It's All about Me: Narcissistic Chief Executive Officers and Their Effects on Company Strategy and Performance

Arijit Chatterjee
Donald C. Hambrick
Pennsylvania State University

This study uses unobtrusive measures of the narcissism of chief executive officers (CEOs)—the prominence of the CEO's photograph in annual reports, the CEO's prominence in press releases, the CEO's use of first-person singular pronouns in interviews, and compensation relative to the second-highest-paid firm executive—to examine the effect of CEO narcissism on a firm's strategy and performance. Results of an empirical study of 111 CEOs in the computer hardware and software industries in 1992–2004 show that narcissism in CEOs is positively related to strategic dynamism and grandiosity, as well as the number and size of acquisitions, and it engenders extreme and fluctuating organizational performance. The results suggest that narcissistic CEOs favor bold actions that attract attention, resulting in big wins or big losses, but that, in these industries, their firms' performance is generally no better or worse than firms with non-narcissistic CEOs.●

Researchers in strategic management and organizational theory have found that top executives inject a great deal of themselves—their experiences, preferences, and dispositions—into their decisions and leadership behaviors (for summaries, see Finkelstein and Hambrick, 1996; Carpenter, Geletkanycz, and Sanders, 2004). Some researchers have examined how the characteristics of top management teams affect strategic behavior and performance (e.g., Eisenhardt and Schoonhoven, 1990; Wiersema and Bantel, 1992; Iaquinto and Fredrickson, 1997; Jensen and Zajac, 2004), while others have focused on how the characteristics of chief executive officers (CEOs) alone influence what happens to organizations (Zajac and Westphal, 1996; Finkelstein and Boyd, 1998; Sanders, 2001).

Although prior research has generated a wealth of insights about how executives' characteristics are manifested in organizational outcomes, almost no attention has been devoted to one of the most vivid qualities seen in some CEOs: high levels of narcissism. Journalists, other analysts, and citizen-observers often comment on, and usually bemoan, the narcissistic tendencies of some business leaders (e.g., Vogel, 2006). At the same time, some writers point to the benefits of narcissism, as when Deutschman (2005: 44) said, "Narcissists are visionaries . . . , which can make them excel as innovators," and when Maccoby (2003: xiv) asked, "Why do we go along for the ride with narcissistic leaders? Because the upside is enormous." Apart from qualitative descriptions (e.g., Kets de Vries, 1994; Lubit, 2002), however, organizational researchers have not systematically examined this fundamentally important executive trait. Highly narcissistic CEOs—defined as those who have very inflated self-views and who are preoccupied with having those self-views continuously reinforced (Campbell, Goodie, and Foster, 2004)—can be expected to engage in behaviors and make decisions that have major consequences not only for the individuals who interact directly with them but also for broader sets of stakeholders.

There may be at least three reasons why researchers of top executives have not undertaken research on narcissism.

0001-8392/07/5203-0351/$3.00.

●

We gratefully acknowledge helpful suggestions from Dan Chiaburu, Theresa Cho, Craig Crossland, Jim Detert, Jim Fredrickson, Dave Harrison, Ann Mooney, Tim Pollock, Gerry Sanders, and Linda Trevino. In addition, we received guidance from participants in the ORG workshop in Penn State's Smeal College of Business, the Brigham Young University/INSEAD Executive Leadership Conference, and seminars at University of Michigan, Ohio State University, New York University, and Hong Kong University of Science and Technology.

First, they may believe that narcissism, derived as it is from Greek mythology, is a fanciful or lay concept, not grounded in good psychological science. But psychologists have extended the psychoanalytic concept of narcissism to the realm of large-sample psychometric analysis; as a result, narcissism passes contemporary, rigorous tests of construct validity (Emmons, 1987; Raskin and Terry, 1988). Research has shown that narcissism is a personality dimension, not just a clinical disorder, and that individuals can be reliably arrayed on this continuum.

Second, organizational researchers may be dissuaded by difficulties in collecting data or measuring narcissism. The use of a clinical, or psychoanalytic, methodology requires skills and access that elude all but a few scholars of top executives (e.g., Kets de Vries, 1993); a survey methodology, though not impossible with executives (e.g., Miller, Kets de Vries, and Toulouse, 1982; Westphal, 1999), is unlikely to succeed on a topic as sensitive as narcissism, and it rules out any assessment of past CEOs; analysis of published biographies is also feasible, but only for limited (and distinctly nonrandom) samples (e.g., Peterson et al., 2003). As we demonstrate, however, another method is to use unobtrusive trace indicators of narcissistic tendencies. Following the methods laid out by Webb et al. (1966) and Webb and Weick (1983), it is possible to obtain multiple indicators from archival sources that directly represent the elements of the narcissistic personality and that cohere to capture this robust characteristic in CEOs.

Third, and perhaps causing the most reluctance, organizational researchers may not believe that executive narcissism is of much theoretical or practical significance. They may see executive narcissism as incidental to organizational functioning—annoying to those who must endure it, grist for jokes about self-absorbed CEOs, but little more. Yet narcissism in the executive suite can be expected to have effects on substantive organizational outcomes, potentially including strategic grandiosity and submissive top management teams. Narcissism can affect an executive's choices in such areas as strategy, structure, and staffing.

Scholars may also tend to downplay the effects of executives' disposition on organizational outcomes, given that CEOs have been shown to operate under various constraints, including bureaucratic inertia, external imperatives, and industry norms (e.g., Meyer and Rowan, 1977; Hannan and Freeman, 1977; DiMaggio and Powell, 1983), and that, in general, contextual factors often outweigh idiosyncratic executives' choices in their effects on organizational outcomes (Lieberson and O'Connor, 1972). Still, CEOs often have considerable latitude of action, including in such domains as acquisitions, adding or dropping product lines, restructuring, and resource allocation (Hambrick and Finkelstein, 1987). In turn, many studies have found that executives' characteristics help to explain organizational outcomes (summarized in Carpenter, Geletkanycz, and Sanders, 2004). By its very nature, narcissism—compared with other personal traits—may especially impel CEOs to take actions that defy convention, as a way to garner attention and applause, and these actions will affect their companies' performance. Following up on this idea, we

conducted an empirical study of 111 CEOs in the computer software and hardware industries in the period of 1992–2004, which relies on our use of unobtrusive indicators of CEO narcissism, to test hypotheses about the effects of CEOs' narcissism on their companies' strategy and performance.

EFFECTS OF NARCISSISM ON COMPANY STRATEGY AND PERFORMANCE

The Concept of Narcissism

Ellis (1898) introduced narcissism to the psychology literature, drawing the label from the young man in Greek mythology, Narcissus, who fell in love with his own reflection in a pool and ultimately perished as a result of his self-preoccupation. The concept had a major influence on Freud's (1957) thinking, and Freud ultimately identified various manifestations of narcissism, including self-admiration, self-aggrandizement, and a tendency to see others as an extension of one's self. By 1980, according to Raskin and Terry (1988), over 1000 books and articles had been written on narcissism, almost all of which viewed it as a clinical disorder. Although narcissism entered the literature as a label for a mental disorder and still retains that meaning among clinicians, research has shown that narcissism can be thought of, and measured, as a personality dimension and that individuals can be assigned scores along that dimension (Emmons, 1987; Raskin and Terry, 1988).

In an effort to reconceptualize narcissism as a personality dimension, rather than just as a clinical syndrome, psychologists have developed psychometric scales for measuring narcissism. Raskin and Hall's (1979) Narcissistic Personality Inventory (NPI) has received the most attention. Using the DSM-II (Diagnostic and Statistical Manual of Mental Disorders; American Psychiatric Association, 1968) behavioral criteria as a template, Raskin and Hall originally developed a 220-item instrument for measuring narcissism. Through a series of internal consistency tests, the instrument has been reduced to fewer items (reviewed in Raskin and Terry, 1988; Campbell, Goodie, and Foster, 2004), which have formed the basis for extensive subsequent tests and applications.

In a factor analysis of the NPI, Emmons (1987) identified four factors and labeled them (1) Exploitativeness/Entitlement (I insist upon getting the respect that is due to me); (2) Leadership/Authority (I like to be the center of attention); (3) Superiority/Arrogance (I am better than others); and (4) Self-absorption/Self-admiration (I am preoccupied with how extraordinary and special I am). Notwithstanding his derivation of these four facets of narcissism in the NPI, Emmons also reaffirmed that they cohere as a unitary personality construct. Other studies (Raskin and Terry, 1988; Watson and Biderman, 1993; Judge, LePine, and Rich, 2006) also indicated that narcissism is a coherent but multifaceted personality dimension that can be defined, again, as the degree to which an individual has an inflated sense of self and is preoccupied with having that self-view continually reinforced. The chief manifestations of narcissism include feelings of superiority, entitlement, and a constant need for attention and admiration (Bogart,

Benotsch, and Pavlovic, 2004). Personality theorists have concluded that narcissism is traceable to a combination of genetic factors and early parental relations (Millon, 1981; Livesley et al., 1993). The prevailing view is that one's degree of narcissism is relatively fixed and enduring but also (like other personality dimensions) susceptible to some changes as a result of adult life experiences and surrounding stimuli (Cramer, 1998; Campbell, Foster, and Finkel, 2002).

Narcissism has been found to be positively associated with self-esteem (Emmons, 1984; Morf and Rhodewalt, 1993), with biased self-enhancement (John and Robins, 1994), and with affective intensity (mood swings) (Emmons, 1987), especially following criticism (Rhodewalt, Madrian, and Cheney, 1998). Research has shown that individuals scoring high in narcissism react to negative feedback with more anger and aggression than do individuals low in narcissism (e.g., Kernis and Sun, 1994; Rhodewalt and Morf, 1998). NPI scores also have been shown to be negatively associated with the discrepancy between one's sense of self and sense of ideal-self (Emmons, 1987). That is, subjects scoring high on narcissism are pleased with the way they are and see little room for improvement.

As a personality characteristic, then, narcissism has both cognitive and motivational elements. On the cognitive side, narcissism entails a belief in one's superior qualities. Narcissists rate themselves highly (and more highly than is objectively warranted) on an array of agentic dimensions, including intelligence, creativity, competence, and leadership abilities (John and Robins, 1994; Farwell and Wohlwend-Lloyd, 1998; Judge, LePine, and Rich, 2006). As such, narcissists are very confident about their abilities in task domains, to the point of being objectively overconfident (Campbell, Goodie, and Foster, 2004).

On the motivational side, narcissism carries an intense need to have one's superiority reaffirmed. Paradoxically, the self-admiring narcissist craves further admiration. "Narcissistic supply" (Kernberg, 1975), or the fuel for a reinforced self-image, can be derived to some extent from within, including from one's own exhibitionism or diminishment of others (Bogart, Benotsch, and Pavlovic, 2004). More importantly, however, narcissistic supply must come from others, in the forms of affirmation, applause, and adulation (Wallace and Baumeister, 2002).

A little appreciated aspect of the narcissist's craving for admiration is that it is continuous (Morf, Weir, and Davidov, 2000). Morf and Rhodewalt (2001: 177), for example, referred to the narcissist's "chronic goal of obtaining continuous external self-affirmation." Thus the narcissist requires a steady stream of self-image reinforcement, not just delayed recognition (Kohut and Wolf, 1986). The narcissist is not content with being eventually praised for a success long in the coming but, instead, needs applause at frequent intervals (Buss and Chiodo, 1991). To obtain such applause, the narcissist must regularly undertake challenging or bold tasks that are highly visible to a respected audience (Wallace and Baumeister, 2002); those tasks must be of the type that will earn admira-

tion for their inherent boldness. In a related vein, narcissists are especially susceptible to boredom (Wink and Donahue, 1997) and engage in various forms of "sensation-seeking" (Emmons, 1981). Narcissists, therefore, favor the extreme, the grandiose, and the colorful. Discreet or incremental actions are not satisfying.

Narcissism in CEOs

Because executives, particularly CEOs, can influence the forms and fates of companies (Chandler, 1962; Finkelstein and Hambrick, 1996), researchers have long been interested in their personalities and how those personalities are manifested in organizational outcomes. Some researchers have approached CEO personality from the psychoanalytic tradition, providing descriptions and examples of various syndromes in executives (e.g., Zaleznik and Kets de Vries, 1975; Kets de Vries and Miller, 1985b). Others have used psychometric surveys of executives to examine specific personality dimensions, including locus of control (Miller, Kets de Vries, and Toulouse, 1982), need for achievement (Miller and Droge, 1986), and tolerance for risk (Gupta and Govindarajan, 1984); these researchers have shown significant links between executives' personality dimensions and organizational outcomes. Some scholars have relied on content analysis of biographies (or other historical data) about executives as a way to gauge executives' personalities (e.g., House, Spangler, and Woycke, 1991); one such recent study used biographies to detect associations between a CEO's personality (in terms of the "Big Five" personality dimensions) and top management team dynamics (Peterson et al., 2003). Despite the wealth of attention paid to CEOs' personalities, very few works have considered CEO or executive narcissism, and they have taken strictly a psychoanalytic tack (Kets de Vries, 1994; Lubit, 2002).

