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Organizational Aspirations and External Venturing: The Contingency of Entrepreneurial Orientation

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Abstract

We contribute to the organizational aspirations and corporate venturing literature by theorizing and testing (a) the influence of a firm's idiosyncratic strategic posture on behavioral responses to performance attainment discrepancies, and (b) that performance feedback may influence multifaceted yet thematically related forms of search. Specifically, we examine the influence of performance feedback on equity-based external corporate venturing. We then propose that a firm's entrepreneurial orientation (EO) is a critical contingency when theorizing about how firms respond to attainment discrepancies. Our findings indicate that a firm's EO is an important contingency when considering behavioral responses to attainment discrepancies.

Keywords: entrepreneurial orientation, corporate, corporate venture capital, quantitative, behavioral theory

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Theory on managerial responses to performance feedback is based on a prototypical model of the firm: performance above aspiration levels decreases the likelihood of innovative activities, while performance below aspiration levels spurs risky “problemistic search” intended to repair the gap between current and aspirational performance (Audia & Greve, 2006). While this prototypical model advanced by the behavioral theory of the firm (BTF) has furthered our understanding of decision-making in response to these positive and negative “attainment discrepancies,” it is rooted in two critical assumptions: (a) firms with comparable resource endowments are largely similar in how they respond to attainment discrepancies, and (b) a firm’s response manifests as a single form of organizational action.

To the first point, Cyert and March (1963) theorized that behavioral responses to performance feedback are governed by relatively stable rules and standard operating procedures, though such rules may not be homogenous across firms. Yet research has largely overlooked factors that may represent different rules and standard operating procedures that are unrelated to resource endowments. To this end, we explore a firm’s entrepreneurial orientation (EO). EO reflects the strength of a firm’s strategic disposition toward favoring entrepreneurship—i.e., proactiveness, innovativeness, and risk-taking (Anderson, Kreiser, Kuratko, Hornsby, & Eshima, 2015; Miller, 1983)—as a preferred mode of conduct. While the EO literature has advanced different specific conceptualizations of EO,¹ scholars agree that EO is an organizational attribute (Covin & Lumpkin, 2011) indicative of an entrepreneurial mindset (McGrath & MacMillan, 2000) whereby strategic decision makers focus on identifying, evaluating, and selectively exploiting business opportunities in order to “capture the benefits of uncertainty.” Decision makers in high EO firms attend to different criteria—e.g., issues relating to new opportunity exploitation—than their counterparts in low EO firms, who tend to focus on maximizing value out of currently controlled resources (Bradley, Wiklund, & Shepherd, 2011; Brown, Davidsson, & Wiklund, 2001). We therefore posit that low EO firms tend to exhibit response patterns to performance feedback that align with the tenets of the BTF, while high EO firms tend to exhibit distinctly different patterns.

1. Most commonly, EO as a unidimensional (e.g., Covin & Slevin, 1989; Miller, 1983) versus multidimensional (e.g., Lumpkin & Dess, 1996) construct.

To the second point, BTF research on responses to performance feedback tends to examine behavioral responses in the form of a single organizational action, such as R&D investment (Greve, 2003), acquisition behavior (Iyer & Miller, 2008), or the creation/termination of a specialized corporate venturing unit (Gaba & Bhattacharya, 2012). Scholars have ostensibly chosen this single response modeling approach for the sake of parsimony and tractability. However, performance feedback may be causally ambiguous (Greve & Gaba, 2017), and as such, the ensuing search process may not be sufficiently captured by a single activity (Posen, Keil, Kim, & Meissner, 2018). The behavioral response we examine is the firm's portfolio of equity-based external corporate venturing (ECV) activities, which most commonly includes corporate venture capital investments (CVC) (defined as a minority equity investment made by an established firm in an entrepreneurial venture; Dushnitsky & Lenox, 2005), the creation of an equity joint venture, or the acquisition of a young venture. Together, we suggest that these activities represent a thematically related external search strategy that may facilitate search efforts stemming from causally complex problems.

ECV activities are an appropriate response category to examine within the behavioral theory context as they represent risky and resource-consuming activities with unclear returns, yet they also represent a means through which firms can gain awareness of and access to promising nascent opportunities (Maula, Keil, & Zahra, 2013). Firms often employ a mix of venturing activities, and evidence suggests that these venturing portfolios, in aggregate, may affect overall enterprise value more than any one individual activity (e.g., Van de Vrande, 2013). As such, examining a firm's commitment to overall ECV behavior both provides a more comprehensive picture of how firms tend to respond to performance attainment discrepancies, and accounts for a greater share of the economic actions firms execute to address such attainment discrepancies.

Our research offers four principal contributions. First, we contribute to the BTF literature by advancing the notion that performance feedback responses reflecting a firm's overall commitment to ECV behavior are contingent on heterogeneous organizational characteristics—in our case, EO. A firm's idiosyncratic EO is a critically important factor to the BTF literature because such a strategic posture influences the rules and procedures used by decision makers, thereby affecting how decision

makers attend to and interpret performance feedback. We contend that EO influences decision-making such that low EO and high EO firms exhibit distinct behavioral responses to attainment discrepancy. For example, firms with a strong EO are less likely to avoid uncertainty or view underperformance as a “problem” to be remedied by search—and both of these issues are fundamental to the construction of the BTF (Gavetti, Greve, Levinthal, & Ocasio, 2012). We propose that high EO firms interpret high variance performance outcomes as an inherent aspect of their strategic posture (McGrath, 1999), and as such, they are less likely to alter their commitment to ECV activities in response to performance feedback than low EO firms.

Our second contribution to the BTF literature is to consider the behavioral response to performance feedback via commitment to a portfolio of strategically related activities, rather than an individual activity. Though the BTF research which parses these individual activities will continue to generate valuable knowledge, separating out individual yet related activities risks isolating the activity from its broader strategic context (Keil, Maula, Schildt, & Zahra, 2008). Our research considers the extent to which a firm commits to a set of external venturing activities, as these activities should be viewed as a single portfolio of thematically related, rather than discrete activities.

Third, we contribute to the literature on EO as a strategic posture. A firm’s strategic posture is an interpretive lens that serves the purposes of sense making and sense giving (Monin, Noorderhaven, Vaara, & Kroon, 2013). In this regard, strategic posture is analogous to Mintzberg’s conceptualization of “strategy as perspective” because it constitutes “an ingrained way of perceiving the world” that “looks inside the organization, indeed inside the heads of the collective strategist” (Mintzberg, 1987, p. 16). Prior research has recognized that EO can be conceptualized as a strategic posture that transcends specific acts of corporate entrepreneurship (Covin & Wales, 2019). We contribute to this perspective by theoretically and empirically exploring EO as an interpretive lens affecting firms’ reliance on ECV activities in response to performance attainment discrepancies.

Finally, we tie together the entrepreneurial phenomena of EO and ECV activity in a way that recognizes both their distinctiveness and their association. Specific entrepreneurial acts have long been

recognized as occurring in established organizations (e.g., Peterson & Berger, 1971). However, the relationship of entrepreneurial acts to the more dispositional concept of a firm's overall strategic posture—defined along the conservative-to-entrepreneurial (low to high) EO continuum—has not been explored. The paucity of research on this relationship constitutes a significant knowledge gap in the literature. We argue that research should acknowledge that entrepreneurship is manifested through both specific acts—such as ECV activities—as well as through overall strategic postures. We propose that a firm's EO creates a strategic context in which managers make sense of various stimuli (in our case, performance feedback), then choose specific acts of corporate entrepreneurship reflecting the beliefs and biases inherent to their interpretive lenses. By exploring the occurrence of specific entrepreneurial acts in the presence of various levels of EO, we gain greater insight into the totality of how entrepreneurship “plays out” in organizations.

