.

Regarding the specific impact of risk taking, innovativeness, and proactiveness on role ambiguity, we expect that managers, as participants in the strategy-making process, are less negatively affected than staff members. These differences become apparent when we consider different roles of different levels of management. For example, in terms of deploying competencies in a firm, top management focuses on directing (plan, deploy resources, and command), middle management focuses on implementing (implement, revise and adjust, motivate and inspire; and coach), and operating management focuses on conforming (be a good soldier and follow the system) (see Table 1 and Figure 1 in Floyd & Lane, 2000). Along these lines, Upson et al. (2007) propose that when the details of a strategy are often left to the middle-level managers and lower-level employees, this can cause role ambiguity. Especially when asked to think strategically and act entrepreneurially, role ambiguity is created to the extent that the “employee feels ill equipped to resolve the situation” (Upson et al., p. 82). Furthermore, given that managing role stress and particularly ambiguity is one way that supervisors promote subordinate performance (Jackson & Schuler, 1985; Peterson et al., 1995), it is logical to expect that managers are in a better position and better suited to handle ambiguity, and thus will perceive less ambiguity in the face of more entrepreneurial strategies. Therefore, in line with social identity theory and these additional research findings, we claim that

Hypothesis 5a. Individual perceptions of department-level risk taking are more positively related to role ambiguity for staff than for management.

Hypothesis 5b. Individual perceptions of department-level innovativeness are more positively related to role ambiguity for staff than for management.

Hypothesis 5c. Individual perceptions of department-level proactiveness are more positively related to role ambiguity for staff than for management.

Regarding the specific impact of risk taking, innovativeness, and proactiveness on an individual's intention to quit, we expect that managers, as participants in the strategy-making process, will be less negatively affected than staff members. In addition to the rationale for differences between managers and staff members made earlier, Hayton (2005) applies agency theory to make the complementary argument that organizational members who are unable to diversify the risk associated with entrepreneurial activities will be more risk averse than those who can. In other words, the lower the individual's position in the organizational hierarchy, the fewer options they have to diversify the risks they face, the more negative they could react to risk-taking strategies dictated from above. This tendency is reflected by the empirical findings of Åmo and Kolvereid (2005), which show in a sample of 634 Norwegian employees that line employees are less likely to exhibit innovative behaviors than middle and top-level managers. In short, if employees are less likely to take risks and engage in entrepreneurial behaviors in line with the

organization's strategy, they are more likely to perceive a misfit with the organization and start thinking about quitting the organization. Thus, in line with social identity theory and these additional arguments, we claim that

Hypothesis 6a. Individual perceptions of department-level risk taking are more positively related to intention to quit for staff than for management.

Hypothesis 6b. Individual perceptions of department-level innovativeness are more positively related to intention to quit for staff than for management.

Hypothesis 6c. Individual perceptions of department-level proactiveness are more positively related to intention to quit for staff than for management.

Methods

Organizational Setting

The setting for this study, located in a central U.S. city, was the two largest general practice hospital units of a regional not-for-profit medical system with approximately 4,000 employees. The merged organization provides a wide range of services, including burn care, cancer treatment, cardiac rehabilitation, diabetes treatment, emergency services, family medicine, laboratory services, neurodiagnostics, nuclear medicine, nursing, obstetrics and gynecology, oncology, ophthalmology, pathology, pediatric care, pharmacy, psychiatric therapy, radiology, rehabilitation services, and surgery. The two hospital business units had merged approximately two years before the survey, and the data were collected as part of an ongoing effort to foster organizational renewal and improve the quality of work life.

It should be noted that this study was conceived by the authors of this article after the original data collection and that this data was not collected with this study as part of the original design. That said, this dataset was selected because it permitted us to analyze multiple dimensions of interest (e.g., both within and across organizational levels, as well as across job classifications and business units), in line with the precepts of theoretical sampling (Eisenhardt, 1989). In particular, this dataset contains information regarding the departmental affiliation of managers and staff members, which is necessary to demonstrate the reliability and consistency of manager and staff reports of the three dimensions of EO (risk taking, innovativeness and proactiveness). Finally, as later shown in Table 3 of the Results section, both managers and staff in the organization report the full range of possible responses for risk taking, innovativeness, and proactiveness, and the mean values and standard deviations are comparable to other studies of EO. Therefore, despite the fact that this study was conceived after the data were collected, its use is justified in this study, as would be the case in any other study that uses archival data.

Some readers may question the relevance of entrepreneurship to healthcare. Contrary to popular opinion, and even the opinion of hospital administrators, we believe entrepreneurship is very relevant in the healthcare sector for four reasons. First, identified by Moore and Coddington (1999) and reported by McCleary, Rivers, and Schneller (2006), there are at least seven major drivers of entrepreneurship in the healthcare industry: growth in knowledge; changes in customer perceptions, mood, and meaning; changes in industry and market structure; aging populations; process improvement; system incongruities; and the unexpected. These driving forces underscore the need for disruptive, entrepreneurial innovations in healthcare (Christensen, Bohmer, & Kenagy, 2000). Second, contrary to popular opinion, healthcare organizations are in fact hotbeds of entrepreneurial activity (see Chadwick, Chrisman, & Jurkus, 1997; Grazier & Metzler,

2006; O'Connor & Fiol, 2002; Price, 1992) and are beginning to receive attention in conceptual (Borkowski & Gordon, 2006; Guo, 2006) and empirical (Bhuian, Menguc, & Bell, 2005; Stetz et al., 2000; Wood, Bhuian, & Kiecker, 2000) entrepreneurship research. Third, if we are going to test the bounds of our theories, we should test them in the most complex organizational environments available—and hospitals are among the most complex, interdependent, and diverse organizations (compare Boss, 1989). Fourth, given the potential societal benefits of new products, services, and value propositions in health-care, more research into strategic entrepreneurship and healthcare can have globe-spanning implications (compare, for example, Schendel & Hitt, 2007). For these reasons, and for others outlined in related research on entrepreneurship in not-for-profit and mission-driven organizations (Morris, Coombes, Schindehutte, & Allen, 2007), we claim that healthcare systems are an excellent setting to simulate a wide range of high-technology and service-oriented organizations and to examine broader questions of strategic entrepreneurship in these dynamic contexts.