The question of whether CEOs are more narcissistic, on average, than the general population is incidental to our theorizing, but still useful to consider. On the one hand, narcissism drives people to assume positions of power and influence (Kernberg, 1975), and the self-esteem associated with narcissism helps in professional advancement (Raskin, Novacek, and Hogan, 1991), so one might anticipate that CEOs will tend, on average, to be more narcissistic than the general population. On the other hand, very high levels of narcissism might be so interpersonally alienating and engender such flawed decisions that extreme narcissists may be unlikely to rise to the tops of organizations. Despite our uncertainty about the average level of narcissism among CEOs, we anticipate that they vary in their degree of narcissism, just as they have been shown to vary on other personality dimensions (Miller and Toulouse, 1986; Gupta and Govindarajan, 1984). There may be very few CEOs who have little narcissism, and there may be few who have exceedingly high levels, but we can expect variance otherwise, with a range of narcissism levels represented in executive populations.

In our theoretical formulation, we avoid the distinction between "healthy" and "unhealthy" (or "reactive" or "destructive") narcissism (Kets de Vries and Miller, 1985a).

Instead, we treat narcissism as a scalar construct, ranging from low to high. It may be that executives at the very high end of this scale—those who are extremely narcissistic—would be seen by clinicians as unhealthy, but that distinction is not important for our theoretical predictions or measurement. We are aware that the narcissism continuum may have an inflection point or a threshold at its upper end, and that that threshold may yield stronger predictions of executive behavior than do interval scores, but our hypothesized predictions are all based on a conceptualization of narcissism as a continuum.

Related Constructs

It is important to distinguish executive narcissism from related constructs that also deal with positive self-regard, most notably self-esteem, core self-evaluation, and hubris. Self-esteem refers to an individual's overall self-acceptance, self-liking, and self-respect (Harter, 1990; Baumeister, Smart, and Boden, 1996). As such, self-esteem aligns with that aspect of narcissism dealing with self-admiration; accordingly, the two variables have been found to be significantly correlated ($r = .56$; Emmons, 1984). Although narcissists have high self-esteem, they dwell on protecting, managing, and enhancing their self-view (Raskin, Novacek, and Hogan, 1991). Thus narcissists have a fragile self-esteem, approximating what Kernis (2005: 1595) referred to as "contingent self-esteem," insofar as they are highly sensitive to interpersonal feedback and require continuous reinforcement of their inflated self-portrayals (Kernis and Sun, 1994). Self-esteem thus differs from narcissism in its absence of certain features: arrogance, sense of entitlement, and especially a continuous need for affirmation.

Core self-evaluation is a broad, latent trait indicated by (1) self-esteem, (2) generalized self-efficacy, an evaluation of how well one can perform across a variety of situations, (3) emotional stability, the degree to which an individual is free of anxiety, and (4) locus of control, or beliefs about the causes of events in one's life (Judge et al., 2003). As such, core self-evaluation aligns with that aspect of narcissism that deals with positive self-regard and self-potency. Like self-esteem, however, core self-evaluation does not encompass the continuous need for applause and adulation that characterizes narcissism. We are not aware of any studies that have examined core self-evaluation and narcissism, but we would expect correlations similar to those between self-esteem and narcissism.

Hubris is exaggerated self-confidence, with the connotation that retribution will follow (Hayward and Hambrick, 1997). Psychologists have not formally considered hubris, but Hayward and Hambrick (1997) proposed that it is a state of extreme confidence triggered by a combination of external stimuli and internal disposition. On the one hand, for example, the authors argued that a firm's recent performance is a basis for CEO hubris (recently good performance induces confidence). On the other hand, they also argued that the CEO's own disposition, specifically his or her "sense of self-importance" is a precursor of hubris. Self-importance, of

course, is a central aspect of the narcissistic personality (Judge, LePine, and Rich, 2006), and thus Hayward and Hambrick were partially invoking the concept of narcissism as a contributor to hubris. But the two constructs are distinct. First, hubris is a psychological state brought on by some combination of confidence-buoying stimuli and one's narcissistic tendencies. An abundance of research on narcissism as a dispositional trait leads us to conclude that narcissism is the more fundamental, ingrained property (Emmons, 1984; Raskin and Terry, 1988; Rhodewalt and Morf, 1998). Second, just as with self-esteem and core self-evaluation, hubris lacks key elements of the narcissistic personality, most notably, a sense of entitlement, preoccupation with self, and continuous need for affirmation and applause.

Consequences for Company Strategy and Performance

Although executives operate under considerable external and internal constraint, they also often have some latitude of action, or leeway to make volitional choices. And even though objective opportunities and threats play a role in shaping their volitional actions (Porter, 1980; Barney, 1991), evidence indicates that executives' biases, experiences, and preferences also enter in, affecting strategic choices and company performance (summarized in Finkelstein and Hambrick, 1996; Carpenter, Geletkanycz, and Sanders, 2004). Therefore, beyond the very direct personal effects that narcissistic CEOs may have on those who closely interact with them and that have been emphasized in prior psychoanalytic work (e.g., Kets de Vries, 1994; Lubit, 2002), we can also anticipate organizational consequences. Because narcissism is both a cognitive frame and a motivational mechanism—consisting simultaneously of a belief in one's superior abilities and an intense, continuous need for affirmation—it is likely to lead narcissistic CEOs to engage in certain types of strategic actions: bold, quantum, highly visible initiatives, rather than incremental elaborations on the status quo. Given this, narcissistic CEOs will tend to deliver extreme and fluctuating performance for their organizations.

Narcissism can be expected to lead to strategic actions through two main operative mechanisms: the CEO's assignment of probabilities to outcomes and preference ordering among alternatives. Although we do not assess these mechanisms in the current study, they help to describe two ways in which narcissism can play a role in a CEO's strategic choices. First, narcissism can be expected to affect the CEO's assignment of subjective probabilities to various outcomes. At the most basic level, the narcissist's elevated self-image will lead to relative optimism and confidence about positive outcomes, shifting estimates of payoffs—for essentially all alternatives—in an upward direction (Shapira, 1995; Sanders, 2001). Of course extreme risk taking might be induced by factors other than narcissism, including executive tolerance for risk (Gupta and Govindarajan, 1984), overconfidence (Malmendier and Tate, 2005), or incentive design (Sanders and Hambrick, 2007), but a given action that is seen as infeasible, or very risky, by most CEOs might be seen in a positive light by the highly narcissistic CEO. But beyond this tendency for narcissism to generally buoy the CEO's estimates of out-

comes, it will especially color the CEO's estimates of the payoffs from bold or unconventional actions, or those that align with his or her narcissistic motives. Under this mode of motivated cognition, the executive sees what he or she wants to see, hears what he or she wants to hear (Postman, Bruner, and McGinnies, 1948; Weick, 1979; Molden and Higgins, 2005), and arrives at probability estimates accordingly. An alternative that feeds the narcissist's need for attention will be rated more highly in terms of its likelihood of economic or instrumental payoff than it would be by another executive.

Second, narcissism may influence executives' choices by its direct effect on preference ordering, or what England (1967) referred to as "behavior channeling." In this vein, Thompson (1967) described how CEOs use their organizations as "tools" in the service of their own personal needs. Confronted with multiple alternatives that may seem equally attractive from the standpoint of the organization's goals, CEOs favor those alternatives that most suit their personal preferences. For the narcissist, this would be the alternative that offers the greatest "narcissistic supply" (Kernberg, 1975), or the greatest potential for attention.

The literature thus suggests that narcissistic CEOs are likely to gravitate to different types of strategic choices than other CEOs. Their inflated self-views and intense need for attention will affect how they identify and assess strategic alternatives: they will search for the novel and dramatic, which they will rate favorably for their organizations' purposes and for their own personal purposes. Narcissistic CEOs are thus likely to favor strategic dynamism and grandiosity, as opposed to strategic incrementalism and stability. As a result, narcissistic CEOs tend to deliver extreme performance (big wins or big losses) and fluctuating performance for their organizations.

Strategic consequences. Strategic dynamism, or the degree of change in an organization's strategy, is a central construct in the study of strategic management. Researchers have found that industry conditions (Birkinshaw, Morrison, and Hulland, 1995), organizational size (Chen and Hambrick, 1995), slack (Singh, 1986), and other contextual factors affect the degree of dynamism observed in companies' strategies. But scholars have also found that, after controlling for contextual conditions, executives' characteristics are associated with the amount of flux, or change, that occurs in strategies. Researchers have found that CEO tenure (Miller, 1991) and top management team tenure (Finkelstein and Hambrick, 1990) are negatively related to strategic dynamism. And Wiersema and Bantel (1992) determined that the average amount of formal education of top management team members, as well as the heterogeneity of their educational specializations, are positively related to strategic change. Thus there is evidence that some executives are more inclined to change their company strategies than are others.

Narcissistic CEOs can be expected to favor strategic dynamism. It is through new strategic initiatives, or taking a new direction, that narcissistic CEOs can engage in the exhibitionism that will garner an attentive audience. Merely main-

taining the status quo, or simply refining and elaborating on an existing strategy, may seem a reasonable course of action for a CEO who is less narcissistic; such an executive may be willing to pursue what Miles and Snow (1978) called a defender strategy or what Levinthal and March (1993) called an exploitation strategy. But incrementalism is too invisible, too mundane, to suit the needs of the highly narcissistic CEO. Narcissists need an attentive audience, which in turn means they need drama. Thus narcissistic CEOs will favor strategic flux or dynamism, to deliver a drama that will gain attention in a way that strategic stability cannot:

Hypothesis 1: The greater the narcissistic tendencies of a CEO, the greater the dynamism of the company's strategy.

This hypothesis may seem at odds with the portrayal, by some authors, of narcissists as visionaries (Maccoby, 2003; Deutschman, 2005). To the extent that visionaries favor the bold, then narcissists would seem to qualify; but to the extent that visionaries must be persistent, unwavering in their pursuit of a given course of action, and content to go without approval until their vision is achieved, then narcissists do not qualify. Narcissists need on-going attention and applause; they will engage in highly visible actions, perhaps even reversing their own prior decisions, to deliver the requisite drama. In short, narcissists may have some, but not all, of the qualities usually associated with visionaries.

Narcissists are exhibitionists (Raskin and Terry, 1988). To gain the attention and admiration of others, they must engage in bold, attention-getting behaviors (Wallace and Baumeister, 2002). Quiet, discreet actions will not attract or impress an audience in the way that colorful or grandiose actions will. In business, some strategic initiatives are more grandiose and attract more attention than others. Acquisitions, particularly large acquisitions, are among the most visible initiatives a CEO can take. By their very nature, acquisitions represent quantum action, and they are attention-getters (Haspeslagh and Jemison, 1991). In one bold stroke, the CEO can expand the size, and often the scope, of the company. Though acquisitions do not always garner positive acclaim (Shleifer and Vishny, 1991; Sirower, 1994), they are highly visible, attract the audience that is needed by the narcissistic CEO, and feed his or her need to be seen as bold and daring (Wallace and Baumeister, 2002). By comparison, incremental improvements of product quality, lining up new distributors, and reducing costs do not have much visibility; they do not attract much note or acclaim. Incremental initiatives might lead to competitive success, but they are not the preferred route, or the primary route, taken by the highly narcissistic CEO. Again, the narcissistic CEO is not motivated by long-awaited or delayed applause but, rather, needs continuous attention. By taking bold, grandiose actions, the narcissistic CEO can be "on stage" at frequent intervals.