Theoretical Development and Hypotheses

Attainment Discrepancies and Peer-Relative Performance

A central component of the BTF is that organizational leaders are goal directed and utilize heuristics to make behavioral adjustments in the face of performance feedback (Iyer & Miller, 2008). For example, the discrepancy between a firm's performance aspirations and its actual performance is a key impetus for organizational action (Shinkle, 2012). Performance below aspirations prompts action—typically via problemistic search, which often entails the assumption of risk in search of a solution to the problem of underperformance. While this search process may be focused on a particular problem, it may also include latent problems underlying the performance shortfall (Posen et al., 2018). The potential ambiguity that exists regarding the nature of such a latent problem—e.g., the performance shortfall may not be easily attributed to a failed sales promotion—feeds into the notion that problemistic search is not characterized by the selection of an optimal decision to address the problem, but rather to identify potential alternatives that could address the

problem (Cyert & March, 1963).² This suggests that the search process itself may be relatively broad, e.g., increases in R&D investment. Performance above aspirations tends to produce a “complacency” or “status quo effect,” whereby firms are unlikely to engage in risky activities (Greve, 1998).

We focus our theorizing on performance feedback that emanates from comparisons with the firm’s peers, referred to as a social reference point (e.g., Greve, 2003), which is a common comparison point in BTF research (Desai, 2008; Mishina, Dykes, Block, & Pollock, 2010). We do so because a major focus for our study is to examine heterogeneous responses to attainment discrepancy by investigating a key mechanism—EO. EO has a strong competitive, and therefore peer referent, focus, specifically with respect to how “innovative,” “proactive,” and “risk-taking” one firm is relative to another. In particular, the “proactiveness” element of EO implies a bias toward acting on opportunities *before* others do, and as such, this attribute is a distinctly between-firm comparison. This, in concert with the realization that EO is more variant across firms than within a particular firm (Wiklund & Shepherd, 2003), leads us to expect the influence of EO to be more theoretically relevant to peer referent comparisons.

External Corporate Venturing

Research on ECV activities examines different forms of external venturing in isolation (Dushnitsky & Lenox, 2005; Kumar, 2011; Sears & Hoetker, 2014) or in relation to each other (Keil et al., 2008; Van de Vrande, 2013). Evidence indicates external venturing is associated with exploratory or exploitative learning (Schildt, Maula, & Keil, 2005), awareness of future capability and resource needs (Keil, Autio, & George, 2008), and may increase firm value (Graebner, 2004; Kumar, 2011; Yang, Narayanan, & De Carolis, 2014). However, external venturing is also fraught with risks. Acquisitions often fail to create anticipated benefits (King,

2. There are other biases discussed in the entrepreneurship literature that may add different layers of nuance to traditional BTF theorizing. For example, literature on overconfidence or hubris recognizes that entrepreneurs or managers do not necessarily act rationally (Ucbasaran, Westhead, Wright, & Flores, 2010), and these tendencies may influence how managers respond to performance relative to aspirations as well. This possibility is intriguing, though it is outside of the realm of our theoretical model and empirical analysis.

Slotegraaf, & Kesner, 2008), JVs may be subject to noncooperative behaviors that lead to value misappropriation (e.g., unintended knowledge spillovers) (Kumar, 2011), and CVC investments may not provide value if they are strategically irrelevant to the parent firm (Dushnitsky & Lenox, 2006).

Our research is predicated on the notion that despite possible variation in the motivations driving individual ECV activities (Titus, House, & Covin, 2017), they collectively comprise a broader strategic program (Keil et al., 2008). That is, CVC investments, JVs, and acquisitions are strategically similar activities that jointly represent a form of external search. Together, a firm's ECV activities constitute efforts to venture beyond the firm's own internal innovative efforts (e.g., R&D investment) toward new avenues situated outside the firm.

Despite the attention paid to why firms engage in particular modes of external venturing, little is known regarding why firms engage in external venturing activities more broadly speaking. To do so, it is important to examine the role of social performance aspirations when investigating ECV behavior, as this form of performance feedback is likely to have a direct influence on a firm's subsequent decisions about ECV behavior. In the following section, we apply the BTF to develop baseline hypotheses that are consistent with traditional BTF theorizing regarding what drives a firm's overall engagement in ECV behavior.

Behavioral Influences on ECV Behavior

Social aspirations entail peer-based benchmarking, which is causally ambiguous because attainment discrepancies relative to a peer group may stem from many diverse possibilities: an exceptional (or exceptionally poor) product offering from the focal firm, prime rivals performing poorly or extremely well, or some combination thereof (Kim, Finkelstein, Haleblan, Kim, & Haleblan, 2015). The effect of this lack of clarity aligns with core BTF reasoning: decision makers will engage in "problemistic search" in the case of underperformance, and exhibit a complacency-driven preference for the status quo when the firm exceeds their performance aspirations (Cyert & March, 1963).

Below-aspiration performance. BTF argumentation suggests that in the case of negative attainment discrepancy, decision makers realize their

firm has not kept pace with the competition, and will therefore engage in problemistic search aimed at bridging the performance gap. In line with most BTF research, we focus on managers' responses to performance which falls incrementally short of social aspirations. Specifically, the lack of clarity regarding why the negative attainment discrepancy occurred may encourage decision makers to commit to broad strategic activities that entail some degree of risk, such as external venturing. This prediction is consistent with Cui and Kumar (2012), who found that, in comparison to firms with higher performance, firms with poor performance were less likely to terminate unrelated JVs, which are riskier due to their dissimilarity to the firm's strategic core.

The experimentation-inducing effect of underperformance is especially salient for firms underperforming relative to peers (Park, 2007). Research in the domain of internal corporate venturing acknowledges that poor performance prospects in a firm's core business can drive that firm to seek growth opportunities in more attractive product-market domains (Burgelman, 1983). Similarly, underperformance relative to peers may drive search for the purposes of staking out less-rivalrous positions in the marketplace where competition is less dense, or to seek new technologies or capabilities that may facilitate competitive efforts (Keil et al., 2008). In both cases, the broad-scanning properties of ECV behavior are suited to the challenge of peer-relative underperformance.

Above-aspiration performance. By contrast, when the firm's performance surpasses its social aspirations, decision makers are less motivated to engage in search-related activities, because the firm has already achieved its objective vis-à-vis peer-referent performance. The tendency toward risk aversion when performance exceeds aspirations, while not as established as problemistic search, has some precedent and support in the literature. Studies have found risk aversion in regards to R&D intensity (Greve, 2003; Lim & McCann, 2014), and organizational change (Greve, 1998). More directly related to the current research, in their study of the adoption and termination of CVC units, Gaba and Bhattacharya (2012) found that innovation performance above aspiration levels decreases the likelihood of adopting a CVC unit, and if a unit had been previously adopted, it increased the likelihood of CVC unit termination. Cui and Kumar (2012) found that, in comparison to firms with lower performance, firms with strong performance were more likely to

terminate unrelated JVs— which are riskier due to their dissimilarity to the firm’s strategic core. Further, acquisition activity tends to decrease when firms perform above their aspirations (Iyer & Miller, 2008). Given the uncertainty often ascribed to ECV activities, firms that are performing above their aspirations have little incentive to continue to engage in their venturing activities. As such, performance above the threshold of aspirational performance may prompt firms to reduce the riskiness associated with external venturing. Therefore, we hypothesize the following:

Hypothesis 1a: *When a firm’s performance falls below its social aspirations, the degree of attainment discrepancy is positively associated with ECV behavior.*

Hypothesis 1b: *When a firm’s performance exceeds its social aspirations, the degree of attainment discrepancy is negatively associated with ECV behavior.*

The Moderating Role of EO

When Cyert and March (1963) first proposed their BTF, they stated that organizations have different rules and operating procedures that govern organizational responses to performance feedback. Such rules constitute part of the BTFs cognitive underpinnings, which contrasted with the rational-agent model of economic decision making that was prevalent at that time (Gavetti et al., 2012). Cyert and March (1963) then put forth several “relational concepts”—quasi-resolution of conflict, uncertainty avoidance, problemistic search, and organizational learning—that act as the theoretical mechanisms for how these cognitive underpinnings influence organizational decision making. Much of the BTF literature assumes that the relational concepts applied similarly across firms. That is, firms were expected to respond in a similar fashion to attainment discrepancies. However, organizational research has since established that managers frame, interpret, and act upon information heterogeneously (Hahn, Preuss, Pinkse, & Figge, 2014). In this section, we consider the influence of one such “mindset”—a firm’s EO—on how a firm interprets and responds to performance feedback. A firm’s EO is relevant to BTF research because both emphasize the role of opportunity search, though they approach search from distinct angles.