Data Collection Procedure

We collected data on site by administering self-report questionnaires either individually or in small groups. The study was part of a larger strategic change effort, and workers were told that the purpose of our questionnaire was to identify issues and concerns to improve the quality of the work environment at the center. They were invited to participate in the study by the hospital administrators, who assured them of confidentiality and the voluntary nature of the study. They were allowed approximately 1 hour of work time to complete the questionnaire. Furthermore, they were told that they could decline participation in the study at any time and that there were no right or wrong responses. Respondents returned the questionnaires directly to the researchers at the time of the study. The workers also were told that the coded numbers appearing on the questionnaires would enable them to get their individual results once the study was completed, and would help us match their responses with those on any follow-up questionnaires. We assured them that only we would have access to the coded numbers identifying them. There was an overall response rate of 70% for the survey. Response bias is always a concern when respondents volunteer for a study. On the basis of data provided by the hospital, we found that the individuals surveyed had the same general demographic characteristics (in terms of gender, age, education, length of service, job classification, and organization rank) as did nonrespondents and hospital employees at large.

For this initial study, we only examine the responses for full-time members of the hospital's professional and technical workforce. To simplify the analysis, we do not examine the responses from external operating units of the healthcare system nor do we include part-time employees. Further, given that most physicians were contract workers and not formal employees of the hospital, and thus were not required to participate in the survey, their responses were also excluded. Therefore, our final sample of 1,975 managers and staff represents 110 departments and 50% of the total organizational population.

Measures

The questionnaire consisted of previously validated, multi-item scales. Responses on all scale items were summed and averaged. The scales represented each of the five constructs in the model: role ambiguity, intention to quit, risk taking, innovativeness, and proactiveness. In addition, individual demographic measures were used as control variables.

Role Ambiguity. We measured *role ambiguity* by four items adapted from Rizzo et al. (1970) and Ivancevich and Donnelly (1974): “My manager makes sure his/her people have clear goals to achieve,” “My manager makes it clear how I should do my work,” “I don’t know what performance standards are expected of me,” and “It is clear what is expected of me on my job.” The Likert-type items were anchored 1 = strongly disagree to 7 = strongly agree. The first, second, and fourth items were reverse coded. We obtained an alpha coefficient of .72, one common factor with an eigenvalue of 2.20, and loadings of .75, .77, .44, and .57.

Intention to Quit. We measured *turnover intent* or *intention to quit* (alpha coefficient of .91) using Rosse and Hulin’s (1985) 3-item scale. Respondents were asked to indicate on a 7-point Likert scale whether the following statements personally apply to them, from 1 = strongly disagree to 7 = strongly agree: “How likely is it that you will actively look for a new job in the next year,” “I often think about quitting,” and “I will probably look for a new job in the next year.” Factor analysis of the three items revealed a single significant factor with an eigenvalue of 2.56 and loadings of .93, .76, and .97.

Risk Taking, Innovativeness, and Proactiveness. We measured *risk taking*, *innovativeness* and *proactiveness*, the three elements of *EO*, with the original *strategic posture* scale developed by Covin and Slevin (1989, 1990). Their multidimensional measure encompasses three facets of *EO* (innovativeness, three items; proactiveness, three items; risk taking, three items), and uses 7-point Likert scales. Respondents were asked to select the number from 1 to 7 on the bipolar scale that best describes their department. We did collect data on *EO* using five additional items that were developed by Lumpkin and Dess (Lumpkin, 1998; Lumpkin & Dess, 2001), but for reasons of parsimony they are not included in this study. The statistical properties of these scales, including alpha reliabilities, eigenvalues, factor loadings, and confirmatory factor analyses are detailed and discussed in the following results section of this article.

Demographic Measures. The four individual control variables used are tenure with the organization, educational level, age, and gender. We coded *tenure with the organization* as follows: 1 = less than 1 year; 2 = 1–2 years; 3 = 2–5 years; 4 = 5–10 years; 5 = 10–15 years; 6 = more than 15 years. *Education* was coded as follows: 1 = less than high school; 2 = high school graduate; 3 = some college; 4 = 2 year college; 5 = 3 year college (diploma graduate); 6 = bachelor’s degree; 7 = graduate degree in progress; 8 = master’s degree; and 9 = doctorate/MD/JD. *Age* (years old) was coded as follows: 1 (15–19); 2 (20–24); 3 (25–29); 4 (30–34); 5 (35–39); 6 (40–44); 7 (45–49); 8 (50–54); and 9 (55 and over). *Gender* was coded 1 for women and 2 for men.

Statistical Tools and Methods

To generate the following results, we used SPSS Versions 12 and 15 for the scale univariate statistics, reliability calculations, matched-pairs *t*-tests, and the principal axis (exploratory) factor analyses. In addition, we used AMOS Version 6 (Arbuckle & Wothke, 1999; Arbuckle, 2003) for the confirmatory factor analyses (CFA) and the structural equation modeling (SEM).