In an effort to explain why CEOs make acquisitions even though most such deals destroy shareholder value, Roll (1986) introduced the "hubris hypothesis," or the idea that CEOs mistakenly believe that they can run the acquired company better than the incumbent management. Hayward and

Hambrick (1997) later invoked the concept of hubris as a determinant of the size of premiums that CEOs will pay for acquisitions. As discussed earlier, Hayward and Hambrick's portrayal leads to the interpretation that hubris is a psychological state brought on by a combination of external factors (such as recent success) and one's intrinsic narcissistic tendencies. Narcissism, then, can be thought of as the more ingrained trait. A narcissistic personality stirs hubris, and therefore the hubris hypothesis of acquisitions needs to be supplemented with the more fundamental "narcissism hypothesis." Narcissists will favor acquisitions, both because they are highly confident in their ability to perform better than the incumbent managers and, as importantly, because acquisitions are grandiose attention-getters:

Hypothesis 2: The greater the narcissistic tendencies of a CEO, the greater the number and size of acquisitions made by the company.

Performance outcomes. The narcissist's tendency to pursue dynamic, grandiose strategies will be reflected in the company's performance. Most notably, we can expect that narcissistic CEOs will tend to deliver extreme performance—big wins or big losses. The grandiose, bold actions that narcissistic CEOs prefer will be high-risk, high-reward (Eisenhardt, 1989; D'Aveni, 1994). For example, the large acquisitions favored by narcissists are known to increase performance variance (Lubatkin, 1987; Fowler and Schmidt, 1988). Other types of dramatic actions that might be preferred by narcissistic CEOs—which might include aggressive international expansion or large-scale new product launches—will similarly tend to generate more extreme outcomes than will more moderate or measured strategic initiatives (Agrawal and Mandelker, 1987; Shapira, 1995; Wiseman and Gomez-Mejia, 1998). The bold initiatives taken by narcissistic CEOs will tend either to reap big benefits from first-mover advantages (Lieberman and Montgomery, 1988) or to suffer major losses from misjudging the environment (Finkelstein, 2003). Additionally, the ongoing strategic flux that is preferred by the narcissistic CEO will cause the company to be continuously at the leading edge of newly envisioned pathways to success, instead of its trying to refine existing formulas. This strategy of continuous novelty will give rise to extreme performance; each new, transitory direction will tend to be either a big hit or a big miss (Finkelstein and Hambrick, 1990). Thus we hypothesize:

Hypothesis 3: The greater the narcissistic tendencies of a CEO, the more extreme the company's performance.

The grandiose and ever-shifting strategic actions taken by the narcissistic CEO will cause not only extreme performance but also wide swings in performance. Big, quantum initiatives that are quickly followed by yet more, but different, large-scale actions will give rise to relatively unstable performance patterns (Bromiley, 1991; Wiseman and Gomez-Mejia, 1998). A narcissistic CEO, then, will tend not to be a consistently high performer or a consistently low performer (either of which could follow from hypothesis 3) but, instead, will be prone to wide fluctuations in performance, or instability, from one period to the next. In contrast, the more incremental and

persistent strategic approaches that are favored by non-narcissists will yield steadier, more consistent business outcomes. Thus we hypothesize:

Hypothesis 4: The greater the narcissistic tendencies of a CEO, the greater the fluctuation in the company's performance.

We did not formally hypothesize strategic choices as mediators of the relationship between CEO narcissism and performance outcomes for one main reason: our study's specific operationalizations of strategic dynamism and grandiosity, while prominent and well-justified in prior literature, are merely representative of the many possible ways that strategic dynamism and grandiosity might occur. For example, as explained below, we measured strategic dynamism as shifts in resource allocations among various expense categories, including research and development (R&D). But such a measure fails to detect dramatic shifts within expense categories, such as from one technology platform to another. Similarly, we measured strategic dynamism by examining the adding and dropping of lines of business, but this measure omits other ways that the firm can alter its scope that are more difficult to measure reliably, including adding new products, new channels of distribution, or new geographic territories. We anticipate that highly narcissistic CEOs will engage in strategic dynamism and grandiosity on multiple fronts, well beyond those we measured, and therefore the strongest possible hypothesis would be one of partial mediation.

METHODOLOGY

Sample

We analyzed a sample of CEOs in the computer software and hardware industries between 1992 and 2004. We chose these related industries because they have a substantial number of publicly held firms, which was important for our data collection. Moreover, these industries are not highly regulated or otherwise tightly constrained by their environments, potentially allowing us to observe an array of managerial dispositions and strategic profiles (Hambrick and Finkelstein, 1987). Thus, in this initial study of CEO narcissism, we selected a high-discretion sector in which both executive characteristics and strategic choices can vary substantially; a low-discretion setting could yield very different results.

We started by identifying all software and hardware companies listed in Execucomp, which consists of roughly the 1,500 largest public U.S. firms, between 1992 and 2004. The software companies were in the primary Standard Industrial Classification (SIC) code 737 (including 7370, 7371, 7372, 7373, 7374, and 7377), and the hardware companies were in primary SIC code 357 (including 3570, 3571, 3572, 3577, 3578, and 3579). The SIC system was supplanted by the six-digit North American Industry Classification System in 1997. Because 1997 is in the middle of our time panel, we used the SIC system, which continued to be reported by *Ward's Directory* (our data source) for all our calculations.

The year 1992 was the earliest that some of our indicators of narcissism were available in digital form, which was essential

for us in coding them feasibly, and 2004 was the last year for which data were available. We identified the CEO for every firm-year in this time frame and then imposed two filters. First, we only considered those CEOs who started their tenures (which we designate as year t) in 1991 or later. Second, we included only those CEOs who had four or more years of tenure within our study period. These two filters generated 111 CEOs in 105 unique firms.

We averaged data from the second and third years of each CEO's tenure (t + 1 and t + 2) to measure narcissistic tendencies, omitting the first year of the CEO's tenure because it often has anomalies associated with succession. Our dependent variables were measured annually for each of the subsequent years of the CEO's tenure (t + n, where n > 2), yielding a total of 352 firm-years for testing the effects of narcissism. Thus our measure of CEO narcissism was invariant, reflecting the view that narcissism is a relatively stable disposition, and temporally preceded the measurement of company outcomes. This lagged design puts our hypotheses to a conservative test, because there is no circular or recursive relationship between our narcissism measure and the dependent variables. We included a number of CEO-, firm-, and industry-level controls. In addition, we controlled for endogeneity, or the possibility that narcissists are drawn to certain types of situations; and we controlled for selection bias due to varying CEO exits. Because we used several data sources, we will report them as we describe our measures.

Measurement of Narcissism

The prevailing instrument for measuring narcissism, the Narcissistic Personality Inventory (NPI), was not feasible for our project. Top executives of public companies are very reluctant to participate in survey research, questions about traits as sensitive as narcissism would yield especially low response rates (Cycyota and Harrison, 2006), and answers would be greatly influenced by social desirability bias. We chose instead to use unobtrusive indicators of narcissistic tendencies in CEOs. Webb et al. (1966) urged social scientists to use physical traces (evidence people leave behind them in their physical environment), non-participant observation, documentary sources, and the written and spoken words of subjects as ways to learn about their preferences, perceptions, and personalities. Such unobtrusive measures eliminate problems of reactivity, demand characteristics, and researchers' expectations that can weaken other methods. One of the governing principles of using unobtrusive measures is not to discard what at first sight may seem trivial or ordinary. Moreover, the researcher should "ponder the variance rather than the mean" (Webb and Weick, 1983: 214).

Researchers have used several unobtrusive measures of personality. They have used word usage to detect individual differences (Pennebaker, Mehl, and Niederhoffer, 2003); they have studied offices and bedrooms as physical manifestations of personalities (Gosling et al., 2002); they have examined personal Web sites as indicators of identity claims (Vazire and Gosling, 2004); and they have viewed consumption symbols as carriers of personality constructs (Aaker,

Benet-Martinez, and Garolera, 2001). In the organizations literature, scholars have used unobtrusive measures of power and overconfidence (Finkelstein, 1992; Malmendier and Tate, 2005).

Our selection of indicators of narcissism was based on two main criteria. First, each indicator needed to reflect the CEO's volition. To qualify as a manifestation of the CEO's personality, the indicator needed to be greatly under the control of the CEO and not driven primarily by institutional or other external forces. Second, and of paramount importance, each indicator needed to reflect one or more aspects of the narcissistic personality. We were guided primarily by the four facets of narcissism identified by Emmons (1987): superiority/arrogance, exploitativeness/entitlement, self-absorption/self-admiration, and leadership/authority. We did not attempt to identify indicators that would fit cleanly into these distinct categories; instead, most of our indicators can reasonably be thought to align with more than one of Emmons' facets. By definition, narcissism is a superordinate construct (Edwards, 2001) that has multiple elements.

Our five indicators of narcissistic tendencies are as follows: (1) the prominence of the CEO's photograph in the company's annual report; (2) the CEO's prominence in the company's press releases; (3) the CEO's use of first-person singular pronouns in interviews; (4) the CEO's cash compensation divided by that of the second-highest paid executive in the firm; and (5) the CEO's non-cash compensation divided by that of the second-highest-paid executive in the firm. These indicators substantially co-varied in our sample, allowing us to combine them into a 5-item narcissism index, as explained below.

Prominence of the CEO's photograph. The company's annual report provides an opportunity for the CEO to report on the company's progress and prospects but also to showcase himself or herself as the firm's leader. Though CEO photographs are standard features of annual reports, they are not universal or of uniform prominence. We held discussions with three communications specialists (two corporate communications executives and an external communications consultant) and verified that CEOs are very attentive to the content and design of annual reports, and they particularly have strong opinions and control over how they themselves are portrayed. We can expect that the highly narcissistic CEO will seek a great deal of visibility in the annual report, both as an exercise of vanity and as a strong declaration that he or she is more important than all others in the firm. We rated this indicator as follows: four points if the CEO's photo was of him or her alone and occupied more than half a page; three points if the photo was of the CEO alone and occupied less than half a page; two points if the CEO was photographed with one or more fellow executives; and one point if there was no photograph of the CEO. We obtained annual reports from Mergent Online and company Web sites.

CEO prominence in company press releases. Companies issue press releases on a variety of matters, including earnings results, new products, large contracts, restructurings,

major new hires, and more. The content of these press releases is completely under the CEO's control. Our discussions with the communications specialists indicated that each CEO has very stringent guidelines for external announcements and personally reviews all but the most routine issuances. These press releases, of course, provide yet another forum for the highly narcissistic CEO to remind external constituencies of who is running the firm. The highly narcissistic CEO will insist on being mentioned as often as possible, both as an exercise of vanity and out of a desire to showcase his or her authority. For this measure, we calculated the number of times the CEO was mentioned by name in the company's press releases and divided it by the total number of words (in thousands) in all the company's press releases (results were similar when we used the total number of press releases as the denominator). We obtained company press releases from Factiva, a joint venture of Dow Jones and Reuters.

Although it is possible that narcissistic CEOs would strive to be visible in positive press releases, but invisible in releases of negative news, the overwhelming majority of releases we examined conveyed positive or neutral news; moreover, bad news was often buried or disguised in broader announcements. Therefore we did not attempt to pursue the idea that narcissists only want to be associated with certain kinds of announcements.

CEO's use of first-person singular pronouns. Speech is a form of expressive behavior, reflecting the most dominant and consistent personality traits of an individual (Ramsay, 1968; Hogben, 1977). The use of first-person singular pronouns, reflecting self-absorption, is an indicator of narcissism (Raskin and Shaw, 1988). We used digital transcripts of interviews of CEOs (conducted by journalists or financial analysts), isolating only those portions that represented the CEO's words. Then we counted the number of first-person singular pronouns (I, me, mine, my, myself) the CEO used, divided by the sum of those pronouns plus all first-person plural pronouns (we, us, our, ours, ourselves). Thus our measure is the percentage of all first-person pronouns that were singular. We used transcripts that were available through the Lexis-Nexis academic data base and *Wall Street Transcript.*

Measures of relative pay. CEOs are known to have considerable influence in the setting of their own pay (Tosi and Gomez-Mejia, 1989; Bebchuk and Fried, 2004), and they have nearly total control over the pay of other executives in their companies. The highly narcissistic CEO believes he or she is far more valuable than anyone else in the firm, and this then becomes reflected in the CEO's compensation relative to others. Following Hayward and Hambrick's (1997) measure of self-importance, we used two measures of the CEO's relative pay. *Relative cash pay* was the CEO's cash compensation (salary and bonus) divided by that of the second-highest-paid executive in the firm. *Relative non-cash pay* was the CEO's non-cash compensation—deferred income, stock grants, and stock options (using the Black-Scholes valuation)—divided by that of the second-highest-paid executive. Compensation data came from the Execucomp database. Our results did not

change if we used the pay of the top four executives, except the CEO, in the denominators of our measures. Because CEO compensation might also be indicative of the CEO's past attainments or credentials, we also calculated the standard measures of managerial experience and education for each CEO, including age, tenure in the focal company, and education (following measures suggested by Finkelstein, 1992), and found no significant associations with our measures of relative compensation.