EO as a Firm's Disposition Toward Entrepreneurship

Following precedent in the prior literature, we define EO as the strength of a firm's strategic disposition favoring entrepreneurship, and this is reflected by a managerial mindset that emphasizes risk-taking, proactiveness, and innovativeness (Anderson et al., 2015; Miller, 1983). EO can be viewed as an answer to the question of what it means in a practical sense for firms, regardless of age or size, to "be entrepreneurial" (Covin & Miller, 2014).

Notably, a firm's EO and its behavior are not one and the same, and the exhibition of EO does not imply that a firm is engaged in any specific entrepreneurial behavior. Conversely, the manifestation of a certain form of behavior does not necessarily connote a firm's EO (Covin & Lumpkin, 2011). Rather, an EO is more indicative of an organization's stance, perspective, and identity than its pattern of actions at any point in time (Miller & Friesen, 1982).

EO as an Interpretive Lens for Performance Feedback Stimuli

We contend that low EO firms differ from high EO firms in how they respond to positive and negative attainment discrepancies vis-à-vis ECV behavior. Our argument is predicated on the notion that an EO is a lens through which firms view and interpret information stemming from attainment discrepancies, and as such, high EO firms attend to different criteria than low EO firms. Fundamental to our argument is the position that EO operates as an interpretive lens that serves the purposes of sense making and sense giving. This position has been suggested by literature on EO (see, for example, Talke, 2007), although it has not been theoretically explored to any great extent or empirically investigated.³ As described by Dess and Lumpkin (2005), EO represents "a frame of mind and a perspective about entrepreneurship that are reflected in a firm's ongoing processes and corporate culture."

Mindsets operate as interpretive lenses (Daft & Weick, 1984) through which meaning is imputed to otherwise ambiguous data and information. Mindsets filter data and information in manners shaped

3. For example, Dess and Lumpkin (2005) argued that EO is needed to stimulate successful corporate entrepreneurship, thereby distinguishing between EO as a contextual element and acts of corporate entrepreneurship, such as ECV.

by individuals' and collectives' belief structures or cognitive schemas (Haynie, Shepherd, Mosakowski, & Earley, 2010). Importantly, mindsets influence both sense making and sense giving processes. The phenomenon of sense making refers to "the process through which people work to understand issues or events that are novel, ambiguous, confusing, or in some other way violate expectations" (Maitlis & Christianson, 2014). Sensegiving refers to "attempting to influence the sensemaking and meaning construction of others toward a preferred redefinition of organizational reality" (Gioia & Chittipeddi, 1991). Bettiol, Di Maria, and Finotto (2012) "posit that entrepreneurs are engaged in the construction of interpretive frameworks [sensemaking] that, when explicated and made accessible to consumers and stakeholders [sensegiving], legitimate novel business ideas and logics." We extend this point by suggesting that EO as a strategic posture is an interpretive lens that contextualizes acts of ECV, variously favoring or discouraging a firm's commitment to such acts depending upon the direction (i.e., negative or positive) of any realized performance attainment discrepancies.

That EO operates as a contextualizing factor influencing a firm's commitment to ECV activities is consistent with prior literature. EO by definition and via its specific operationalization in this research implies an amenability by firms to exploratory activities aimed at the pursuit of new opportunities, with the pursuit of such opportunities being consistent with the exhibition of innovativeness, risk taking, and proactiveness. Covin and Miller (2014) further observe that EO is a broad construct initially introduced as an attempt to capture what it means for firms "be entrepreneurial." Notably, "being entrepreneurial" is foundationally about engaging in "opportunity-based" or "opportunity-seeking" behavior, and that this is true at both the individual and firm level (Stevenson & Jarillo, 1990). In short, the pursuit of opportunity is inherent to EO.

Given that high EO firms are opportunity focused, the question becomes how is such a focus and mindset manifested in organizations? Our expectation is that EO is revealed in the strategic narratives advanced in description of the firm's circumstances and, consistent with the sensemaking perspective (Maitlis & Christianson, 2014), these narratives reflect the beliefs and biases of the firm's executive leadership concerning the advisability of opportunity-seeking behavior. Such behavior is manifested in a variety of entrepreneurial acts, several of which fall under the umbrella of ECV.

In summary, entrepreneurship “plays out” in firms at both the strategic posture level via EO and the entrepreneurial mindset and at the level of individual entrepreneurial acts, as revealed in part by ECV activities. How these indicators of entrepreneurship relate to one another, however, is complex, with high/low levels of commitment to ECV not necessarily or directly following from high/low levels of EO. We argue there is a far less-than-perfect correlation between EO as an attribute of organizations and the specific entrepreneurial acts of ECV. As detailed below, firm performance relative to aspirations likely explains, at least in part, why and when EO and a firm’s commitment to ECV activity relate to each other in particular fashions.

The anticipated difference in how high EO and low EO firms respond to attainment discrepancies can be explained through consideration of two interrelated concepts fundamental to the BTF: an organization’s rules and operating procedures, and two of the “relational concepts” proposed by Cyert and March (1963)—uncertainty avoidance and problemistic search.

In their early formulation of the BTF, Cyert and March (1963) proposed cognitive underpinnings to their theory that differed from the established economic theory of that time—specifically, that decision makers are boundedly rational, and as such, they rely on rules and operating procedures to facilitate the decision making process. Cyert and March (1963) then proposed several relational concepts, which act as the theoretical mechanisms that show how bounded rationality manifests in organizations (Gavetti et al., 2012).

A key difference between high and low EO firms is that high EO firms have a strong bias toward opportunity exploitation (Bradley et al., 2011; Wiklund & Shepherd, 2003). This contrasts with the depiction of management as fundamentally risk averse, and therefore reluctant to engage in opportunity exploitation unless motivated to—i.e., when faced with the problem of underperformance. Thus, the rules governing the behavior of high and low EO firms differ, and as such, the way those rules manifest via the relational concepts of problemistic search and uncertainty avoidance will “look different” for high vs. low EO firms.

Uncertainty avoidance refers to the managerial tendency to “choose decision rules that emphasize short-run responses to feedback...” (Gavetti et al., 2012). This BTF tenet emphasizes managerial tendencies to avoid uncertain outcomes by engaging in planning and activities that

are relatively easy to control and predict. However, a fundamental premise of being a firm with a strong EO is a managerial proclivity to pursue projects with uncertain outcomes (Anderson et al., 2015; Covin & Slevin, 1991). Firms with a strong EO tend to focus on pursuing and exploiting new opportunities, while low EO firms tend to focus on leveraging existing opportunities with existing resources (Bradley et al., 2011). Uncertainty, then, is part and parcel to an EO.

The second relational concept that differs between high and low EO firms is the notion of problemistic search. Cyert and March (1963) proposed that search is motivated by the specific problem of underperformance. However, the extent to which underperformance is seen as a problem requiring action may depend on a firm's familiarity with performance variance. Managers of firms with a high EO recognize the experimentation inherent in such a strategic posture (Wiklund & Shepherd, 2011), and the resulting tendency for this bias to increase outcome variance, which may occasionally lead to extreme successes or failures (McGrath, 1999). Because high EO firms are more familiar with success or failure that exceeds aspirations, they may be less responsive to attainment discrepancies. Within the context of problemistic search, high EO firms may be less inclined to reactively engage in search to repair a performance gap, as they are more comfortable with the reality of performance deviations. Further, high EO firms are likely to engage in search processes even without the impetus of underperformance, as opportunity search is fundamental to an entrepreneurial nature (Brown et al., 2001).

Collectively, our theorizing suggests that low EO firms follow the general pattern of behavior predicted by BTF, in that low EO firms are reactionary to positive or negative attainment discrepancies. High EO firms, on the other hand, are less likely to avoid uncertainty, and are more familiar with the high variance in outcomes inherent to experimentation. They are therefore less likely to have their ECV behavior swayed as strongly by attainment discrepancies.