Structural equation modeling was used to analyze these data for two key reasons. First, structural equation modeling allows for the simultaneous testing of multiple regression equations. In the case of multivariate and multistage models where mediated or partially mediated relationships are anticipated, as is the case in this study, using

individual regression estimations to build a path model can produce biased results. Simultaneous calculation of the path estimates in structural equation modeling can avoid this bias. Second, in the case of correlated latent constructs, regression estimates are further biased as they assume that the independent variables are uncorrelated. As risk taking, innovativeness, and proactiveness are known to be moderately to strongly correlated, we can and do explicitly include covariance terms in the model to avoid this bias. For a discussion of further advantages (and challenges) of structural equation modeling for organizational research, we refer the reader to a foundational article by Bagozzi and Phillips (1982) as well as to more recent reviews articles for strategic management researchers by Shook, Ketchen, Hult, and Kacmar (2004) and for psychologists by MacCallum and Austin (2000). For a comparable application of structural equation modeling to examine the impact of employee perceptions of organization politics on job anxiety, job satisfaction, and intention to quit, we refer the reader to the work of Kacmar et al. (1999).

Our SEM analysis followed the two-step analysis procedure recommended by Anderson and Gerbing (1988). In the first step, we validate the measurement models for each individual latent construct using confirmatory factor analysis (CFA). In the second step, we estimate the complete structural model. For both the CFA and SEM analyses, the goodness-of-fit parameters to be reported (RMSEA, SRMR, GFI, AGFI, NNFI, NFI, CFI, Delta2, and normed chi-square) reflect currently accepted standards (Hair, Black, Babin, Anderson, & Tatham, 2005; Hu & Bentler, 1998, 1999; MacCallum & Austin, 2000; Shook et al., 2004). The threshold criteria for each of the goodness-of-fit parameters are summarized later in the results section in Table 1. Further, we follow Hu and Bentler's (1999) suggestion of specific combination rules with two criteria to minimize Type I and Type II error rates. For example, they found that using RMSEA ($<.06$) and SRMR ($<.09$) "resulted in the least sum of Type I and Type II error rates" (p. 28).

In our application of CFA and SEM, one modeling issue that required special attention was the estimation technique. The choice of the appropriate estimation technique can be critical in terms of accurate significance tests and parameter estimates, as outlined in Hoogland and Boomsma (1998). For example, while the maximum likelihood (ML—the default method in AMOS) estimator assume normally distributed data, the asymptotically distribution free (ADF) estimator does not. Given that several of our survey measures are not normally distributed, because of skewness or kurtosis, using the ADF estimator produces more reliable results. One drawback of ADF is the need for very large sample sizes to prevent bias in the estimation of standard errors and chi-square statistics (see Tables 6 and 7 in Hoogland & Boomsma, p. 362). Given that the survey data in study is the result of self-selection (e.g., voluntary respondents) as opposed to random selection, standard errors and chi-square statistics are not relevant. In this special case where only parameter estimates are relevant, sample sizes greater than 400 are acceptable for use with ADF (see Table 5 in Hoogland & Boomsma, p. 352). In our study, our sample includes only 332 managers and thus we need to be aware that this may slightly bias our results.

Results—Reliability Testing

Before we can test our formal hypothesis, we must first confirm the reliability of our measurement constructs. In particular, we need to insure that management and staff reports of risk taking, innovativeness, and proactiveness are consistent and comparable.

Testing the Three-Factor EO Measurement Model

Our first concern is that a scale developed for private industry may not translate to a not-for-profit healthcare setting. Fortunately there is empirical evidence to suggest that this is possible. For example, recent research has confirmed the original three-factor structure originally proposed by Covin and Slevin (1989, 1990) holds for large multi-industry random samples of firms (Brown et al., 2001; Lumpkin & Dess, 2001) and across multiple-country contexts (Kreiser et al., 2002). In addition, the three-factor structure has been confirmed for the healthcare setting in two independent studies using two independent scales. In a study of 231 not-for-profit hospitals, Bhuian et al. (2005) confirmed the traditional three-factor structure using an 11-item scale adapted from Miller and Friesen (1983) and Morris and Paul (1987), and in a study of 865 health care executives, Stetz et al. (2000) likewise confirmed the three-factor structure using a 9-item scale developed by Venkatraman (1989) and adapted by Tan and Litschert (1994).

Despite these independent verifications of the three-factor structure for EO, we begin our analysis conservatively by conducting a confirmatory factor analysis for the original 9-item, 3-factor model of Covin and Slevin (1989, 1990) for both manager and staff groups. Table 1 shows that the managers exhibited better goodness-of-fit parameters than the staff, as compared to the threshold parameters at the bottom on the table. This is expected, as the EO scales were developed for and validated using top management teams. However, given that acceptable goodness-of-fit thresholds were not attained for either the management or staff groups, it is also clear that the current three-factor EO model is *not* accurate enough for either the management or the staff levels in this healthcare organization. Thus, a new measurement model had to be considered before we could proceed with further structural model testing.

Adapted 3-Factor EO Measurement Model

In order to develop a more robust model for measuring risk taking, innovativeness, and proactiveness, we conducted exploratory factor analysis (EFA) and alpha reliability testing. EFA was conducted to find which EO items persistently loaded on the same factors at the management and staff levels. For our EFA, we followed Bagozzi's (1983) and Hair et al.'s (2005) recommendations for scales with *a priori* theoretical constructs and used principal axis factor analysis with an oblique rotation (PROMAX in SPSS). A new factor structure emerged from the data, where: the first innovativeness item shifted to the risk-taking factor, the second proactiveness item shifted to the innovativeness factor, and the third risk-taking item shifted to the proactiveness factor (see Table 2). These results are reflective of the findings of Lumpkin and Dess (2001), in which an innovativeness item loaded more strongly on the risk-taking factor and a risk-taking item loaded more strongly on the proactiveness factor (see, for example, Table 1 in Lumpkin and Dess, p. 442).