Table 1 portrays how our five indicators align with the elements of narcissism as articulated by Emmons (1987); it also provides illustrative items from the NPI that loaded onto Emmons' four facets of narcissism. Table 2 presents descriptive statistics and correlations for the five narcissism indica-

Table 1

Unobtrusive Indicators of Narcissism in CEOs

	Conceptual Elements of Narcissism (from Emmons, 1987)			
	Leadership/ authority	Self-absorption/ self-admiration	Superiority/ arrogance	Exploitativeness/ entitlement
Illustrative items from Narcissistic Personality Inventory (NPI)	I really like to be the center of attention. I like having authority over other people.	I like to look at myself in the mirror. I am an extraordinary person.	I usually dominate any conversation. I am a born leader.	I insist on getting the respect that is due to me. I am envious of other people's good fortune.
	Interpretive Alignment with Elements of Narcissism			
Unobtrusive indicators of narcissism in CEOs:				
Prominence of CEO's photograph in annual reports	I am the central figure in this company.	I enjoy the visibility that comes with being CEO.		I deserve to be showcased.
CEO prominence in press releases	I am the central figure in this company.	I enjoy the visibility that comes with being CEO.		I deserve to be showcased.
First-person singular pronouns in interviews	Leadership is a solo endeavor, not a group activity.		The company and I are synonymous.	I deserve to be showcased.
CEO relative pay (cash and non-cash)			I am, by far, the most valuable person in this organization.	I deserve far more compensation than anyone else in this organization.

Table 2

Descriptive Statistics and Correlations (2-year averages, Pearson correlations) of Five Indicators of CEO Narcissistic Tendencies (N = 111)

Variable	Mean	S. D.	1	2	3	4
1. CEO prominence in annual reports	2.52	.79				
2. CEO prominence in press releases	6.21	3.09	.37••			
3. Use of first-person singular pronouns	.21	.09	.43••	.39••		
4. CEO relative cash compensation	1.65	.72	.49••	.24••	.32••	
5. CEO relative non-cash compensation	2.55	2.35	.33••	.29•	.36••	.51••

• $p < .05$; •• $p < .01$.

tors. The correlations among the indicators were all positive and significant at $p < .05$.

As a test of the coherence among the indicators, we conducted confirmatory factor analysis. All indices were at or above recommended standards (Non-Normed Fit Index = .92, Comparative Fit Index = .94, Standardized Root Mean Square Residual = .05, and Root Mean Square Error of Approximation = .09) (Bagozzi and Yi, 1988). Further, we calculated the Cronbach alpha for the standardized values (mean = 0; s.d. = 1) of all the variables. The alpha was .75, above the level acceptable for forming a new index (Nunnally, 1978). To develop our narcissism index, we calculated the simple mean of the five measures, after standardization, for each CEO. Therefore, for example, a CEO who averaged one standard deviation above (or below) the mean on each of the five indicator variables would receive a narcissism score of 1.00 (or –1.00). Results remained unchanged when we computed the narcissism index using the factor scores of the individual items.

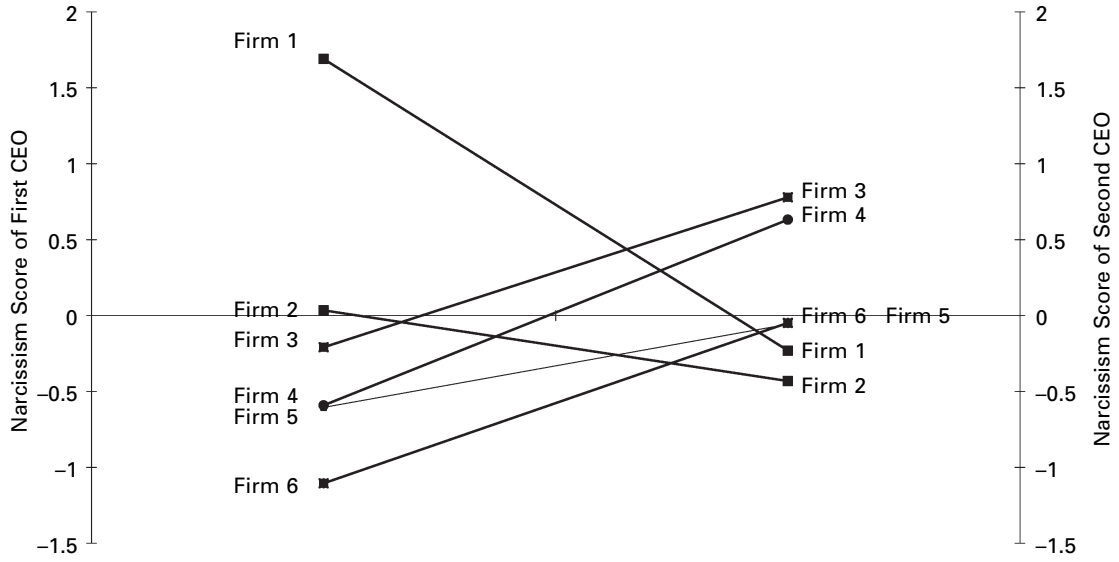
Two questions about the validity of our unobtrusive index can be asked, one general and the other specific. First, does the index reflect the characteristics of the individual CEO, as we argue, or does it reflect the firm's institutionalized tendencies? Second, if the index does reflect the person, is it capturing his or her narcissistic tendencies or some other qualities? We conducted analyses to address these two concerns.

A measure of the CEO or the firm? Some companies might have ingrained practices that make their CEOs appear to be (non)narcissistic. Similarly, it may be that companies tend to have institutionalized preferences for how narcissistic they want their CEO to be (or appear to be). To assess whether our measure of narcissism is a descriptor of the individual or of the firm, we conducted a small-scale analysis with two parts. First, because we had 111 CEOs in 105 firms, six companies had two CEOs represented in our sample, and we examined the narcissism scores for those six pairs of CEOs. As shown in figure 1A, the narcissism scores for the successive CEOs exhibited considerable inconsistency. For example, Firm 1's first CEO in our sample had the highest narcissism score (1.72) of the companies shown, but the firm's second CEO had one of the lowest (–.22). Similarly, Firm 4's first CEO had a relatively low narcissism score (–.62), but its second CEO had a relatively high score (.60). The overall Spearman correlation between the two sets of CEOs was –.46, suggesting that our narcissism scores were not due to persistent company tendencies.

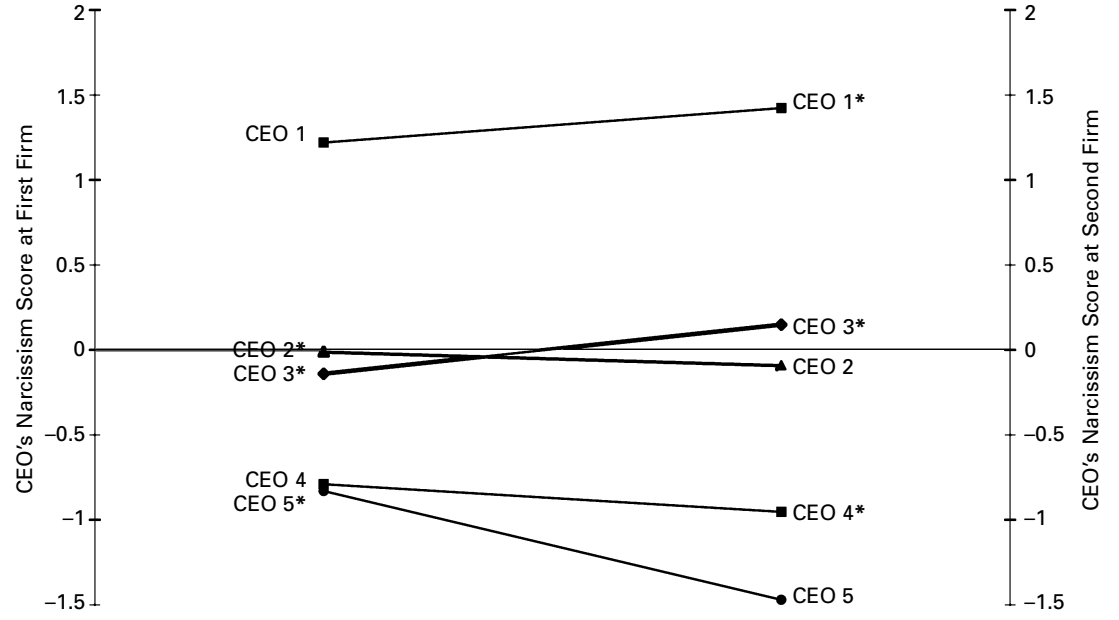
Our second analysis was the obverse of the first. We identified those few CEOs in our sample who also served as CEOs of other public companies (either before or after the posts that were represented in our sample), and we examined their narcissism scores in their two successive posts. To calculate their scores for their second post (which was outside our main sample), we required that the second and third years of that tenure (again, at a public company) were between 1992 and 2005; this requirement yielded five CEOs, allowing another small-scale analysis. Figure 1B, shows the narcissism

Figure 1. Analysis of within-firm and within-person persistence in CEO narcissism scores.

A. Narcissism scores of successive CEOs at six firms



B. Narcissism scores of five CEOs who had tenures at two different firms



***** Observations that are in our sample

scores for these five individuals in their successive CEO posts, with asterisks to indicate the posts that were represented in our main sample. As the figure indicates, there was a striking degree of consistency for each individual across successive positions (Spearman r = .90). When this pattern of within-person consistency is coupled with the above pattern of within-firm inconsistency, we have some evidence that our narcissism scores reflect more about the individuals than about their firms.

Validation test. As a further test of the construct validity of our narcissism measure, we asked five security analysts, all of whom specialized in the information technology sector, to rate the degree of narcissism of some of the CEOs in our sample. These analysts were employed by five different major financial institutions, and each had covered the information technology sector for over ten years. In the course of their work, security analysts have many occasions to interact directly with CEOs in various formats, including small face-to-face meetings, large meetings, teleconferences, and informal gatherings. Although portions of these interactions are highly scripted, they also have a considerable number of unscripted, spontaneous elements. Security analysts take pride in asking unexpected questions and otherwise putting CEOs "on the spot," in the hopes of uncovering fresh insights about the companies they are covering (Fogarty and Rogers, 2005). Therefore security analysts are in the rare position to observe, first-hand, the personalities of a significant number of CEOs. And, with the increasing media attention paid to the personal traits of CEOs, security analysts, too, have tended to supplement their technical analyses of firms by focusing on the personal qualities of CEOs (Khurana, 2002).

To keep the rating task manageable, and to increase the likelihood that the analysts would be familiar with the CEOs, we asked them to rate only the 40 CEOs of the largest companies in our sample. These 40 CEOs varied widely in their scores on our narcissism measure, with an overall distribution similar to the full sample; the Kolmogorov-Smirnov two-sample test indicated that the distribution of the narcissism scores of these 40 CEOs did not differ significantly from those of the omitted 71 CEOs. The analysts were given the following directions:

> In this brief survey, we ask you to draw upon your first-hand familiarity with a number of (recent and current) CEOs of information technology companies. In particular, we would like you to rate the degree to which, in your estimation, the CEOs listed below have narcissistic personalities. Narcissism is the degree to which an individual has an inflated sense of self that is reflected in feelings of superiority, entitlement, and a constant need for attention and admiration. Some of the specific manifestations of narcissism include: enjoying being the center of attention, insisting upon being shown a great deal of respect, exhibitionism, and arrogance.
>
> In rating the CEOs, please draw upon your first-hand familiarity with them, as well as what you have learned about them from their close associates. Please rate only those CEOs whose personalities you are fairly sure about.

The analysts were then asked to rate the CEOs on a four-point scale: Compared with all CEOs I have known, this one is . . . (1) not at all narcissistic, (2) slightly narcissistic, (3) moderately narcissistic, (4) highly narcissistic. The analysts were explicitly instructed to indicate "Not Sure," as appropriate; thus not all 40 CEOs were rated by all five analysts. Each analyst rated at least 25 CEOs, and 35 CEOs had multiple ratings (one CEO was not rated at all).