EO and Inferior Peer-Relative Performance

In the case of firm performance below aspiration levels, attainment discrepancy should be more positively related to ECV commitment when EO levels are low than when EO levels are high, as firms with a strong

EO are likely to realize that the experimentation inherent in an entrepreneurial posture enhances performance variance, and not simply overall mean performance (Wiklund & Shepherd, 2011). In other words, high EO firms are more likely accustomed to the reality that entrepreneurial actions lead to high variance outcomes (McGrath, 1999), so occasionally underperforming a peer would be understood as the cost of pursuing entrepreneurial opportunities. Moreover, the notion of what it means to “keep pace with rivals” is different for high EO firms, as these firms are comfortable with greater vacillations in relative performance ranking at any point in time, softening the impact of inferior social aspiration-relative performance. High EO firms familiar with the fluctuations inherent to such an entrepreneurial posture are more likely to recognize that experimentation generates benefits other than traditional market-based advantages, such as superior brand loyalty or broader product lines relative to rivals (e.g., Mueller, Titus, Covin, & Slevin, 2012) which have longer time horizons than immediate financial performance superiority. Thus, the “problem” of financial underperformance relative to rivals is less likely to prompt a reactionary problemistic search response among these firms. We therefore expect that high EO firms will not exhibit a problemistic search response pattern as performance falls below aspirations.

Conversely, low EO firms are more likely than high EO firms to react strongly to peer-relative underperformance because conservative postures tend to generate more predictable outcomes (McGrath, 1999; Wiklund & Shepherd, 2011). When predictable outcomes do not materialize, managers of underperforming low EO firms are likely to view the status quo of conservative, nonentrepreneurial behaviors as insufficient to repair this performance gap. Managers will therefore turn to ECV as a means to bridge the performance gap that may have been created by lower-risk status-quo activities.

For these reasons, we expect underperforming low EO firms to pursue greater ECV behavior, consistent with BTF assumptions. Among these firms, ECV activity constitutes a departure from the more conservative tendencies that are consistent with these firms’ strategic posture and represents a form of problemistic search. And though entrepreneurial acts may be viewed by conservative firms as something to avoid unless circumstances make them necessary (Covin & Slevin, 1989), low performance relative to social aspirations may prompt firms with low levels

of EO to pursue substantial levels of ECV behavior, despite their default tendencies toward conservative action. In other words, managers at conservative firms are spurred into action by negative attainment discrepancies, and are therefore motivated to engage in activities that may be “out of character.” This suggests that, for low EO firms, negative attainment discrepancies trigger problemistic search.

Overall, then, we argue that the ECV behavior of low EO and high EO firms will differ in the case of below aspiration performance, because these firms have different strategic postures which influence their reactions to negative performance feedback. Of the two strategic postures, firms with low levels of EO will correspond more closely with traditional BTF arguments, in which underperformance is associated with expanded search activity. We hypothesize the following:

Hypothesis 2a: *Entrepreneurial orientation negatively moderates the relationship between below social aspiration performance and ECV behavior, such that the relationship is less positive when EO levels are higher and more positive when EO levels are lower.*

EO and Superior Peer-Relative Performance

Within the context of positive attainment discrepancy, behavioral theory predicts that the more the firm’s actual performance exceeds its aspirations, the less inclined managers will be to engage in risky behavior. As stated earlier, we contend that low EO and high EO firms are fundamentally different in terms of how they respond to performance feedback stimuli. Low EO firms are more likely to exhibit patterns of behavior consistent with traditional BTF predictions, while high EO firms are more likely to exhibit a different pattern of behavior. Consistent with our earlier theorizing, we argue that high EO firms are less sensitive to performance feedback that exceeds aspirations, and therefore are less likely to have performance deviations sway their level of engagement in ECV activities.

Low EO firms are likely to avoid uncertainty if performance feedback allows for it—e.g., if problemistic search has not been triggered by the stimuli of performing below social aspirations. As such, once performance exceeds aspirations, these firms will make decisions which minimize the need to court future uncertainties (Gavetti et al., 2012), such

as via low levels of ECV behavior. Firms with a strong EO, on the other hand, are driven by perceptions of opportunity, not uncertainty avoidance (Bradley et al., 2011). Search activities are not necessarily problem directed, but may instead be a product of their very nature. That is, entrepreneurial processes and routines are embedded in their strategic posture—and as such, opportunity exploitation is a natural byproduct of the nature (Covin & Slevin, 1991). Because high EO firms are accustomed to performance deviations inherent in experimentation—deviations that may be either performance setbacks or boons—they will be less reactionary in their response to performance deviations, defaulting instead to behaviors that align with their strategic posture.

Thus, among high EO firms, performance exceeding social aspirations is less likely to drive the complacency response anticipated by BTF (e.g., Greve, 1998), whereas low EO firms will tend to opt for the status quo of minimal ECV behavior following such superior peer-referent performance. Collectively, the preceding observations suggest the following hypothesis:

Hypothesis 2b: *Entrepreneurial orientation positively moderates the relationship between above social aspiration performance and ECV behavior, such that the relationship is more positive when EO levels are higher and less positive when EO levels are lower.*

Methods

Sample

Our sample is comprised of publicly traded US firms that engaged in ECV activities within the US between the years of 1996 and 2007. Our focus on the equity-based modes best aligns with our research interest in a venturing portfolio and the relevant risks that may influence managerial decision making that arise from the assumption of equity in a venture (Chi, 1994). The three equity-based forms of ECV we investigate are: the acquisition of young ventures—i.e., those that are 10 years old or younger (Yli-Renko, Autio, & Sapienza, 2001)—the creation of a new JV, or a CVC investment. We chose the information and communication

technologies, chemicals, and medical and laboratory equipment industries due to the relative ubiquity of venturing within those particular industries. The ubiquity of external venturing in these industries is an important consideration, because our theory operates under the assumption that managers make social comparisons in terms of performance and make adjustments to their activities based on these comparisons. If ECV were a relatively rare or sporadic activity in these industries, it would be a less relevant response dimension. However, because ECV activities are highly diffused throughout these industries, incumbent firms may see ECV as a viable response to performance feedback. In other words, the industries we selected should provide meaningful variance on our DV. Finally, it is worth noting that the selection of these industries is consistent with the external venturing literature (Keil et al., 2008; Van de Vrande, 2013).

To generate a data set of firms operating in those industries and engaged in ECV activities, we followed prior literature and searched both Thomson Financial's Securities Data Company (SDC) Platinum and VentureXpert databases in the chemicals, information and communication technologies, and medical and laboratory equipment industries.⁴ To be included in our sample, firms must have engaged in some form of ECV during the sample timeframe, and have relevant data available across the various data sources we used and for a sufficient number of time periods to calculate our aspiration variables, which we describe below. Our final sample, after accounting for missing data on key constructs, is comprised of 576 firms and 2,054 firm-year observations. The mean and standard deviation for the investing firms' net sales (in millions \$) are \$4,356.28 and \$10,677.78; and employees (in thousands) are 13.85 and 32.59.

Data on venturing activities come from the SDC Platinum and VentureXpert databases. The COMPUSTAT North American Fundamentals Annual database was used for financial data of parent companies, as well relevant data for constructing the aspirational performance measures and the industry variables. Finally, we collected 10 K reports on our focal firms from the Securities and Exchange Commission (SEC).

4. The three-digit SIC codes are: chemicals: 281, 282, 283, 286, 287, 289; information and communication technologies: 357, 366, 367, 737; medical and laboratory equipment: 384, 382.

Dependent Variable: Commitment to ECV

A lack of precedent in the literature required that we create a novel measure for this construct. There is broad consensus that different forms of external venturing represent different levels of risk, commitment, and flexibility to the venturing firm (Tong & Li, 2011; Van de Vrande, 2013). For example, the CVC arms of parent companies typically co-invest in an entrepreneurial venture with independent venture capital firms (Alvarez-Garrido & Dushnitsky, 2016). The corporate parent making a CVC investment therefore splits the risk inherent in investing in young ventures with multiple other investors. Similarly, JVs typically involve two firms jointly creating a new venture, thereby splitting the risk of ownership between them. In an acquisition, by contrast, the corporate parent becomes the primary owner of the venture and does not co-invest with other firms.