To confirm how well the new factor structure fits the data, we calculate alpha reliabilities and conduct further confirmatory factor analyses. Alpha reliabilities for the original and adapted scales are presented in Table 3. Whereas the original scales only exhibit acceptable alpha reliabilities ($>.60$) at the management level, the adapted scales exhibit improved alpha reliabilities that are acceptable at both the management and staff levels. Further, confirmatory factor analysis based on the adapted factor structure at the management and staff levels with the adapted model exhibits substantially better goodness-of-fit on all nine measures (Table 1). That said, the management level only meets two criteria (SRMR and X^2/df) and the staff level only meets four criteria (RMSEA, SRMR, GFI, and AGFI). In this case, the combination criteria from Hu and

Table 1
Goodness-of-Fit Parameters for CFA and SEM Models

Method	Model	Level	N	RMSEA	SRMR	GFI	AGFI	NNFI	NFI	CFI	Delta2	χ^2/df
CFA	Original 3-factor EO model	Management	332	.082	.094	.908	.827	.527	.624	.685	.705	3.248
		Staff	1,643	.080	.093	.897	.807	.323	.536	.549	.558	11.618
	Adapted 3-factor EO model	Management	332	.068	.067	.928	.865	.677	.706	.785	.799	2.534
		Staff	1,643	.054	.052	.949	.904	.696	.770	.797	.802	5.764
	Role ambiguity & intention to quit	Management	332	.063	.055	.970	.936	.923	.921	.952	.953	2.324
SEM	Role ambiguity & intention to quit*	Management	1,643	.063	.037	.983	.963	.941	.958	.963	.963	7.507
		Staff	332	.056	.052	.970	.940	.890	.883	.934	.937	2.048
	Adapted 3-factor EO model. Role ambiguity & intention to quit*	Management	1,643	.052	.034	.984	.969	.925	.946	.955	.956	5.045
		Staff	332	.070	.085	.936	.902	.837	.826	.882	.885	2.617
	Adapted 3-factor EO model & intention to quit*	Management	1,643	.041	.043	.963	.944	.871	.878	.906	.907	3.801
Goodness-of-fit threshold	Goodness-of-fit threshold	Management	332	.051	.056	.956	.925	.869	.835	.912	.917	1.854
		Staff	1,643	.046	.045	.970	.950	.879	.899	.919	.920	4.450
												<3
											>.90	>1

* Controlling for tenure with organization, education level, age, and gender.

Table 2

Exploratory Factor Analysis for the full EO Model

Structure Matrix for Management (<i>n</i> = 332)				Structure Matrix for Staff (<i>n</i> = 1,643)			
Item	Factor			Item	Factor		
	Innovative	Proactive	Risk taking		Innovative	Proactive	Risk taking
cs_in_1	.36	.38	.81	cs_in_1	.34	.20	.64
cs_in_2	.68	.42	.34	cs_in_2	.58	.30	.23
cs_in_3	.76	.41	.36	cs_in_3	.58	.12	.29
cs_pr_1	.38	.67	.37	cs_pr_1	.26	.54	.20
cs_pr_2	.53	.49	.49	cs_pr_2	.61	.25	.43
cs_pr_3	.36	.66	.32	cs_pr_3	.16	.68	.16
cs_rt_1	.38	.58	.58	cs_rt_1	.41	.32	.61
cs_rt_2	.38	.53	.57	cs_rt_2	.31	.22	.75
cs_rt_3	.46	.65	.46	cs_rt_3	.28	.51	.36
eigenvalues				Eigenvalues			
initial	1.07	3.65	.98	Initial	1.16	1.33	2.81
Extracted	.58	3.11	.53	Extracted	.56	.74	2.21
rotated	2.23	2.66	2.25	Rotated	1.58	1.37	1.84

Notes on factor analysis methodology:
Extraction method: principal axis factoring.
Rotation method: promax with Kaiser normalization.
Boldface type and highlights are used to indicate factor groupings and structures.
cs, Covin & Slevin factor structure; in, innovativeness; pr, proactiveness; rt, risk taking.

Bentler (1999) (e.g., RMSEA < .06 and SRMR < .09), presented earlier in the methods section, becomes critical. While the staff group meets both the RMSEA and the SRMR criteria, the management group only clearly meets the SRMR criteria. That said, given that this is the best factor fit available for both groups, we will cautiously declare the RMSEA value of .068 as close enough to the official .06 threshold. Thus, we can now claim that the adapted measurement model is acceptable for use with management and staff.

Invariance of EO Scale Items for Management and Staff

While the adapted 3-factor EO measurement model is statistically acceptable for use with management and staff, we still need to formally test if managers and staff members have the same conceptual model of EO (e.g., risk taking, proactiveness, and innovativeness) in mind when reporting their perceptions of entrepreneurial strategies in their department. More specifically, we must demonstrate that there is not a functional bias in the data and show that managers and staff members do not perceive the individual EO items in a systematically different manner (Boyd, Dess, & Rasheed, 1993; Lyon et al., 2000). Technically speaking, we need to test for invariance between the two groups. Given that testing for invariance is not common in the entrepreneurship literature, in particular using multigroup confirmatory factor analysis, we describe in the following paragraphs

Table 3

Reliabilities, Descriptive Statistics, and Correlations between Scales for Managers and Staff Members