For the 35 CEOs who had multiple ratings, the single-item Intraclass Correlation Coefficient [ICC(1)] was .75 ($p < .01$),

indicating a high level of agreement among the analysts in their ratings of the CEOs. The correlation between the average rating for each CEO (N = 39, including four who were rated by only one analyst) and our unobtrusive narcissism index was .82 ($p < .01$), indicating that the analysts' perceptions and our unobtrusive ratings of the CEOs corresponded substantially. Thus we have some corroborative evidence that our unobtrusive measure taps the narcissistic tendencies of CEOs.

Dependent Variables

Strategic dynamism. We used two measures of strategic dynamism. Our first measure follows prior research (e.g., Westphal, Seidel, and Stewart, 2001) in measuring changes in key resource allocation indicators: (1) advertising intensity (advertising/sales), (2) research and development intensity (R&D/sales), (3) selling, general, and administrative (SGA) expenses/sales, and (4) financial leverage (debt/equity). We chose these four indicators because they are controllable by the CEO and are important strategic choices in our sampled industries. We first calculated the absolute change (without regard to direction) on each dimension for each firm between the prior year (t + n – 1) and the focal year (t + n). We then standardized each dimension over all observations (mean = 0; s.d. = 1). Finally, we summed the four standardized indicators to yield our composite measure of strategic dynamism. These four indicators yielded a one-factor solution with an eigenvalue of 1.91 explaining 47.7 percent of the variance. Financial ratios were collected from Compustat. Our second indicator of strategic dynamism measured the extent to which a firm changed its portfolio of businesses from one year to the next, using four-digit SIC codes. Our measure was the sum of all SICs added and dropped between the prior year (t + n – 1) and the focal year (t + n). For example, a company that added two new SICs and dropped one SIC would receive a score of three. We collected these data from *Ward's Business Directory.*

Acquisitions. Securities Data Corporation's (SDC) merger and acquisitions database was the source of acquisition data. We examined two measures for each focal year (t + n): (1) a simple count of the number of acquisitions and (2) the ratio of the combined revenues of all acquisitions divided by the revenues of the acquiring firm, as a measure of the aggregate size of acquisitions.

Performance extremeness. We examined performance extremeness using two common measures of firm performance: total shareholder returns (TSR), calculated as change in share price plus dividends, divided by start-of-year share price; and return on assets (ROA), calculated as net income divided by assets. Both of these measures are widely used indicators of company performance (Schmalensee, 1985; Rumelt, 1991; Bloom and Milkovich, 1998; Finkelstein and Boyd, 1998). For each year (t + n), we computed the industry average TSR and ROA. Then we measured the firm's absolute difference from the industry average. We did not consider directionality because, as hypothesized, we were interested strictly in the deviations from central performance

tendencies in the industry. TSR and ROA data came from Execucomp.

Performance fluctuation. Performance fluctuation was also calculated using TSR and ROA. We measured the absolute difference in the firm's TSR and ROA between the prior year (t + n – 1) and the focal year (t + n). Here again, we did not consider directionality because we were interested strictly in the magnitude of the annual performance swing for each firm.

Control Variables

We controlled for potentially confounding factors at three levels: the CEO, the firm, and the industry.

CEO controls. Because the tendency to engage in grandiose or dynamic strategies may vary with age or tenure, we controlled for CEO age_{t+n-1} and CEO $tenure_{t+n-1}$, using data from proxy statements. To control for the CEO's structural power (Finkelstein, 1992), we coded whether the CEO was also board chairman, again using proxy statements, for each $firm\text{-}year_{t+n-1}$. Using data from Execucomp, we controlled for the percentage of company stock owned by the CEO_{t+n-1}, which is another basis of power (Finkelstein, 1992). We also included a binary indicator of whether the firm had a COO (chief operating officer) or president other than the CEO, to capture whether the CEO delegated operational matters. This was coded in the way laid out by Hambrick and Cannella (2004). Finally, as a control for overall trends, we included the calendar year in which the CEO's tenure started (year t), measured as a continuous variable.

Firm controls. To control for immediate resource availability, or slack, we included the ratio of current assets to current $liabilities_{t+n-1}$. We also controlled for the prior year's performance, measured by ROA_{t+n-1}. Because large and old firms may face bureaucratic momentum, we controlled for firm size (natural logarithm of $revenues_{t+n-1}$) and age. To account for the possibility that a given firm may have ingrained, or institutionalized, strategy or performance tendencies, we included another firm-level control: for each dependent variable, we included its value for the firm in the year prior to the start of the CEO's tenure (t – 1).

Industry controls. We controlled for the industry's central tendencies for each of our dependent variables by including the industry average (for all firms in the sample, always excluding the focal firm) in each year (t + n), for each dependent variable. We included these controls, respectively, for each firm-level dependent variable examined. We also included a dummy variable for our two industry sectors (coded one for the computer sector).

Correction for endogeneity. We controlled for endogeneity, or the possibility that narcissistic CEOs are drawn to certain situations and/or that some conditions particularly allow them to demonstrate narcissistic tendencies. To do this, we regressed our measure of CEO narcissism (again, measured in years t + 1 and t + 2) against a set of antecedent and contemporaneous variables. The antecedent variables, which captured key aspects of the CEO's entry conditions, were

measured in t – 1 (the year prior to the CEO's start); they included firm revenues, age, ROA, and calendar year. We also included ROA change between t and t + 1, on the assumption that early performance improvements might stimulate narcissistic tendencies. The contemporaneous variables, measured in t + 1, included two measures of power (CEO/chair duality and CEO ownership), CEO age, and a dummy variable for whether the CEO was an outside hire (defined as having arrived at the firm within a year prior to becoming CEO). We also included a dummy variable for whether the CEO was a founder of the firm. Finally, we included a dummy variable to indicate whether the firm was in the software or hardware sector.

Among all these 10 variables, only two significantly predicted CEO narcissism. Specifically, ROA at the CEO's entry condition was negatively related ($p < .05$) and ROA change between t and t + 1 was positively related ($p < .05$) to our narcissism scores. The overall model was significant ($R^2 = .18$; $p < .05$). These results are consistent both with the view that narcissists are drawn to highly visible settings in which they face challenging conditions that enhance the chances of applause (poorly performing companies) and with Khurana's (2002) assertion that troubled companies tend to look for narcissistic "saviors" to lead their turnaround efforts. These results are also noteworthy because they indicate that our measure of narcissism is not related to structural power, thus supporting the view that it is more a reflection of personal disposition than power. Using the regression coefficients for the two significant variables, we calculated each CEO's predicted narcissism score and included that value as an endogeneity control in our analyses.

Correction for sample selection bias. We analyzed an unbalanced data set, with CEOs of varying tenure lengths. If narcissistic CEOs have systematically different tenures than non-narcissists, our results would be biased. To correct for this possible bias, we estimated the likelihood that the CEO would remain in office in year t + n; the predictor variables were CEO age, tenure year, ownership, CEO/chair duality, ROA, and revenues (all measured in t + n – 1). We used the xtprobit function in Stata to calculate the Mill's ratio (for each firm-year t + n). This control variable, however, was highly correlated with CEO tenure (r = .90). Because we used CEO tenure as a control variable, we excluded the Mill's ratio from our reported analyses, with no effect on results.

Model and Estimation

Because we had multiple observations for almost all firms, we used generalized estimating equations (GEE) (Liang and Zeger, 1986), which derive maximum likelihood estimates and accommodate non-independent observations. To define our model, we needed to specify (1) the distribution of the dependent variable, (2) a link function, (3) the independent variables, and (4) the covariance structure of the repeated measurements. When our outcome measure was discrete and with limited range (change in SICs and number of acquisitions), we specified a negative binomial distribution with a log link function. For all other measures, we specified a

Gaussian (normal) distribution with an identity link function. Finally, we used robust variance estimators (White, 1980) in all our models. We used the xtgee routine in Stata 9.0.

RESULTS

Table 3 presents means, standard deviations, and correlations among the variables. To conserve space, we have not shown the statistics for firm-level control variables in the year prior to the CEO's start (t – 1).

Table 4 presents GEE results for our tests of the effects of narcissism on company strategy. For each dependent variable, we present two models: one with control variables and one that adds the CEO narcissism measure. The results provide considerable support for hypotheses 1 and 2. Hypothesis 1 predicted that CEO narcissism would be positively associated with strategic dynamism. For our first measure of strategic dynamism, reflecting changes in resource deployment, results support the hypothesis: CEO narcissism shows a positive and significant ($p < .01$) effect in model 2. For the second indicator of strategic dynamism, change in SICs, we did not find support for the hypothesis (model 4). Hypothesis 2 posited that CEO narcissism would be positively related to strategic grandiosity, as indicated by the number and size of acquisitions. We find support for both of these indicators. As shown in model 6, CEO narcissism is positively related to the number of acquisitions ($p < .01$); and in model 8, narcissism is positively related to the aggregate size of acquisitions ($p < .01$).

Table 5 presents results for company performance, using the same format as table 4. For our test of hypothesis 3—that CEO narcissism is positively associated with extreme performance—we find considerable support. Model 10 indicates that CEO narcissism is positively related to ROA extremeness ($p < .01$), and model 12 indicates a positive effect of CEO narcissism on TSR extremeness ($p < .05$). The results provide only partial support, however, for hypothesis 4, on the effect of CEO narcissism on performance fluctuation. As shown in model 14, narcissism is positively related to ROA fluctuation ($p < .01$), but model 16 indicates no significant effect on TSR fluctuation. Out of concern that there may be a substantial lag before a CEO's personality is reflected in company performance, we also conducted analyses (not shown) in which we examined performance outcomes only for years t + 4 (fifth year of tenure) and beyond. Results for this smaller sample of observations (N = 241) were essentially identical to those reported here.

The results thus provide substantial support for our hypotheses. Our measure of CEO narcissism, based on indicators early in the CEO's tenure, predicts company outcomes observed in subsequent years: strategic dynamism, strategic grandiosity (as indicated by number and size of acquisitions), extreme performance, and (for ROA) fluctuation of performance.

Testing for threshold effects. Although we conceptualized CEO narcissism as a scalar continuum, the psychoanalytic view is that narcissism is a discrete, distinct pathology (e.g.,

Table 3

Correlations and Descriptive Statistics*

Variable	Mean	S. D.	1	2	3	4	5	6	7	8	9	10	11	12
1. CEO narcissism	.02	.71												
2. CEO age$_{t+n-1}$	49.22	6.92	–.01											
3. CEO ownership$_{t+n-1}$	1.85	5.29	–.17	–.30										
4. CEO is chair$_{t+n-1}$	.68	.47	.11	.07	.12									
5. CEO tenure year$_{t+n-1}$	5.65	1.74	.04	.17	–.01	.25								
6. Separate COO$_{t+n-1}$	.58	.49	.18	.22	–.11	–.01	–.04							
7. Firm age$_{t+n-1}$	24.68	25.65	.16	.34	–.17	.21	.16	.10						
8. Firm slack $_{t+n-1}$	2.81	2.79	.01	–.29	.06	–.14	–.11	–.14	–.25					
9. Firm revenues (log)$_{t+n-1}$	2.79	.87	.17	.31	–.12	.10	.17	.07	.58	–.41				
10. Prior year ROA$_{t+n-1}$	–2.35	39.86	.08	–.06	–.02	.01	.05	.04	.11	–.08	.21			
11. Prior year TSR $_{t+n-1}$	22.76	86.43	–.02	–.05	.05	–.08	–.09	–.04	–.07	.01	–.06	.04		
12. Industry avg. strategic dynamism$_{t+n}$	.07	.04	.02	–.01	.01	.01	.05	.01	–.01	–.05	.02	.02	.12	
13. Industry avg. change in SICs$_{t+n}$	.41	.25	–.05	–.01	–.02	.05	–.13	–.02	–.05	.06	–.02	.05	–.10	–.24
14. Industry avg. no. of acquisitions$_{t+n}$	1.72	.33	–.01	–.01	.08	–.09	–.11	.05	.02	–.09	.02	.05	.21	.31
15. Industry avg. size of acquisitions$_{t+n}$	.11	.12	.09	.05	–.03	.06	.19	.09	.01	–.04	.04	.04	.03	.06
16. Industry avg. ROA$_{t+n}$	–2.53	6.24	–.01	.03	.04	–.06	–.06	.03	.02	–.11	.08	.02	.24	.55
17. Industry avg. TSR$_{t+n}$	27.90	35.08	–.01	–.01	.05	–.09	–.05	.03	.01	–.09	.07	.08	–.07	.39
18. Industry avg. ROA fluctuation$_{t+n}$	13.42	4.88	.01	–.04	–.01	.05	.02	–.05	–.04	.11	–.11	–.07	–.13	–.68
19. Industry avg. TSR fluctuation$_{t+n}$	79.07	17.72	.02	–.04	–.02	.06	.14	–.04	–.06	.04	–.09	.01	–.11	.70
20. Calendar year$_{t+n}$	2000.59	2.44	–.02	.02	–.12	–.01	.25	–.03	–.02	.03	–.06	–.08	–.16	.02
21. Sector dummy	.23	.43	–.03	.12	.01	.01	–.03	.03	.39	–.15	.47	.08	.04	–.02
22. Strategic dynamism$_{t+n}$	–.03	.38	.18	.02	–.01	.05	–.09	.04	–.09	.01	–.23	–.16	.02	.07
23. Change in SICs$_{t+n}$	.41	1.02	.16	.17	–.07	.08	–.15	.14	.38	–.12	.28	.06	–.05	–.05
24. Number of acquisitions$_{t+n}$	1.72	2.06	.25	.03	–.01	.05	.01	–.06	.26	–.03	.37	.12	.09	.05
25. Size of acquisitions$_{t+n}$	.11	.30	.17	–.13	.03	.11	.06	.01	–.10	.15	–.11	.05	.01	.02
26. ROA extremeness$_{t+n}$	10.41	7.82	.22	.02	.02	.07	–.04	–.06	–.11	.12	–.17	–.13	–.12	–.16
27. TSR extremeness$_{t+n}$	41.19	28.77	.15	–.05	–.09	.02	–.08	–.02	–.12	.11	–.15	–.08	.11	.19
28. ROA fluctuation$_{t+n,\ t+n-1}$	11.79	36.48	.13	–.12	.01	–.03	–.08	–.02	–.25	.20	–.31	–.17	.01	–.01
29. TSR fluctuation$_{t+n,\ t+n-1}$	73.20	67.61	–.11	.04	.04	.02	–.04	–.04	–.14	.04	–.19	–.03	.22	.07
30. Endogeneity control	.01	.32	.25	.19	–.11	.13	.08	.09	.51	–.13	.58	.04	.01	.01