Though there is consensus that each external venturing mode represents different levels of risk and flexibility, there is no operationalization for comparing modes to each other. We therefore developed an index representing ECV commitment based on co-investment pooled within each firm-year observation. Within our sample of CVC investments, the average number of investors (including other corporate VC or independent VC firms) investing in a venture is 11.16. Within our sample of JVs, the average number of investors in each JV 2.60. Finally, each acquisition represents a corporate firm acquiring a major stake in an entrepreneurial venture, and does not involved co-investment.

Based on these aforementioned norms for the respective venturing modes, we measure a firm's commitment to a portfolio of external venturing activities by counting each time a firm engaged in either a CVC investment, a JV, or an acquisition in a given year. We then scored each CVC investment and JV based on the average number of co-investors for firm i in year t . For example, if firm i in year t co-invested with an average of 10 other independent or corporate VCs in each of their CVC investments, then each CVC investment would be scored as "1/10." We followed a similar procedure for JVs. Each acquisition was scored as "1/1," to reflect the lack of co-investors. We then summed the weighted CVC, JV, and acquisition scores together to arrive at a yearly ECV commitment index. This index, which takes into account variation in coinvestment within each firm-year observation, accounts for different levels of commitment required on average for each ECV mode.

Independent Variables

Performance relative to social aspirations. To calculate our social aspiration-relative performance measures, we first had to operationalize a firm's social aspirations, computing the firm's attainment discrepancy relative to those aspirations, and then used those attainment discrepancies to generate the above- and below-social aspiration performance measures. To this end, we followed prior research (e.g., Bromiley & Harris, 2014) by operationalizing social aspirations as peer-firm ROA in the reference period. In the following equations, i represents the focal firm, and " $j \neq i$ " represents other firms in the focal firm's industry (at the three-digit SIC code level, consistent with how we defined industry groups when constructing our sample, as discussed earlier) except for the focal firm.

$$\text{Social Aspirations}_{i,t-1} = \frac{\sum_{j \neq i} \text{ROA}_{j,t-1}}{N_{j,t-1}}$$

Once we had computed the firm's social aspirations, we generated the firm's "attainment discrepancy relative to social aspirations" by taking their performance (ROA) in the same period (i.e., period $t - 1$) and subtracting the social aspirations value. We then followed the example of prior scholars in operationalizing our below- and above-aspiration performance measures as spline variables (e.g., Greve, 2003), bifurcating the sample at zero to create splines for above- and below-aspiration performance. Although there is substantial precedent for this approach in the literature (for a review, see Shinkle, 2012), a brief explanation here may be useful for readers. This spline approach adopts a theory-driven perspective that managers' responses to performance feedback differs for positive aspiration-relative performance (i.e., attainment discrepancy values above zero) and negative aspiration-relative performance (i.e., attainment discrepancy values below zero). As such, splines are appropriate because they split the raw "attainment discrepancy" measure into two parts, which allows for two things: first, the two separate spline variables can be estimated simultaneously in the same empirical model, and second, the coefficients of those two spline variables can take on separate values which would not be the case if the raw "attainment discrepancy" measure were left as a single, continuous variable containing

both positive and negative values connoting performance deviance relative to social aspirations. As a result of this spline creation process, the spline for *above aspiration performance* consisted of the values greater than zero, whereas *below aspiration performance* consisted of the values less than zero, and all missing values for each spline were recoded to zero to allow for simultaneous estimation. To aid in interpretation, we reverse-coded all values for the below-aspiration performance splines, such that greater below-aspiration values indicate greater distance below aspirations. This resulted in variables consisting of either positive values or zero.⁵

It should be noted that, while some studies combine both social and historical aspirations, research indicates that separating these aspirations is empirically advisable (Bromiley & Harris, 2014). We computed a historical aspiration variable and bifurcated it as with the social aspiration variable; however, the below social aspiration and below historical aspiration variables were highly correlated, which suggests including both social and historical aspirations could create issues with our empirical estimation.

Entrepreneurial orientation. In our measurement of EO, we are interested in inferring and scaling a firm's disposition toward entrepreneurship rather than in assessing engagement in specific entrepreneurial behaviors. Our premise is that this disposition will operate as an interpretive lens, influencing the way a firm reacts to performance attainment discrepancies, as reflected in a portfolio of ECV behaviors. Revelation of interpretive lenses often occurs via the narratives used when describing firms (Maitlis & Christianson, 2014; Sonenshein, 2010). Moreover, as argued by Dunford and Jones (2000) and Gabriel (2004), the construction of narratives is used for both sensemaking and sensegiving purposes.

5. For example, if a firm had underperformed and the raw attainment discrepancy value amounted to “-1,” this value would be recoded to “zero” in the “above social aspiration performance” spline and, since we flipped the negative values in the “below” spline, it would be recoded as “1” in the “below social aspiration performance” spline. Conversely, any raw attainment discrepancy values *above* zero are recoded as “zero” in the “below” spline but their original values are retained in the “above” spline. In this fashion, all raw attainment discrepancy values are retained in one of the two splines, but their empirical values reflect a conceptual perspective which treats the above and below aspiration performance deviations distinctly.

Consistent with these observations, computer-aided text analysis of the narratives embedded in public documents is used to infer the presence and strength of EO in our research. Given our intent, we base our measure for EO on the work of McKenny, Short, Ketchen, Payne, and Moss (2018). We measured EO by content analyzing a firm's 10 K reports for each year the firm is in our sample. 10 K reports, which must be filed with the SEC, provide a comprehensive overview of a firm's operations over the past year. As such, they are particularly attractive when assessing managerial and organizational traits, such as EO, due to the role that senior management plays in the creation of these documents (Short & Palmer, 2008).⁶ We analyzed the entire 10-K document, as compared to a particular section of the document, based on the recommendations of Loughran and McDonald (2016).

We employed the following procedure to create our EO measure. First, we use dictionaries by McKenny et al. (2018) for assessing proactiveness (which includes words such as "anticipate" and "forward-looking"), innovativeness (which includes words such as "new" and "novel"), and risk-taking (which includes words such as "chance" and "bold"). Second, each 10 K annual report was processed with the content analysis software program LIWC, which creates counts of word usage based on the dictionary of interest. The resulting word count constitutes our measures for proactiveness, innovativeness, and risk-taking (and as we will discuss in the control variables section, we control for the word count of the overall document). Third, we created a summative measure for EO based on the content analysis results for these three variables. As argued by Covin and Wales (2012), "a summed-index approach to formatively measuring EO [is appropriate when] the researcher is conceptualizing EO in the manner proposed by Miller (1983)," as is the case in the current research. Finally, we industry-adjusted the measure by subtracting the industry-average EO score (at the three-digit SIC level) from the firm score to account for industry nomenclature that may influence EO word usage.

6. We recognize a limitation to this computer-aided text analysis approach to EO measurement noted by Short, Payne, Brigham, Lumpkin, and Broberg (2009)—that is, the employed EO measure is not tied to firm behavior. This limitation is not a concern in the context of the current research in that our theory pertaining to EO is exclusively focused on a firm's strategic disposition toward entrepreneurship, rather than specific entrepreneurial behaviors.

Control variables. We controlled for several variables that could influence a firm's ECV behavior. *Firm size* is controlled for by taking the natural logarithm of total sales, as a firm's size may influence its responsiveness to attainment discrepancies (Audia & Greve, 2006). Due to the importance of financial slack to BTF considerations (Greve, 2003), we control for *financial slack*, measured as the difference between current assets and current liabilities (Mishina, Pollock, & Porac, 2004). We also controlled for how leveraged a firm is via the *debt/equity ratio*, as this could influence its willingness to engage in ECV. *R&D intensity* is a common means by which prior research has measured search behavior (Greve, 2003; Lim & McCann, 2014), so we controlled for it by taking the ratio of R&D expenses to net sales. The ratio of *capital expenditures to sales* was controlled for as it may influence investment in ECV activities (Shi, Hoskisson, & Zhang, 2017). The total size of the 10 K document was controlled for via the number of *total words* used in the document. We industry-adjusted this measure, to be consistent with our industry-adjusted EO measure. We accounted for a firm's prior commitment to ECV by including a lagged version of our DV.