		Cronbach α												
Scale	C&S	New	Mean	SD	Min	Max	1	2	3	4	5	6	7	8
Managers (n = 332)														
1 Tenure with organization	n.a.		4.62	1.35	1	6	—							
2 Education	n.a.		5.70	1.80	2	9	-.02	—						
3 Age	n.a.		6.30	1.60	3	9	.36***	.04	—					
4 Gender	n.a.		1.27	0.45	1	2	.03	.03	.13*	—				
5 Risk taking	.666	.689	4.32	1.00	1	7	.05	-.01	.13*	.03	—			
6 Innovativeness	.600	.686	4.89	1.28	1.33	7	-.04	.08	.03	.03	.46***	—		
7 Proactiveness	.635	.695	4.17	1.16	1	7	-.02	-.01	.04	.06	.51***	.48***	—	
8 Role ambiguity	.673		2.58	1.19	1	7	.03	.09 [†]	-.09 [†]	.08	-.15**	-.13*	-.17**	—
9 Intention to quit	.905		2.99	1.87	1	7	.07	.11 [†]	-.08	.02	-.14*	-.16**	-.16**	.35***
Staff members (n = 1643)														
1 Tenure with organization	n.a.		3.81	1.61	1	6	—							
2 Education	n.a.		4.37	1.86	1	9	-.03	—						
3 Age	n.a.		5.70	2.10	1	9	.50***	-.09***	—					
4 Gender	n.a.		1.21	0.41	1	2	-.07**	.06*	-.01	—				
5 Risk taking	.587	.694	3.94	1.02	1	7	.06**	-.02	.06**	-.04	—			
6 Innovativeness	.467	.604	4.42	1.23	1	7	.01	.11***	.00	.02	.36***	—		
7 Proactiveness	.435	.581	3.88	1.02	1	7	-.03	-.03	.03	.01	.29***	.25***	—	
8 Role ambiguity	.726		2.94	1.28	1	7	.03	.01	.01	.07**	-.20***	-.22***	-.18***	—
9 Intention to quit	.913		3.66	1.94	1	7	-.04 [†]	.03	-.13***	.03	-.17***	-.15***	-.17***	.41***

† $p \leq 0.10$, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$
 C&S, original Covin and Slevin factor structure; New, factor structure of the adapted EO model.

the process we apply in more detail, so that other researchers can replicate and test our approach.

Of the eight levels of invariance that can be tested (Ployhart & Oswald, 2004; Vandenberg, 2002;Vandenberg & Lance, 2000), we are primarily concerned in this study with the first three: configural, metric, and scalar. Configural invariance refers to different groups exhibiting a similar latent factor structure. Metric invariance implies that the individual measurement items load similarly on the latent factors. Scalar invariance suggests that the estimated values of the latent factors are similar for all groups. For our study, it is critical to have both configural and metric invariance; that is, the respondents in different groups have a similar understanding of the latent factors and the survey questions that reflect those latent factors. This insures that we compare elephants with elephants (cf. Gartner, 2001). Scalar invariance is less critical, and we have good reason not to expect it. As we know from prior research discussed in the development of hypotheses 4 through 6, individuals at different levels of an organization’s hierarchy are involved to a greater or lesser degree in the strategy-making process (Floyd & Lane, 2000), perceive their organization’s identity in different ways (Corley, 2004) and report

Table 4

Invariance Tests for Adapted Entrepreneurial Orientation Model at Management and Staff Levels

Invariance	AMOS Model	N	RMSEA	SRMR	CFI	Delta2	χ^2	df	χ^2/df	p-value
Configural	Unconstrained	1975	.040	.067	.794	.801	199.2	48	4.150	
Metric	Measurement weights	1975	.038	.063	.796	.801	204.0	54	3.777	0.578
Scalar	<i>not available for ADF estimator</i>									
Factor	Structural covariances	1975	.038	.066	.769	.773	229.7	60	3.828	0.002
Uniqueness	Measurement residuals	1975	.037	.075	.745	.746	256.4	69	3.715	0
	Goodness-of-fit threshold		<.06	<.09	>.95	>.90	>.90	>.90	<3 >1	
Multigroup comparison Δ Goodness-of-fit threshold					-0.01	-0.01				>.05

Note: The key parameters for each invariance text are highlighted in boldface, as described in the text.

different perceptions of firm-level entrepreneurship (Hornsby et al., 2002; Kemelgor, 2002).

Following the examples of Cole and colleagues (Cole & Bruch, 2006; Cole et al., 2006) and applying the change in goodness-of-fit criteria of Cheung and Rensvold (2002), our multiple-group confirmatory factor analysis computations demonstrate that our data exhibits both configural and metric invariance. As presented in Table 4, configural invariance is confirmed through acceptable goodness-of-fit parameters (RMSEA and SRMR) for the unconstrained model. Further, metric invariance is confirmed through the lack of degradation of CFI and Delta2 (Cheung & Rensvold, 2002), and the non-significant change in χ^2 . Regarding scalar invariance, we can only compute the mean and intercept values required by the scalar invariance test for the basic maximum likelihood estimator (ML), and not the more robust asymmetric distribution-free (ADF) estimator used in this study, and thus we cannot report those results. That said, more rigorous tests of factor and uniqueness invariance computed with AMOS and presented in Table 4 suggest that we may in fact not have scalar invariance, as we earlier anticipated.

Lacking the ability to test scalar invariance with the ADF estimator, we apply alternate techniques to test if there are systematic biases in how the management and staff members answer the nine entrepreneurship items. Given that we have data on the department affiliation of the respondents, we can conduct matched-pairs *t*-tests on the individual item-scores, aggregated for managers and staff in each department. In Table 5, we present the results of mean-difference and correlation tests for four sets of aggregation criteria, corresponding to the minimum number of management and staff respondents in each department. Referring to the mean difference results from the 38 departments where we have at least three management and nine staff-level respondents (see column 4 in Table 5, upper half of table), we find that responses to all nine items are in fact significantly higher for managers than for staff, as we earlier anticipated (cf. Hornsby et al., 2002; Kemelgor, 2002). To confirm if the responses to the nine EO items are systematically higher for management than for staff, we examine the correlation results (see column 4 in Table 5, lower half of table) and see that the responses of managers and staff are significantly and positively correlated for eight of the nine items. Thus we conclude that the differences seen in the mean differences test are systematic

Table 5

Matched-Pairs *t*-Test for Department-Level Aggregated Manager and Staff Reports of EO Items