Variable	13	14	15	16	17	18	19	20	21	22	23	24	25	26
13. Industry avg. change in SICs$_{t+n}$														
14. Industry avg. no. of acquisitions$_{t+n}$	–.07													
15. Industry avg. size of acquisitions$_{t+n}$	.06	.13												
16. Industry avg. ROA$_{t+n}$	–.36	.45	.07											
17. Industry avg. TSR$_{t+n}$	.04	.39	–.03	.27										
18. Industry avg. ROA fluctuation$_{t+n}$	.21	–.47	–.21	–.82	–.44									
19. Industry avg. TSR fluctuation$_{t+n}$	–.24	–.16	.01	.01	.26	–.04								
20. Calendar year$_{t+n}$	–.53	–.49	–.01	–.21	–.22	.08	.39							
21. Sector dummy	.07	.16	.02	.08	.06	–.08	–.16	–.19						
22. Strategic dynamism$_{t+n}$	.11	–.01	–.02	.06	–.01	–.01	–.02	–.11	–.04					
23. Change in SICs$_{t+n}$	.06	.01	–.02	–.09	.01	.06	.02	–.13	–.06	–.01				
24. Number of acquisitions$_{t+n}$	.01	–.07	.05	.07	.06	–.01	.05	–.08	–.03	–.06	.08			
25. Size of acquisitions$_{t+n}$	–.01	.02	.30	.04	–.02	–.05	–.01	–.01	–.01	.04	–.01	.19		
26. ROA extremeness$_{t+n}$	.11	–.09	.04	–.36	–.11	.33	–.07	.32	.04	.18	–.02	–.07	.08	
27. TSR extremeness$_{t+n}$	.07	.18	–.02	.04	.22	.15	.18	–.08	.16	.21	–.01	–.06	.02	.12
28. ROA fluctuation$_{t+n,\ t+n-1}$	.05	–.01	–.01	–.15	–.01	.13	–.01	.15	.08	.33	–.07	–.15	.03	.20
29. TSR fluctuation$_{t+n,\ t+n-1}$	–.01	–.06	–.05	–.04	.05	.08	.06	.04	.15	.03	–.05	–.09	–.05	.01
30. Endogeneity control	.06	.01	–.01	.04	.04	–.02	.03	–.15	–.05	–.08	.22	.45	–.09	–.07

Variable	27	28	29
27. TSR extremeness$_{t+n}$			
28. ROA fluctuation$_{t+n,\ t+n-1}$	.19		
29. TSR fluctuation$_{t+n,\ t+n-1}$	.14	.07	
30. Endogeneity control	–.04	–.14	–.06

***** Correlations greater than |.11| are significant at the $p < .05$ level.

Lubit, 2002). If narcissism is a syndrome rather than a personality dimension, then the significant results we found, and which we have interpreted as linear relationships, might be masking a set of nonlinear patterns in which increments in narcissism have no effect on company outcomes unless they

Table 4

Results of GEE Analysis of CEO Narcissism and Strategic Consequences (N = 352)*

	Strategic Dynamism		Change in SICs†		Number of Acquisitions†		Size of Acquisitions	
Predictor Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CEO age$_{t+n-1}$	.01	.01	.03	.03	−.02	−.01	−.01	−.01
	(.01)	(.01)	(.02)	(.02)	(.01)	(.01)	(.01)	(.01)
CEO is chair$_{t+n-1}$	.05	.03	.18	.14	.01	−.04	.09$^{\bullet}$	.08$^{\bullet}$
	(.05)	(.05)	(.30)	(.30)	(.15)	(.14)	(.04)	(.03)
CEO ownership$_{t+n-1}$	−.01	.01	−.01	−.01	.01	.01	.01	.01
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
CEO tenure$_{t+n-1}$	−.01	−.01	−.42$^{\bullet\bullet}$	−.42$^{\bullet\bullet}$	−.02	.01	−.01	−.01
	(.01)	(.01)	(.12)	(.12)	(.03)	(.04)	(.01)	(.01)
Separate COO$_{t+n-1}$	.03	.01	.16	.10	−.14	−.28$^{\bullet}$	.01	.01
	(.05)	(.05)	(.32)	(.32)	(.14)	(.04)	(.03)	(.02)
Firm age$_{t+n-1}$	−.01	−.01	.01	.01	.01$^{\bullet}$	.01$^{\bullet}$	−.01	−.01
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Firm slack$_{t+n-1}$	−.05$^{\bullet}$	−.05$^{\bullet}$	−.01	−.01	.19	.15	.06	.05
	(.03)	(.03)	(.15)	(.15)	(.13)	(.12)	(.06)	(.05)
Firm revenues (log)$_{t+n-1}$	−.12$^{\bullet}$	−.15$^{\bullet}$	.09	.06	.50$^{\bullet\bullet}$	.39$^{\bullet\bullet}$	−.01	−.02
	(.06)	(.06)	(.18)	(.18)	(.13)	(.12)	(.02)	(.02)
Firm ROA$_{t+n-1}$	−.04	−.04	.32	.32	.31$^{\bullet\bullet}$	.35$^{\bullet\bullet}$	.02$^{\bullet}$	.02
	(.03)	(.03)	(.27)	(.27)	(.09)	(.09)	(.01)	(.01)
Industry avg. strategic dynamism$_{t+n}$	.49	.42						
	(.48)	(.44)						
Industry avg. change in SICs$_{t+n}$			−.10	−.06				
			(.44)	(.46)				
Industry avg. number of acquisitions$_{t+n}$					−.32	−.36		
					(.17)	(.17)		
Industry avg. size of acquisitions$_{t+n}$							.65$^{\bullet\bullet}$	.64$^{\bullet\bullet}$
							(.11)	(.10)
Sector dummy	.05	.08	.40	.49	−.64$^{\bullet\bullet}$	−.43$^{\bullet\bullet}$	−.04	−.01
	(.08)	(.08)	(.34)	(.35)	(.15)	(.16)	(.04)	(.04)
Number of SICs$_{t+n}$			.22$^{\bullet\bullet}$	.21$^{\bullet\bullet}$				
			(.07)	(.07)				
Strategic dynamism$_{t-1}$	−.04	.03						
	(.08)	(.06)						
Change in SICs $_{t-1}$			.03	.03				
			(.09)	(.09)				
No. of acquisitions$_{t-1}$					.03	.04		
					(.03)	(.03)		
Size of acquisitions$_{t-1}$							−.17$^{\bullet}$	−.14$^{\bullet}$
							(.08)	(.07)
Control for endogeneity	.09	−.07	.40	.17	−.64	−1.02$^{\bullet}$	−.09	−.17
	(.12)	(.12)	(.88)	(.91)	(.42)	(.43)	(.08)	(.09)
CEO narcissism		.15$^{\bullet\bullet}$		.21		.42$^{\bullet}$		.07$^{\bullet\bullet}$
		(.04)		(.17)		(.09)		(.02)
Wald chi^2	22.82$^{\bullet\bullet}$	34.36$^{\bullet\bullet}$	94.22$^{\bullet\bullet}$	94.35$^{\bullet\bullet}$	165.37$^{\bullet\bullet}$	203.78$^{\bullet\bullet}$	64.67$^{\bullet\bullet}$	100.46$^{\bullet\bullet}$
Pseudo R^2	.11$^{\bullet\bullet}$	.16$^{\bullet\bullet}$	.17$^{\bullet\bullet}$	.17$^{\bullet\bullet}$	.23$^{\bullet\bullet}$	.29$^{\bullet\bullet}$	.13$^{\bullet\bullet}$	.18$^{\bullet\bullet}$

$^{\bullet}$ $p < .05$; $^{\bullet\bullet}$ $p < .01$.
* Standard errors are in parentheses.
† Specified as negative binomial in the GEE analysis.

reach very high levels—in a threshold-type of pattern. To test for such nonlinearities, we divided our sample of CEOs into quartiles based on their narcissism scores. We reran all the analyses in tables 4 and 5 but included dummy variables for the narcissism quartiles (instead of the simple narcissism score). Although the results for several dependent variables varied somewhat, they collectively indicated that the full range of our narcissism scale is relevant in predicting company outcomes. As examples, figure 2 shows graphs of the coefficients for each narcissism quartile for two of the dependent variables: size of acquisitions and ROA extremeness.

Table 5

Results of GEE Analysis of CEO Narcissism and Company Performance (N = 352)*

	ROA extremeness		TSR extremeness†		ROA fluctuation		TSR fluctuation†	
Predictor Variable	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
CEO age$_{t+n-1}$	.01	.01•	–.01	.01	–.01	–.01	.01	.01
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
CEO is chair$_{t+n-1}$	.03	.03	.17	.15	.01	.01	.07	.08
	(.03)	(.03)	(.09)	(.08)	(.03)	(.03)	(.08)	(.07)
CEO ownership$_{t+n-1}$	–.01	–.01	–.02••	–.02••	–.01	–.01	.01	.01
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
CEO tenure$_{t+n-1}$	–.01	–.01	–.02	–.01	.01	.01	–.03	–.03
	(.01)	(.01)	(.03)	(.03)	(.01)	(.01)	(.02)	(.02)
Separate COO$_{t+n-1}$	–.01	–.06	–.03	–.06	.02	–.01	.01	.03
	(.01)	(.03)	(.07)	(.07)	(.03)	(.03)	(.08)	(.08)
Firm age$_{t+n-1}$	–.01	–.01•	–.01	–.01	–.01•	–.01••	–.01•	–.01•
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Firm slack$_{t+n-1}$	–.01	–.01	.06•	.04	.01	.01	.01	.02
	(.02)	(.02)	(.03)	(.03)	(.03)	(.03)	(.04)	(.04)
Firm revenues (log)$_{t+n-1}$	–.07••	–.09••	–.11••	–.14••	–.06•	–.08•	–.06	–.04
	(.04)	(.04)	(.05)	(.05)	(.03)	(.03)	(.05)	(.06)
Firm ROA$_{t+n-1}$	–.02	–.03			–.03	–.02		
	(.06)	(.02)			(.04)	(.02)		
Firm TSR$_{t+n-1}$			.07	.07			.25••	.25••
			(.05)	(.05)			(.03)	(.03)
Industry avg. ROA$_{t+n}$	–.12••	–.12••						
	(.01)	(.01)						
Industry avg. TSR$_{t+n}$			.16••	.16••				
			(.03)	(.03)				
Industry avg. ROA fluctuation$_{t+n}$					.01•	.01•		
					(.01)	(.01)		
Industry avg. TSR fluctuation $_{t+n}$							.12••	.12••
							(.04)	(.04)
Sector dummy	.15•	.19••	.09	.14	.06	.07•	.06	.04
	(.07)	(.06)	(.10)	(.10)	(.03)	(.04)	(.08)	(.08)
ROA extremeness$_{t-1}$	.29	.35•						
	(.19)	(.18)						
ROA fluctuation$_{t-1}$					–.03•	–.03•		
					(.01)	(.01)		
Control for endogeneity	.04	–.49•	.23	.11	.07	.01	.23	.29
	(.08)	(.12)	(.14)	(.16)	(.07)	(.08)	(.18)	(.17)
CEO narcissism		.17••		.16•		.08••		–.09
		(.04)		(.06)		(.03)		(.05)
Wald chi^2	137.52••	189.10••	67.15••	82.18••	62.41••	87.10••	91.50••	105.88••
Pseudo R^2	.23••	.35••	.14••	.16••	.15••	.19••	.21••	.21••

• $p < .05$; •• $p < .01$.