Industry dynamism is controlled for to account for industry dynamics, measured at the three-digit SIC code, and based on Keats and Hitt (1988). To measure dynamism, we first regressed an industry's net sales and operating income over a 5-year period. We then averaged the standard errors from these regression slopes to arrive at our measure. *Industry munificence* is calculated by averaging the regression coefficients from the dynamism measure (Keats & Hitt, 1988). Since certain "bandwagon" effects may result from many firms engaging in ECV in a given period (Dushnitsky & Lenox, 2005) and in a given industry, we also included industry and year dummies as controls. We wanted to capture the effect of every combination of year and industry, so we included the interaction of "year \times industry" in our models, which resulted in 60 discrete year/industry dummies for the years 1996 through 2007, and for each of the two-digit SIC codes our sample.⁷

Finally, we account for the possibility of selection bias by conducting an econometric technique discussed by Heckman (1979) and often used to address selection bias. The procedure entails an initial probit model,

7. We used two-digit SIC codes because the three-digit SIC codes resulted in more dummies than our statistics software was about to compute.

whose sample is comprised of all publicly traded firms in our focal industries during the sample period (5,153 firms with usable data) to determine whether or not a firm engages in any of the aforementioned forms of ECV. We dummy-coded firms that engaged in some form of ECV as “1,” and those that did not engage in ECV as “0.” The initial stage probit model included R&D intensity, firm employees, cash, net sales, total assets, and net income. A selection parameter referred to as the inverse Mills ratio is generated based on the results from this probit model. We then enter the inverse Mills ratio into our model as a control variable, which allows us to model for the effects of sample selection bias.

Analytical Method and Results

A significant Hausman test indicated that a fixed-effect regression was preferred over a random-effect specification. We therefore test our hypotheses with a fixed-effect regression with robust standard errors. A fixed-effect approach examines within-firm differences and the firm-specific levels of predictors and their influence on criterion variables. Although we accept that EO may be an even stronger differentiator of the distinctions in strategic postures *between* firms (Wiklund & Shepherd, 2003), EO may also change *within* a firm, over time (Wales, Monsen, & McKelvie, 2011). Moreover, these subtle temporal fluctuations in EO, within firm, coupled with the wide variety of performance feedback signals a firm experiences over time and the myriad ways in which these and EO may jointly interact at the firm-level, provide conceptual justification for using a fixed-effect approach. This, combined with the empirical evidence from the Hausman test that fixed-effect regression is preferred, provides both conceptual and empirical support for such a modeling approach.

All independent variables were standardized prior to entering into the regression equations to facilitate interpretation (Cohen, Cohen, West, & Aiken, 2003). **Table 1** presents the descriptive statistics and correlation matrix, and **Table 2** presents the results of the fixed-effect regression analyses. Model 1 contains the control variables; Model 2 adds the independent variables; Model 3 adds the interactions. The negative and marginally significant (-0.031 , $p = .058$, 95% confidence interval (CI) ranges from $[-0.063, -0.001]$) beta coefficient for *performance below aspirations* shown in Model 2 of Table 2 is the opposite of what we

Table 1. Summary Statistics and Correlation Matrix.

	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12
1. Commitment to ECV	0.531	1.162	0.000	21.951												
2. Inv. Mills ratio	0.209	0.188	0.000	0.793	-0.157											
3. Capital expenditures/sales	1.329	6.794	0.000	75.354	-0.021	0.198										
4. D/E ratio	0.537	5.885	-17.441	186.768	-0.014	0.066	-0.015									
5. Financial slack	1,063.074	2,079.591	-843.000	12,053.000	0.523	-0.463	-0.091	-0.015								
6. Sales (logged)	6.371	2.296	-3.170	11.555	0.262	-0.854	-0.285	-0.031	0.604							
7. R&D intensity	0.370	0.960	0.000	7.926	-0.044	0.285	0.227	0.036	-0.111	-0.468						
8. Dynamism	0.137	0.080	0.011	0.340	0.028	0.160	0.046	-0.014	-0.081	-0.134	-0.125					
9. Munificence	17,327.720	9,503.629	-205.278	34,778.680	0.026	0.183	0.054	0.041	0.016	-0.182	0.190	0.288				
10. Word count	465.735	90,252.04	-20,1949.2	229,227.4	-0.009	-0.091	-0.043	0.012	-0.018	0.069	0.008	0.002	-0.003			
11. EO	0.014	0.307	-0.959	1.767	-0.004	0.391	0.044	0.064	-0.159	-0.364	0.186	0.027	0.026	-0.238		
12. Performance above SA	0.575	0.883	0.000	6.986	-0.007	0.039	-0.015	-0.015	-0.036	-0.075	0.103	-0.072	0.228	0.060	0.031	
13. Performance below SA	0.050	0.225	0.000	2.120	-0.048	0.173	0.134	-0.007	-0.090	-0.255	0.124	0.121	-0.005	-0.005	0.014	-0.145

n = 2,054; number of firms: 576. Nonstandardized measures reported. Correlations ± 0.05 and greater are significant at a minimum $p < .05$ level.

Table 2. Fixed Effect Regression Results (DV: Commitment to ECV).

	Model 1		Model 2		Model 3	
	β	SE	β	SE	β	SE
Inv. Mills ratio	0.084	(0.074)	0.085	(0.075)	0.090	(0.076)
Capital expenditures/sales	0.049*	(0.022)	0.054*	(0.024)	0.059*	(0.025)
D/E ratio	0.003	(0.006)	0.003	(0.007)	0.004	(0.007)
Financial slack	0.150†	(0.079)	0.142†	(0.078)	0.141†	(0.078)
Sales (logged)	0.322*	(0.126)	0.316*	(0.132)	0.331*	(0.134)
R&D intensity	0.033	(0.022)	0.031	(0.025)	0.040	(0.024)
Dynamism	0.192	(0.119)	0.180	(0.119)	0.179	(0.119)
Munificence	-0.135†	(0.069)	-0.129†	(0.068)	-0.136*	(0.066)
Word count	-0.005	(0.016)	0.013	(0.016)	0.013	(0.015)
EO			0.086*	(0.037)	0.091*	(0.036)
Performance above SA			0.050*	(0.025)	0.055*	(0.025)
Performance below SA			-0.031†	(0.016)	-0.035*	(0.017)
Performance above SA × EO					-0.021*	(0.010)
Performance below SA × EO					-0.032*	(0.013)
Constant	0.800*	(0.382)	0.926*	(0.379)	0.946*	(0.376)
Firm fixed effect	Yes		Yes		Yes	
Year × industry fixed effect	Yes		Yes		Yes	

$n = 2,054$; number of firms: 576. Robust standard errors in parentheses.

† $p < 0.10$; * $p < 0.05$; ** $p < 0.010$; *** $p < 0.001$

predicted in Hypothesis 1a. The beta coefficient for *performance above aspirations* shown in Model 2 of Table 2 is positive and significant (0.050, $p = .047$, 95% CI [0.001, 0.099]), and also opposite of what we predicted for Hypothesis 1b. The negative and significant coefficient (-0.032 , $p = .011$, 95% CI [-0.057 , -0.007]) for the *performance below aspirations* × *EO* interaction in Model 3 indicates support for Hypothesis 2a. Finally, the negative and significant (-0.021 , $p = .031$, 95% CI [-0.040 , -0.002]) coefficient for the *performance above aspirations* × *EO* interaction is opposite of what we predicted in Hypothesis 2b.