Managers	>1	>1	>3	>3
Staff members	>1	>3	>3	>9
Departments	93	86	48	38
<hr/>				
Question item	Mean differences (manager–staff)			
cs_in_1	.228 [†]	.165	.300**	.438***
cs_in_2	.374**	.323*	.524***	.593***
cs_in_3	.513***	.502***	.620***	.678***
cs_pr_1	.132	.082	.158	.261 [†]
cs_pr_2	.368**	.346*	.463***	.530***
cs_pr_3	.203 [†]	.200 [†]	.293**	.276**
cs_rt_1	.507***	.498***	.532***	.677***
cs_rt_2	.252*	.214 [†]	.344***	.414***
cs_rt_3	.276 [†]	.339*	.413**	.583***
<hr/>				
Question item	Correlations (manager x staff)			
cs_in_1	–.040	.031	.427**	.487**
cs_in_2	.278**	.322**	.368*	.431**
cs_in_3	.366***	.405***	.405**	.416**
cs_pr_1	.221*	.193 [†]	.248 [†]	.298 [†]
cs_pr_2	.179 [†]	.192 [†]	.495***	.506**
cs_pr_3	.274**	.326**	.390**	.500**
cs_rt_1	.015	.005	.131	.324*
cs_rt_2	–.110	–.117	.051	–.005
cs_rt_3	.155	.246*	.354*	.362*

[†] $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

and predicable. Only for the second risk-taking item are the management and staff reports uncorrelated. One explanation for this could be that while the other eight items ask the respondent to report on the actions of management, this one question asks respondents to report on the beliefs of management. Given that one can observe actions but not beliefs, one can logically expect that second-hand and first-hand reports of beliefs will differ. As such, it may be useful to consider rewording this one item in future studies.

Results—Hypothesis Testing

Having confirmed that the reliability of the 3-factor measurement model for risk taking, innovativeness, proactiveness, we now present the results for the formal testing of our six sets of hypotheses. We test all six sets of hypotheses with structural equation modeling and present the calculated parameter estimates for the three relevant structural equation models in Table 6. While all models include the four control variables (tenure with the organization, education, age, and gender), they differ in the combination of constructs of interest. Model 1 tests the baseline effect of role ambiguity on intention to quit. Model 2 adds risk taking, innovativeness, and proactiveness to this model, and tests their individual impacts on role ambiguity and intention to quit. This model is

Table 6

Parameter Estimates for Structural Equation Models without and with EO Factors

Model parameters		Model 1		Model 2		Model 3	
Outcome	Antecedent	Management	Staff	Management	Staff	Management	Staff
Role ambiguity	Tenure with organization	.084	.009	.149*	-.037		
	Education	.092	.027	.101 [†]	.051 [†]		
	Age	-.095	-.018	-.470***	.036		
	Gender	.133*	.067*	.252***	.058*		
	Risk taking			.308 [†]	-.134*		
	Innovativeness			-.464*	-.180***		
	Proactiveness			-.049	-.117*		
	R ²	.031	.006	.256	.129		
	Δ R ²			.225	.123		
Intention to quit	Tenure with organization	.131*	.034	.147*	.010	.134*	-.020
	Education	.131*	.007	.270***	.032	.206***	.048 [†]
	Age	.126*	-.161***	-.123	-.151***	-.187**	-.125***
	Gender	-.145	-.010	-.024	.003	.045	.053*
	Role ambiguity	.448***	.493***	.488***	.442***		
	Risk taking			.038	.057	.062	.007
	Innovativeness			.047	-.011	-.290 [†]	-.111*
	Proactiveness			-.046	-.112**	.066	-.147***
	R ²	.247	.266	.328	.244	.092	.071
	ΔR ²			.081	-.022		
	N	332	1,643	332	1,643	332	1,643

[†] $p \leq 0.10$, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$
Model 1: controls, role ambiguity, intention to quit.
Model 2: controls, role ambiguity, intention to quit, risk taking, innovativeness, proactiveness.
Model 3: controls, intention to quit, risk taking, innovativeness, proactiveness.

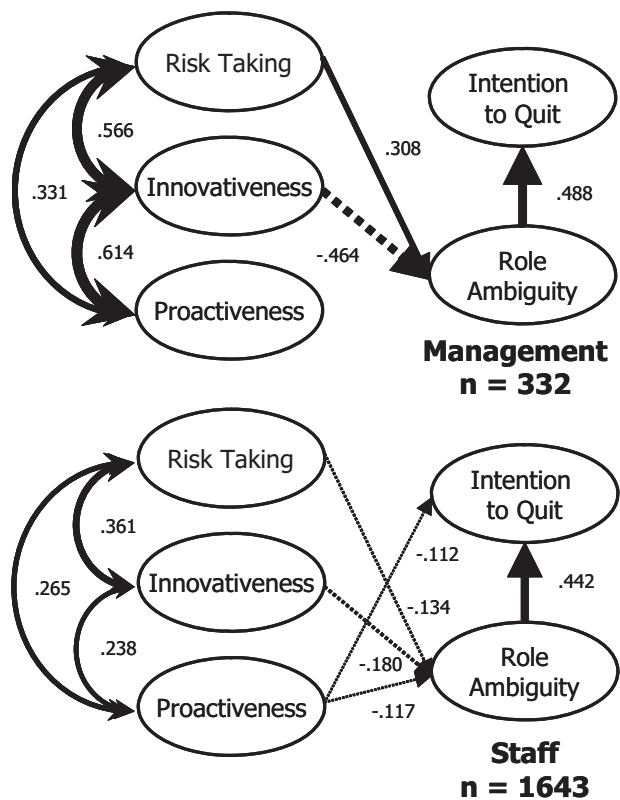
graphically presented in Figure 1. Model 3 removes role ambiguity and only tests the unmediated direct effects of risk taking, innovativeness, and proactiveness on intention to quit. The goodness-of-fit parameters for these three models are presented in Table 1. For additional reference, the bivariate correlations of all nine variables are included in Table 3. First we present the results for the management level-of-analysis (hypotheses 1 to 3), followed by the results for the staff level-of-analysis (hypothesis 4 to 6).