* Standard errors are in parentheses.

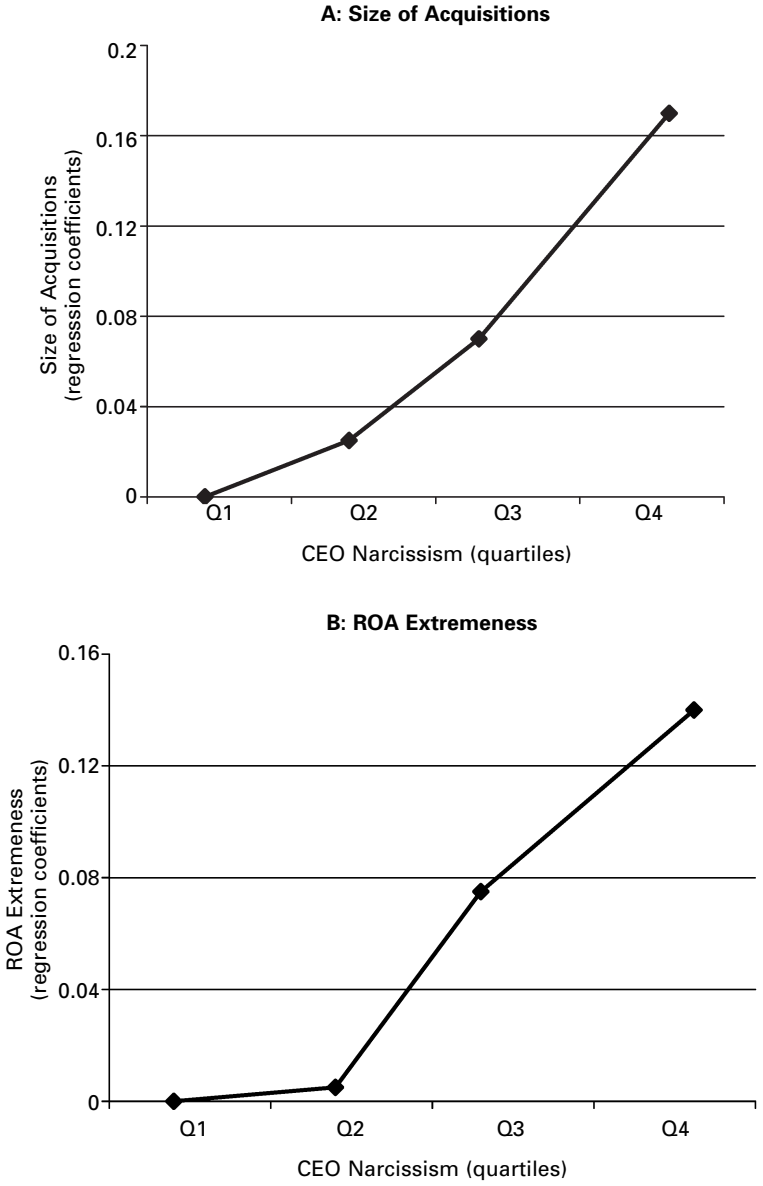
† Because of considerable missing data, we did not include TSR controls in the year prior to the CEO's start as a control in these models. When we included that control and examined a reduced sample, results remained the same as reported.

Contrary to the view that only extremely high levels of narcissism matter, these graphs indicate that increments across the full range of our narcissism scale tend to bring increments in the dependent variables. In turn, these results support the recent view among psychologists that narcissism is a personality dimension rather than just a pathological category.

DISCUSSION AND CONCLUSION

Our study of CEOs in the computer hardware and software industries provides considerable support for our hypotheses, including evidence that CEO narcissism measured in the early years of a CEO's tenure is significantly positively related

Figure 2. Relationships of CEO narcissism with size of acquisitions and ROA extremeness.



to several company outcomes in the later years of the CEO's tenure, including strategic dynamism, number and size of acquisitions made, extreme performance, and fluctuating performance. In short, we find that narcissistic CEOs favor bold actions that attract attention, resulting in big wins and big losses, as well as wide swings between these extreme outcomes.

The literature on organizational (mal)adaptation conveys two prominent themes. The first is that organizations are highly constrained by bureaucratic inertia, path-dependent resources, and environmental and institutional imperatives; in turn, there is little leeway for managers to purposively alter organizational trajectories (e.g., Hannan and Freeman, 1977; Meyer and Rowan, 1977; DiMaggio and Powell, 1983). The second theme accepts the possibility that top executives can

affect organizational outcomes but asserts that they have difficulty designing and implementing changes at the same rate called for by their environments. In this line of thinking, the prevailing images are of managers who deny the need for change (Starbuck, Greve, and Hedberg, 1978), who are committed to the status quo (Hambrick, Geletkanycz, and Fredrickson, 1993), who freeze under pressure for change (Staw, Sandelands, and Dutton, 1981), or who otherwise fall short of their potential to overcome organizational inertia. Given these emphases in prior research, how do we account for abundant anecdotal evidence that some managers do innovate, take bold and radical actions, and engage in major strategic changes, sometimes even more than appear to be objectively called for? Some executives, it seems, are not content merely to refine an existing formula or to stay the course, no matter how promising the organization's current trajectory might be. Who are these managers, and why are they the way they are?

One such manager, who was not in our sample, is Jean-Marie Messier. Prevailing theories of strategic behavior provide basically no explanation for Messier's initiatives, in 1996–2001, to convert Paris-based Compagnie Generale des Eaux—which was a global leader in water, electrical, and waste utilities—into a media and entertainment enterprise, which he renamed Vivendi. The core businesses were highly profitable and faced steady long-term growth prospects worldwide (Montgomery, 1998), so there was no need to escape to more abundant pastures (Rumelt, 1974; Porter, 1980). The company's existing capabilities provided little or no foundation for the new direction (Barney, 1991). Unrelated diversification was distinctly out of favor at the time, so Messier could not have felt any conformist pressures to diversify (DiMaggio and Powell, 1983). And he himself had no experience in the world of media and entertainment, so it cannot be said that he gravitated to what he knew best (Hambrick and Mason, 1984). Instead, numerous observers—commenting before, during, and after the collapse of Vivendi—traced Messier's strategic actions to his personality. Variously described as "colorful," "self-absorbed," and "egomaniacal," Messier appears to have been highly narcissistic—full of extreme self-admiration but in need of creating a drama that would attract even more admiration (e.g., Cukier, 2000; Leonard, 2001; Fonda, 2002). Namely, Messier may have undertaken bigger, bolder, splashier actions than were objectively called for because of a belief in his own potency as well as his need for effusive applause. If narcissism is conceptualized as a personality dimension (Emmons, 1984), it would seem that Messier, who sometimes signed his e-mails "J6M"—short for Jean-Marie Messier Moi-Même, Maître du Monde (Jean-Marie Messier Myself, Master of the World)—was at the very high end of the scale.

Following from the theoretical argument that narcissistic CEOs favor actions that attract an attentive audience, our study has provided evidence that CEO narcissism is positively related to multiple indicators of strategic dynamism and grandiosity. While less narcissistic CEOs may be inclined to pursue incrementalist strategies that entail refining and elabo-

rating on the status quo, more narcissistic CEOs gravitate to bold and highly visible choices. Thus narcissism may be thought of as an ingredient that stimulates distinctive, extreme managerial actions. In this vein, it is useful to distinguish between two types of constraints on CEOs: (1) those constraints that emanate from the contexts within which CEOs operate and (2) those that emanate from the CEOs themselves. If we accept that contextual constraints on CEOs are rarely absolute or total, we can then consider an intriguing question: Which CEOs, by disposition, act as though they are constrained? Conversely, which CEOs push the boundaries, and possibly even defy, the supposed constraints on their actions?

In a classic psychological treatise on corporate leadership, Zaleznik and Kets de Vries (1975) distinguished between two types of executives: Minimum Man and Maximum Man. Reminiscent of Sloan Wilson's (1956) "man in the gray flannel suit" or of William H. Whyte's (1956) archetypical "organization man," Zaleznik and Kets de Vries described their "Minimum Man" as bland, conformist, concerned about egalitarianism, a team player, and not willing to rock the boat. According to the authors, organizations headed by such individuals tend to be incrementalist and cautious. Conversely, "Maximum Man" (which the authors briefly refer to as narcissistic) is colorful, bold, and an individualist; organizations led by such executives are innovative, risk taking, capable of quantum moves, and fast. In their portrayals of these two types of executives, Zaleznik and Kets de Vries clearly proposed that business leaders vary in their fundamental proclivities, both cognitively and motivationally, to develop and pursue bold, distinctive strategies.

Similarly, Hambrick and Finkelstein (1987) argued that managerial discretion is due, in part at least, to the characteristics of managers themselves. Those who can conceive of multiple plausible alternatives—perhaps because of their cognitive complexity, risk propensity, or political acumen—have more discretion than those managers who can only see one viable pathway for their organizations. Hambrick and Finkelstein did not include narcissism in their inventory of discretion-enhancing managerial attributes, but our study suggests that it may be a prominent factor. Narcissists seek out and pursue actions that are bold, distinctive, and dramatic. They are not content merely to improve upon the status quo or engage only in incremental actions.

Implications for Company Performance

Our study showed, as hypothesized, that CEO narcissism is related to extreme and irregular company performance. Narcissistic CEOs tend to generate more extreme performance—more big wins and big losses—than their less narcissistic counterparts, as measured by both accounting and shareholder returns. The evidence of fluctuating performance, or big annual swings in performance, was less complete, but there was a strong indication that CEO narcissism was associated with large annual fluctuations in accounting returns. Although we did not hypothesize that the specific strategic choices examined in this paper would mediate the

relationship between CEO narcissism and performance outcomes, we conducted a post-hoc analysis to explore this possibility. Following Barron and Kenny's (1986) four-step test for mediating relationships, we found that strategic dynamism partially mediated two relationships: between CEO narcissism and TSR extremeness and between CEO narcissism and ROA fluctuation. No other signs of mediation were present, regardless of whether we examined strategy and performance contemporaneously (in the same year) or with a one-year performance lag. These results suggest that the strategic choices we examined are not the only routes to extreme and fluctuating performance outcomes for narcissistic CEOs.

The question then arises as to whether more narcissistic CEOs perform better (or worse) than less narcissistic CEOs. That is, beyond delivering more extreme performance, do narcissists deliver systematically higher (or lower) performance than their less narcissistic peers? There is no theoretical rationale for hypothesizing one or the other, but we explored this question in a supplementary analysis in which we reran models 9–12 (which dealt with performance extremeness) but changed the dependent variables to simply ROA and TSR. We found no significant results. There was no indication that CEO narcissism was related to the level of company performance generated. Thus, although narcissists tend to generate more extreme and irregular performance than non-narcissists, they do not generate systematically better or worse performance. Of course, a different result might have been observed in a different industry. For example, Maccoby (2003) asserted that narcissism is a valuable executive trait in a highly dynamic industry, which calls for strategic boldness. Given that narcissism had no effect on the level of performance in the highly dynamic sector we studied, however, one might reasonably posit that narcissism could have a negative effect in more stable settings, which call for strategic persistence and continuous improvement of existing formulas.