The marginal plots of these interactions are provided in **Figure 1**. To aid interpretation in the Tables and empirical models, we had originally reversed all values for below-aspiration performance so that both spline variables contained only positive values or zero. In Figure 1, however, to follow convention in the BTF literature (e.g., Greve, 2003; Parker, Krause, & Covin, 2017; Shipilov, Li, & Greve, 2011), we displayed the true (negative) values of below-aspiration performance to depict distance

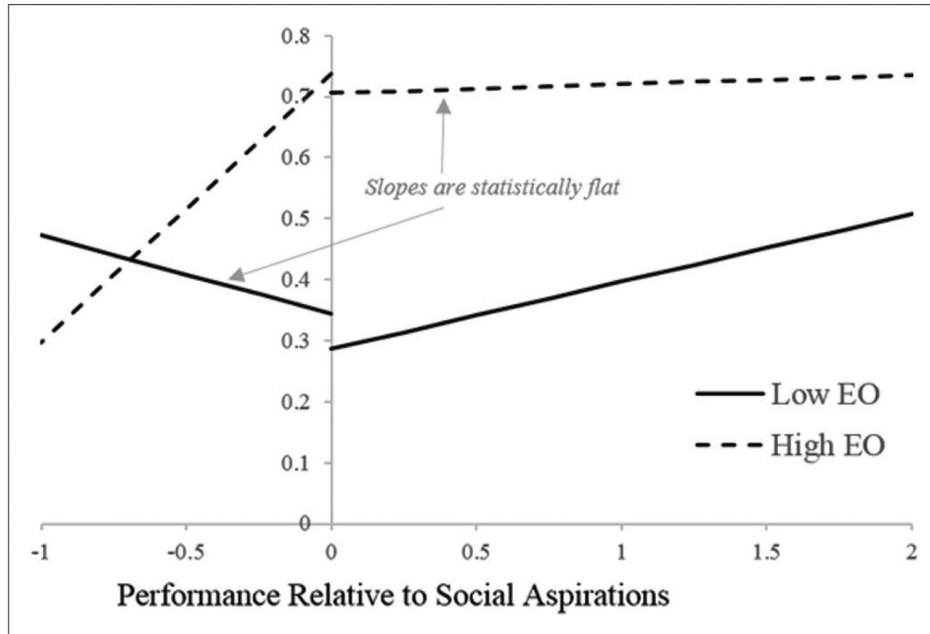


Figure 1. Interaction of performance relative to social aspirations and EO on Commitment to ECV.

below aspirations, with the inflection point of the DV at “0” attainment discrepancy (the aspiration point). This allows us to examine the influence of aspiration-relative performance as performance diverges from those aspirations, both above and below zero. Figure 1 shows that low EO firms tend to exhibit less of a decrease in their commitment to ECV than high EO firms in response to below social aspiration performance, and that the slope for below-aspiration performance for low EO firms is not statistically different from zero. Also, commitment to ECV behavior among low EO firms is more positively influenced by above-aspiration performance than that of high EO firms, as the slope for high EO firms is statistically no different from zero. High EO firms seem less responsive vis-à-vis ECV commitment to above-aspiration performance relative to low EO firms.

In terms of effect sizes, we can consider the distribution of the DV and the percentile changes in its value which are associated with various levels of the predictors. We can interpret all coefficients in the full model since coefficients for the subordinate relationships of the performance ×

EO interactions describe those effects when the moderator is at a value of zero (i.e., in this case, when EO is neither “high” nor “low”). As such, an examination of the DVs distribution reveals that from the 10th to the 90th percentile of its range, a change of 0.013 units in the DV amounts to a roughly 1 percentile change (commitment score of 0.0 at 10th percentile and 1.04 at 90th percentile). Given this percentile increment as a starting point, the significant coefficient for the main effect of below-SA performance (-0.035) indicates that a one standard deviation increase in below-SA performance is linked to a roughly 2.69 percentile decrease in ECV commitment. Furthermore, the significant coefficient for the interaction of below-SA performance \times EO (-0.032) suggests that a one standard deviation increase in EO is linked to a further 2.46 percentile decrease in ECV commitment when below-SA performance is one standard deviation above its mean. The significant main effect of above-SA performance (0.055) indicates that a one standard deviation increase in above-SA performance is associated with a roughly 4.23 percentile increase in ECV commitment. Finally, the significant interaction coefficient for above-SA performance \times EO (-0.021) indicates that when EO increases by one standard deviation, ECV commitment is reduced by roughly a further 1.62 percentile points when above-SA performance is one standard deviation above its mean.

Endogeneity Analyses

Due to the potential concern of endogeneity in our empirical model, we employed a two-stage least squares (2SLS) method discussed by Semadeni, Withers, and Trevis Certo (2014) to evaluate whether endogeneity is biasing our empirical results. Endogeneity occurs when the focal IV is correlated with the error term in the regression model. The 2SLS procedure entails the identification of instruments that are individually and jointly significant predictors of the variable which may be potentially endogenous.

Our instruments for above aspiration performance are environmental complexity and the liquidating value of preferred stock. Complexity refers to the industry’s homogenous vs. heterogeneous makeup, and may influence a firm’s overall performance (Dess & Beard, 1984). The liquidating value of preferred stock is a proxy for the kinds of nonresidual

claims burdening the firm in the form of dividend payouts and the faith in the firm from its initial investors. Both of these could (a) help explain a firm's performance relative to aspirations, particularly whether it meets its aspirations or manages to exceed them, but (b) not necessarily its venturing behavior. As expected, both environmental complexity and liquidating value of preferred stock ($\beta = 0.470, p = .000$; and $\beta = -0.001, p = .002$) constituted valid instruments that were jointly significant as well (F -value = 13.03).

For below aspiration performance, the instruments include sales growth rate and the ratio of long-term debt to sales. A strong growth in sales could be a proxy for organic growth, and the associated economic strength of the firm could mitigate the extent of negative attainment discrepancy, yet it may not have an association with a firm's commitment to ECV. The firm's debt relative to its sales may be a reflection of how the firm is performing relative to its aspirations, as firms that have higher amounts of long-term debt relative to sales are more likely to be performing below their aspiration—though again, this is unlikely to be associated with commitment to ECV. Both sales growth rate and the ratio of long-term debt to sales were valid ($\beta = 0.015, p = .003$; and $\beta = 0.001, p = .000$) instruments that were jointly significant as well (F -value = 19.88).

The second stage of the 2SLS procedure yielded a nonsignificant Sargan–Hansen test statistic for both sets of instruments (for above aspiration performance, $SH = 1.934, p = .164$; for below aspiration performance, $SH = 0.034, p = .854$), indicating we properly excluded the instruments, as there is no significant correlation between the focal IV and the error term. Similarly, both sets of instrumental variables produced nonsignificant test statistics for the Davidson–MacKinnon test (for above aspiration performance, $DM = 0.812, p = .368$; for below aspiration performance, $DM = 0.190, p = .663$), which indicates that a noninstrumental variable estimator is preferred, because the focal variables are not likely to be endogenous (Semadeni et al., 2014). In consideration of the preceding analysis, we did not find evidence that endogeneity is biasing our model.

Discussion

Theoretical and Managerial Implications

Our findings suggest that exploring broad forms of external search—such as ECV behavior—can be a productive focus of BTF-informed research. Prior research typically focuses on a single form of external search, yet there is increased recognition that problems may be poorly defined or causally ambiguous, and as such, search processes in response to those problems may be broad (Posen et al., 2018). Rather than examine a single mode of external search, we proposed that equity-based external venturing activities comprise a thematic strategic program to which firms may variously commit (Keil et al., 2008). Furthermore, given corporate venturing's acknowledged value in the search for less contested spaces (Burgelman, 1983) and in gaining familiarity with new technologies and capabilities (Keil et al., 2008), external venturing activities add unique value to the BTF literature on search responses to performance attainment discrepancies.

While prior research has argued that firms engage in corporate venturing activities for reasons pertaining to their resource slack levels (Burgelman & Valikangas, 2005), the attractiveness of their current industry environments (Miles & Covin, 2002), and overall macroeconomic conditions (Dushnitsky, 2006), the current research suggests that a firm's *comparative* financial performance—that is, a firm's performance relative to aspiration levels—can also drive observed levels of ECV behavior. Thus, while conventional wisdom suggests that firms pursue venturing activities to “leap frog” out of unattractive industries, or because they can “afford” to do so due to slack resources, our study indicates that a critical motivation is aspirational performance.