Management Hypotheses

In general for managers, we find statistical significance for most of the five hypothesized relationships, although the sign of the relationship is often different than anticipated. Regarding Hypothesis 1, in both models 1 and 2, without and with EO, the relationship between role ambiguity and intention to quit is consistently positive and significant, as predicted. Hypotheses 2a, 2b, and 2c are more interesting, as they are only

Figure 1

Comparison of Structural Equation Model Results for Management and Staff



Notes: Positive and negative path coefficients are represented by solid and dashed lines, respectively. Line thickness indicates the magnitude of the path estimate (see Table 6, Model 2). Control variables are not depicted here but are included in the estimated models.

partially supported. While reports of risk taking do significantly and positively correspond to role ambiguity, proactiveness is not significantly related to role ambiguity, and innovativeness is, counter to our expectations, negatively and significantly related to role ambiguity. For hypotheses 3a, 3b, and 3c, neither risk taking, innovativeness, nor proactiveness is significantly related to intention to quit, at least in model 2. In model 3, however, where role ambiguity is removed from the model, we do find innovativeness is significantly but negatively related to intention to quit. At least for innovativeness at the management level, this suggests that role ambiguity plays a mediating role (Baron & Kenny, 1986; Cohen & Cohen, 1983; Kline, 1998) between perceptions of entrepreneurial strategies and intention to quit.

Staff Member Hypotheses

For staff members we likewise find statistical significance for most of the five hypothesized relationships, although the sign of the relationship is again often different than anticipated. Regarding hypothesis 4 and differences in the impact of role ambiguity, we have mixed support. In model 1, the impact of role ambiguity on intention to quit is stronger for staff members than managers (.493 vs. .448), as hypothesized. This

corresponds to the same trend seen in the bivariate correlations in Table 3 (.41 vs. .35). When risk taking, innovativeness, and proactiveness are added in model 2, however, staff members are less sensitive to role ambiguity than managers (.442 vs. .488). This suggests that the relationship between role ambiguity and intention to quit is dependent on both the hierarchical level and the strategic context.

That strategic context is the focus of hypotheses 5 and 6. Regarding hypothesis 5a, 5b, and 5c, role ambiguity significantly corresponds to risk taking, innovativeness, and proactiveness; however, in all three cases they correspond negatively to role ambiguity. In terms of hypotheses 6a, 6b, and 6c, a similar dynamic is observed as in hypotheses 3. In model 2, only proactiveness is significantly (and counter to expectations) negatively related to intention to quit. In model 3, however, where role ambiguity has been removed from the model, we observe that both innovativeness and proactiveness are significantly and negatively related to intention to quit. This supports the suggestion made by the findings at the manager level of analysis that role ambiguity plays at least a partially mediating role (Baron & Kenny, 1986; Cohen & Cohen, 1983; Kline, 1998) between perceptions of entrepreneurial strategies and intention to quit.

Limitations of Method and Analytical Approach

Our first limitation is our use of self-report data, collected at one point in time, and using only one method. A legitimate concern raised about organizational field studies is that self-report, cross-sectional survey data are particularly subject to errors resulting from consistency, priming, and problems associated with common method variance (Podsakoff & Organ, 1986). There are two reasons why we believe that common method variance is not a serious issue in this study. First, we believe individuals perceive their organizational environments subjectively and not objectively. Therefore, they are influenced by their personal, subjective perceptions and by their interpretations of those perceptions, rather than by independent, verifiable, objective measures or by averages of perceptions reported by group members (cf. Spreitzer, 1996; Thomas & Velthouse, 1990). This view is shared by a number of published studies in organizational (Hackman, 2003; Kacmar et al., 1999) and entrepreneurship (Hornsby et al., 2002; Kuratko et al., 2005; Pearce et al., 1997) research journals.

A second and more pragmatic reason is that we tested for common method variance, as outlined by Podsakoff and colleagues (Podsakoff & Organ, 1986; Podsakoff, MacKenzie, Jeong-Yeon, & Podsakoff, 2003), and found that common method variance was not a significant issue. A factor analysis (e.g., principal axis factoring with an oblique/promax rotation) of the 16 items, representing the five latent factors in the structural model, clearly demonstrated five unique factors that individually explain between 7.1% and 26.1% of the total variance (eigenvalues ranged from 1.13 to 4.18) and together explain 63.8% of the total variance. Intercorrelations between the factors were moderate and ranged from .225 to .549, the most extreme case representing the intercorrelation between the risk-taking and innovativeness factors. These results justify our confidence to rule out common method variance as a limitation in this study.

A further limitation is our *relatively* small sample size. In scale validation studies, a split-sample approach is typically applied, in which half of the sample is used to determine factor structure of a scale and the other half of the sample is used to test its predictive ability. Given the minimum sample size issues imposed by nonnormal elements in our data and the corresponding SEM estimation method, we could not split the sample for the manager group. Fortunately, in a related study using a healthcare system in the southeastern United States involving 2,325 employees, the same factor structure for organization

emerged with a correlation of 0.944 for the rotated factor structure matrices (Monsen, 2005). As these two data sets were collected 1,100 miles and 3 years and 8 months apart, we anticipate that this factor structure can be generalized to other healthcare systems and potentially to other nonprofit and service sector organizations.

A final potential limitation is the use of respondents from one single organization. Despite the fact that we use data from 1,975 managers and staff in 110 departments, all participants belong to one organization in a single industry, and as such the results may not be transferable to other organizations and industries. That said, authors in top-ranked management journals have consistently spoken out in support of one-shot, single-organization case studies (see, for example Yin, 1981, pp. 61–62). More recently, Teagarden et al. (1995) reviewed prior discussions on the strengths and weaknesses of multiple- and single-case studies (e.g., Dyer & Wilkins, 1991; Eisenhardt, 1989, 1991; Yin) and found a consensus in the literature that these researchers agree “that deep, clinical, single-case studies are useful for inductive theory building in the early development of a field of research” (Teagarden et al., p. 1265). Citing Eisenhardt (1991), Teagarden et al. go further and also state that “this one ‘meta-case’ might best be viewed as a series of mini-cases or observations within a meta-case, a condition that also meets the multiple-case recommendation” (p. 1265). In short, single-organization case studies are clearly useful in early-stage theory building and, when coupled with “rigorous method and multiple-case comparative logic” (Eisenhardt, 1991, p. 621), can have the properties and validity of multiple-organization and multiple-case studies.