Aspirational Performance, ECV, and the Moderating Effect of EO: Strong but Unexpected Results

With respect to performance below social aspirations, the main effect of below-SA performance was opposite what we predicted in Hypothesis 1a, in that below-SA performance was associated with *less* ECV commitment behavior, rather than more. However, consistent with our

prediction in Hypothesis 2a, high EO negatively moderates the influence of below-SA performance on ECV commitment, such that firms exhibiting this entrepreneurial posture also exhibit *less* ECV commitment than firms with a more conservative posture (low EO). This is in line with our theorizing that low EO firms are more likely than high EO firms to see negative attainment discrepancies as a “problem” that spurs search efforts.

With respect to performance above social aspirations, the main effect of above-SA performance was opposite our prediction of a negative main effect in Hypothesis 1b. We expected low EO firms to exhibit the “complacency” effect often discussed in the BTF literature (e.g., Greve, 1998), though there is actually an increase in ECV commitment as performance continues to exceed aspirations. Our results also indicate that high EO firms are relatively unresponsive to performance above aspirations in terms of ECV commitment, as Figure 1 indicates that the slope for high EO firms performing above aspirations is statistically flat.

Explaining these unexpected findings. The overall results indicate statistically significant or marginally significant relationships associated with all of our hypotheses, and despite their unexpectedness, they imply some provocative potential mechanisms at work. At the highest level, our results indicate that performance above or below social aspirations does not prompt high EO firms to increase commitment to ECV—as it does low EO firms. One plausible explanation is that ECV activity is a form of compensation for low EO firms whose performance diverges from their aspirational target. When performance falls below aspirations, these firms decrease their ECV commitment to a lesser degree than do high EO firms, which—consistent with our arguments for H2a—is likely attributable to the felt pressure of these firms’ managers to rectify the problem of underperformance.

By contrast, when performance exceeds aspirations, our findings indicate that low EO increase their ECV commitment more than do high EO firms. We theorized that among firms exceeding their aspirations, high EO firms would engage relatively more ECV commitment because these entrepreneurial firms are not as driven by the “complacency after goal attainment” motivation. However, similar to how individual entrepreneurs often persist in their beliefs and actions despite feedback that might lead them to alter their behavior (e.g., Hoang & Gimeno, 2010),

high EO firms may operate with a collective belief among the top managers in the inherent appropriateness of their entrepreneurial actions. As such, these firms' commitments to ECV may not be as easily swayed by what others are doing, or how they are performing relative to other firms in their industries. This possibility is consistent with the notion that EO as a strategic posture reflects an entrepreneurial mindset, or way of thinking about the world that results in the active creation and pursuit of opportunity, often independent of what other firms may be doing (McGrath & MacMillan, 2000). As such, our findings are consistent with the spirit of our prediction, that high EO firms would be less sensitive to the motivation to alter their behavior after exceeding a peer-referent performance target which is largely irrelevant to their entrepreneurial strategy. After all, high EO suggests the presence of a dominant logic through which the world is understood as a malleable place where firms create their environments, rather than simply reacting to them (Alvarez & Barney, 2010). Through such an interpretative lens, the actions of other industry incumbents are accorded less salience as factors to consider when formulating market strategy. Specifically, our findings indicate a largely "flat line" of ECV commitment by high EO firms once performance is achieved, while low EO firms tend to pursue more ECV commitment in this circumstance.

As a more general observation, the unexpected results may be attributable in part to the forms of entrepreneurial behavior possibly employed when high versus low EO firms outperform or underperform their social referents. In the case of above-SA performance and the moderating effect of EO, internal corporate venturing and other forms of internal innovation—which are common phenomena among firms of the larger size studied in the current research (Garrett, 2010)—are not included in our measure of ECV behavior, yet these initiatives may be components of many firms' overall entrepreneurial efforts. It is possible that performance above social aspirations shifts the balance of entrepreneurial initiatives from those externally focused to those internally focused. This possibility would be particularly likely among high EO firms because above social aspiration performance would reinforce these firms' confidence in their perceived entrepreneurial abilities—which, consistent with their strategic postures, are particularly valued among such firms—leading them to rely on their own internally generated entrepreneurial efforts. By contrast, low EO firms—consistent with their strategic

postures—may not value entrepreneurial capabilities, so we have little reason to expect that performance above aspirations would shift the balance of external-to-internal entrepreneurial initiatives. These low EO firms would be just as comfortable relying on outside parties to produce or participate in entrepreneurial initiatives.

Significance of EO to performance feedback responses. Our findings highlight the fundamental thesis of our work: that a firm's EO serves as a critical contingency on how managers will respond to performance feedback signals vis-à-vis their commitment to ECV activities. While our focus has been on ECV commitment activity as the referent outcome, this principle—that EO is a lever which alters performance feedback responses—could apply to a range of other decision outcomes in the performance feedback literature. Importantly, while scholars building on the tradition of Cyert and March (1963) have elucidated important nuances in the aspirational performance-response relationship, these efforts have still largely assumed that firms are homogenous in how they interpret and respond to performance feedback stimuli. Our results suggest that this is not so; instead, we find evidence that the strategic posture of the firm can dramatically influence how, whether, and to what extent managers are motivated to respond to such stimuli.

Limitations and Future Research

Though our study focuses exclusively on equity-based external corporate venturing, the possibility should also be considered that search activity may assume forms other than ECV, as suggested above. The equity-based external venturing modes we examine are thematically related, but we acknowledge that firms may engage in other forms of entrepreneurial behavior in response to attainment discrepancies. Unfortunately, there is no reliable source of secondary data on internal corporate venturing efforts (Garrett, 2010). Future research could therefore gather primary data that allows for the examination of the interplay of internal and external venturing as a means of responding to attainment discrepancies.

We cannot entirely eliminate the possibility of omitted variable bias. Though our endogeneity analysis indicates that omitted variables are not biasing our empirical results, there are characteristics of the venture itself (the organization receiving investment or being acquired)—for

example, its market viability demonstrated by its history of sales, innovations, and profitability—that are beyond the scope of our study. Future research could examine how characteristics of the venture influence the structuring of an ECV portfolio, as firms may diversify their ECV activities across different modes of venturing based on ventures' unique characteristics.

We propose two specific theory-driven future research directions. First, the processes and mechanisms through which entrepreneurial narratives both influence and are influenced by specific entrepreneurial acts is worthy of consideration. Fundamentally, the challenge is one of identifying how sensemaking and sensegiving occur in the context of firms exhibiting entrepreneurial gestalts. Relevant questions include, for example, (a) how can top managers shape the level and types of entrepreneurial initiatives pursued (or not pursued) through their narrative choices and (b) how and when do discrete entrepreneurial acts combine to create entrepreneurial firm-level identities, and how and when do they not?

Future theory-driven research might also investigate the possibility that high EO firms are less attentive than low EO firms to comparative performance information. Successful entrepreneurs characteristically demonstrate an ability to learn and adapt over the course of their ventures' development (Politis, 2005). Nonetheless, entrepreneurs are often also found to be persistent in their actions and venture strategies, ignoring cues and feedback that might cause those with lesser commitment or self-assuredness to abandon their plans (Gimeno, Folta, Cooper, & Woo, 1997). Perhaps an analogous phenomenon occurs at the level of the entrepreneurial firm whereby the dominant logic favors optimism and commitment to doing what the firm managers regard as in their best interest, with lesser regard for what actions the set of circumstances (including observed performance levels) surrounding the firm seem to invite. Research into this possibility would help further clarify relationships between entrepreneurial actions, performance outcomes, and the dominant logics prevailing within entrepreneurial firms.

Conclusion

Are firms fundamentally similar in terms of their responses to attainment discrepancy? We examined this question by theorizing and testing

the influence of the firm's EO on responses to aspiration-relative performance when deviations above and below aspirational performance are considered. Our results demonstrate that a firm's ex ante strategic posture influences how managers respond to performance feedback signals in their subsequent decision making. Our research indicates that strategic posture influences the relationship between performance feedback and commitment to ECV, and we believe this suggests that other outcomes may be subject to this strategic posture contingency as well. There is much work to be done in elucidating differences across firms in how they fundamentally respond—or fail to respond—to the stimuli held to be quintessential vis-à-vis the seminal BTF arguments.

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