Discussion and Conclusion

This first question that this study addresses is, how do managers and their staff members perceive and react to entrepreneurial strategies? Our first step in answering this question was to develop a statistically reliable measure of perceived entrepreneurial strategies that can be reliably used with both managers and staff members. By way of iterative confirmatory and exploratory factor analysis, as well as a multi-group invariance analysis, we established a 9-item, 3-factor model of EO (e.g., risk taking, innovativeness, proactiveness) that can be applied reliably at both management and staff levels-of-analysis. While staff members tend to report lower levels of risk taking, innovativeness, and proactiveness than managers, which is consistent with earlier research (cf. Hornsby et al., 2002; Kemelgor, 2002), they respond in systematically similar and comparable manner to eight of the nine EO items.

The second step in answering this question involved testing the impact of perceived risk taking, innovativeness, and proactiveness at the department level on individual reports of role ambiguity and intentions to quit. Here we made three intriguing observations. The first is with regard to the nature of the impact of risk taking, innovativeness, and proactiveness on role ambiguity and intention to quit. The second relates to the function of role ambiguity in the structural relationship between the three dimensions of EO and intention to quit. The third relates to unexpected differences between managers and staff members and their reaction to perceptions of entrepreneurial strategies.

Contrary to our hypotheses, we found that when risk taking, innovativeness, and proactiveness have an effect on role ambiguity and intention to quit, this effect generally has a negative and not a positive sign. In other words, the three dimensions of EO are generally associated with less and not more role ambiguity and intention to quit. Why might this be the case? Ireland et al. (2003) propose that effective strategic entrepreneurship helps

individuals overcome fears associated with disruptive innovations and new business models, and there are in fact good arguments and empirical evidence to back up this claim. First, Pearce et al. (1997) provide strong empirical support for the premise that “managers who are entrepreneurial in their behavior have a positive impact on their subordinates” (1997, p. 158). In particular, entrepreneurship research has shown employees in organizations that are better at managing change are less likely to want to quit (Rutherford & Holt, 2007). Furthermore, by supporting a culture of change and creativity, strategic entrepreneurship can reduce fear, stress, and in particular ambiguity associated with risk-taking, innovative, and proactive activities (cf. Upson et al., 2007). Thus, individual-level risk aversion can be transformed into firm-level risk-taking, innovative, and proactive behavior (compare Antoncic, 2003). Therefore, effective entrepreneurial leadership (Covin & Slevin, 2002) is a key element in managing strategic entrepreneurship effectively across levels of the organization.

Second, the relationship between intention to quit and perceptions of entrepreneurial strategies is at least partially moderated by role ambiguity. As presented in model 2 of Table 6 and graphed in Figure 1, the structural models of managers and staff members are similar in that they both exhibit a basic two-stage mediating model: first, perceptions of risk taking, innovativeness and proactiveness impact role ambiguity, and second, role ambiguity impacts intention to quit. The mediating effect was confirmed by the *post hoc* estimation of model 3 presented in Table 6. Assuming that the strategic direction of a company is determined by managerial behavior, this model suggests that perceptions of strategy will have a direct impact on employee attitudes, which in turn will have an effect on employee behaviors and performance. Given this finding, future studies should include additional aspects of role stress, including role conflict and role overload (Netemeyer et al., 1995; Peterson et al., 1995), as these dimensions of job stress may likewise mediate the relationship between perceptions of strategy, behaviors, and performance (compare Floyd & Lane, 2000).

Third, staff members react to risk taking, innovativeness, and proactiveness in a more moderate and consistent fashion than management. One potential explanation of this can once again be found in social identity theory, which posits that individuals partly define themselves in terms of salient group memberships or social categories (Hogg & Terry, 2000; Tajfel & Turner, 1986). Given that staff members are less involved in the strategy-making process than managers (Floyd & Lane, 2000; Kuratko et al., 2005), their social identity is less affected by the specifics of the strategies dictated by management and thus all entrepreneurial strategies have a similar effect on staff members. For the same reason, managers should have stronger and more differentiated response to the entrepreneurial strategies they develop and communicate to lower-level employees. Future studies should attempt to collect a larger sample of top, middle, and operating-level managers, as middle-level managers react even more extremely to entrepreneurial strategies than top and operating-level managers (cf. Floyd & Lane; Kuratko et al.).

These differences are critical in answering the second question that this study addresses: How can we minimize resulting job stress and maximize employee retention? The answer is deceptively simple. We need to realize that managers and employees react differently to strategic entrepreneurship, we need to better understand what these differences are, and we need to design and implement entrepreneurial strategies accordingly. In particular for strategic entrepreneurship efforts, we need to understand the central role played by job stress in general and role ambiguity in particular. In short, by following Burgelman’s (1985) prescription to design for ambiguity and by collecting data on the perceptions of both managers and staff (Hackman, 2003; Hornsby et al., 2002; Kuratko et al., 2005), and by studying the multidimensional nuances of entrepreneurial

strategy (Covin et al., 2006; Kreiser et al., 2002; Lumpkin & Dess, 1996), one can design more customized strategic entrepreneurship systems that better maximize wealth creation for organizations (Ireland et al., 2003), for their managers (Kuratko et al.), for their staff (Monsen, 2005; Hayton, 2005), and for society (Schendel & Hitt, 2007).

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