On the question of narcissism in more stable settings, it is instructive to juxtapose our study with observations made by Jim Collins (2001) in his widely noted book, *Good to Great*. Collins concluded that one of the distinguishing characteristics of good-to-great companies, or those that showed sustained performance improvements over a 15-year period, was that they were headed predominantly by "humble CEOs." He said that "those who worked with or wrote about the good-to-great leaders continually used words like *quiet, humble, modest, reserved, shy, gracious, mild-mannered, self-effacing, understated, did not believe his own clippings, and so on"* (p. 27). Collins did not go so far as to equate "humble" with "non-narcissistic," but such a link can readily be drawn. Granted, Collins' sample was small and limited because it was selected on the dependent variable (sustained performance), but his conclusion seems to point to the benefits of non-narcissistic CEOs. It is worth noting, however, that Collins' good-to-great companies were primarily in relatively stable industries, such as paper, steel, and retailing. A contingency-minded theorist, especially one who subscribes

to Maccoby's line of thought, might argue that Collins' "humble CEOs" would not have fared as well in more dynamic settings. We cannot adjudicate this debate with our results from only one industry sector. It may be that CEO narcissism leads to extreme and fluctuating performance, but no generally better or worse performance, regardless of the setting. Or, perhaps more reasonably, it may be that CEO narcissism is selectively beneficial or harmful, depending on contextual conditions. Relevant contextual factors might include industry, country, company culture, and predecessor style, among others, all highlighting abundant opportunities for research.

Limitations and Future Research

Although we found some support for all our hypotheses, not every test yielded significant results. We did not obtain significant results when we used change in SICs as a measure of strategic dynamism. A possible reason is that adding and dropping SICs could reflect a combination of quantum initiatives (as we envisioned) and relatively minor moves. For example, one of the companies in our sample added an SIC when it started a small, pilot semiconductor operation. This was a new activity for the firm but clearly did not qualify as a major change. Units of strategic change are not easily comparable, thus presenting a challenge for researchers interested in developing such measures for large samples of firms.

Additionally, we did not obtain significant results when we examined the effects of CEO narcissism on TSR fluctuation. The absence of a pattern might have been due to theoretical reasons (although ROA fluctuation did yield significant results), or it might have been due to measurement issues. Because TSR is a measure of stock-price change, it may be that even though narcissists generate fluctuating operating performance (as measured by ROA), investors are actually prepared for, or are otherwise conditioned for, big performance swings from highly narcissistic CEOs; in turn, the investors may tend not to react with big price adjustments. This interpretation is speculative, but it highlights the opportunity for researchers to consider how investors (or other constituents) react to more and less narcissistic CEOs.

Our findings must be considered in the context of the study's limitations, which in turn suggest opportunities for future research. The most notable limitation is our use of a measure of CEO narcissism that relies on unobtrusive indicators that are only partial and indirect proxies for narcissistic tendencies. Even if CEOs have considerable influence over these indicators, as we have argued, it is possible that characteristics of CEOs other than narcissism are at work; it is also possible that the indicators tap some aspects of narcissism (which is a complex, multidimensional personality construct) more than others. Therefore, even though our five indicators have face validity, statistically cohere, and yield an index that predicts logically expected outcomes, our narcissism index warrants additional validation and refinement. New unobtrusive indicators might be identified, or current ones dropped or revised, as part of the refinement process. If we jointly consider the theoretical and practical benefits of understanding the effects of executive personality, in tandem with the

extraordinary difficulty in obtaining reliable data on executives' personalities, then our approach of using unobtrusive indicators seems highly promising. Still, our index, and our entire project, needs to be replicated on other samples.

It would be especially desirable to determine the correlation between our narcissism scale and the well-tested NPI. We are very doubtful about getting CEOs to complete the NPI, but it may be possible to obtain NPI ratings on CEOs from their close subordinates or others. Such an exercise could confirm the validity of our measure, and it could also help answer another important question: Where do CEOs fall on the NPI scale? Our sample of CEOs exhibited variance on our narcissism measure, but we have no way of knowing whether, compared with a general population, our sample was skewed or restricted in its range. If our tests were based on a highly restricted range of narcissistic tendencies (say, only the upper half of the NPI distribution), then it would have been difficult to find the statistically significant patterns we did.

Apart from research projects that would validate and improve our measure, we can envision other valuable projects on narcissism. First, it would be interesting to examine multiple industries, but with a theoretical purpose rather than just to test generalizability. In particular, it would be useful to explore whether narcissistic CEOs are more prevalent in some industries than others. If narcissistic individuals need settings that allow them to feed their narcissistic tendencies, they may be drawn to, and rise to the top in, dynamic and high-discretion industries, such as computers, media and entertainment, and fashion; but they may not be commonly found in low-discretion, more constrained settings, such as utilities, insurance, or basic metals. And how does CEO narcissism affect performance in those different industries?

Second, it would be informative to learn how a CEO's narcissism and recent performance interact to affect risk taking and other forms of strategic behavior. It may be, for instance, that CEO narcissism and recent high performance amount to a combustible combination that triggers particularly aggressive acts of hubris (Hayward and Hambrick, 1997). Third, and relatedly, it would be interesting to consider changes in CEOs' narcissistic tendencies over time. According to psychological research, one's degree of narcissism is relatively enduring and stable (Cramer, 1998; Campbell, Foster, and Finkel, 2002), stemming primarily from a combination of genetic and early childhood factors. We adopted this premise when we measured CEO narcissism at just one point in time—the average of the CEO's second and third years of tenure. But, like other personality factors, narcissism can change somewhat as a result of contextual conditions. As a rough gauge of how much stability (versus change) occurred in the narcissism scores of CEOs in our sample, we identified those 63 CEOs who served at least six years and calculated their narcissism scores for years five and six (averaged together). The correlation of narcissism in years five and six with our measure from years two and three was .67 ($p < .001$). On the one hand, this statistic suggests considerable stability. On the other hand, the lack of a perfect correlation

is due to some unknown combination of measurement error and changes in narcissism over time. What are the conditions or events that cause such changes? And does situationally induced narcissism have the same effects on cognitions, motivations, and actions as more ingrained narcissism?

Finally, there is a need to study the effects of CEO narcissism on those individuals who interact most closely with CEOs. What effects does CEO narcissism have on the top management team's processes (Peterson et al., 2003)? And what effects does it have on the turnover and career trajectories of executives who work for the CEOs? When narcissistic CEOs perform well, do they hoard all the glory? And when they perform poorly, are they relatively likely to scapegoat those around them? In understanding the full range of dynamics in a top management team, the answers to these questions could provide significant insights.

The study of executive narcissism thus represents an exceedingly fruitful frontier for organization researchers—both those with micro and macro interests. Our study indicates that CEOs' narcissistic tendencies can be systematically and reliably measured in large-scale samples and that these tendencies become reflected in important company outcomes: strategic dynamism, strategic grandiosity, extreme performance, and fluctuating performance. In our sample, narcissistic CEOs did not generate better or worse performance than less narcissistic CEOs. Rather, they tended to undertake relatively bold, risky actions, and they generated performance that was either very good or very bad and that tended to swing between these extremes. As Maccoby (2003) said, narcissistic CEOs provide quite a ride. But there is much more to be learned about the positives and negatives of narcissistic leaders—their effects on the individuals who work directly with them, on their organizations, and even on broader society. In short, an abundant array of research questions on executive narcissism awaits organizational scholars.

REFERENCES

Aaker, J., V. Benet-Martinez, and J. Garolera
2001 "Consumption symbols as carriers of culture: A study of Japanese and Spanish brand personality constructs." Journal of Personality and Social Psychology, 81: 492–508.

Agrawal, A., and G. Mandelker
1987 "Managerial incentives and corporate investment and financing decisions." Journal of Finance, 42: 823–837.

American Psychiatric Association
1968 Diagnostic and Statistical Manual of Mental Disorders. Washington, DC: American Psychiatric Association.

Bagozzi, R. P., and Y. Yi
1988 "On the evaluation of structural equation models." Journal of the Academy of Marketing Science, 16 (1): 74–94.

Barney, J.
1991 "Firm resources and sustained competitive advantage." Journal of Management, 17: 99–120.

Barron, R. M., and D. A. Kenny
1986 "The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations." Journal of Personality and Social Psychology, 51: 1173–1182.

Baumeister, R. F., L. Smart, and J. M. Boden
1996 "Relation of threatened egotism to violence and aggression: The dark side of high self-esteem." Psychological Review, 103: 5–33.

Bebchuk, L. A., and J. Fried
2004 Pay without Performance: The Unfulfilled Promise of Executive Compensation. Cambridge, MA: Harvard University Press.

Birkinshaw, J., A. Morrison, and A. Hulland
1995 "Structural and competitive determinants of a global integration strategy." Strategic Management Journal, 16: 637–655.

Bloom, M., and G. T. Milkovich
1998 "Relationships among risk, incentive pay, and organizational performance." Academy of Management Journal, 41: 283–297.

Bogart, L. M., E. G. Benotsch, and J. D. Pavlovic
2004 "Feeling superior but not threatened: The relation of narcissism to social comparison." Basic and Applied Social Psychology, 26: 35–44.

Bromiley, P.
1991 "Testing a causal model of corporate risk taking and performance." Academy of Management Journal, 34: 37–59.

Buss, D. M., and L. M. Chiodo
1991 "Narcissistic acts in everyday life." Journal of Personality, 59: 179–215.

Campbell, W. K., C. A. Foster, and E. J. Finkel
2002 "Does self-love lead to love for others?: A story of narcissistic game playing." Journal of Personality and Social Psychology, 83: 340–354.

Campbell, W. K., A. S. Goodie, and J. D. Foster
2004 "Narcissism, confidence, and risk attitude." Journal of Behavioral Decision Making, 17: 297–311.

Carpenter, M. A., M. A. Geletkanycz, and G. M. Sanders
2004 "Upper echelons research revisited: Antecedents, elements and consequences of top management team composition." Journal of Management, 30: 749–778.

Chandler, A. D.
1962 Strategy and Structure: Chapters in the History of American Industrial Enterprise. Cambridge, MA: MIT Press.

Chen, M. J., and D. C. Hambrick
1995 "Speed, stealth, and selective attack: How small firms differ from large firms in competitive behavior." Academy of Management Journal, 38: 453–482.

Collins, J.
2001 Good to Great. New York: Harper Collins.

Cramer, P.
1998 "Freshman to senior year: A follow-up study of identity, narcissism, and defense mechanisms." Journal of Research in Personality, 32: 156–172.

Cukier, K. N.
2000 "Frenchie goes to Hollywood: Vivendi's Jean-Marie Messier has put together a combination of content and distribution. Can he make it work—and make Mr. Murdoch work with him?" Red Herring, November 13: 128–132.

Cycyota, C. S., and D. A. Harrison
2006 "What (not) to expect when surveying executives: A meta-analysis of top manager response rates and techniques over time." Organizational Research Methods, 9: 133–160.

D'Aveni, R.
1994 Hypercompetition. New York: Free Press.

Deutschman, A
2005 "Is your boss a psychopath?" Fast Company, 96: 44–52.

DiMaggio, P. J., and W. W. Powell
1983 "The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields." American Sociological Review, 48: 147–160.

Edwards, J. R.
2001 "Multidimensional constructs in organizational behavior research: An integrative analytical framework." Organizational Research Methods, 4: 144–192.

Eisenhardt, K. M.
1989 "Making fast strategic decisions in high-velocity environments." Academy of Management Journal, 32: 543–576.

Eisenhardt, K. M., and C. B. Schoonhoven
1990 "Organizational growth: Linking founding team, strategy, environment, and growth among U.S. semiconductor ventures, 1978–1988." Administrative Science Quarterly, 35: 504–529.

Ellis, H.
1898 "Auto-erotism: A psychological study." Alienist and Neurologist, 19: 260–299.

Emmons, R.
1981 "Relationship between narcissism and sensation seeking." Psychological Reports, 48: 247–250.
1984 "Factor analysis and construct validity of the narcissistic personality inventory." Journal of Personality Assessment, 48: 291–300.
1987 "Narcissism: Theory and measurement." Journal of Personality and Social Psychology, 52: 11–17.

England, G. W.
1967 "Personal value systems of American managers." Academy of Management Journal, 10: 53–68.

Farwell, L., and R. Wohlwend-Lloyd
1998 "Narcissistic processes: Optimistic expectations, favorable self-evaluations, and self-enhancing attributions." Journal of Personality, 66 (1): 65–83.

Finkelstein, S.
1992 "Power in top management teams: Dimensions, measurement and validation." Academy of Management Journal, 35: 505–538.
2003 Why Smart Executives Fail: And What You Can Learn from Their Mistakes. New York: Penguin.

Finkelstein, S., and B. Boyd
1998 "How much does the CEO matter? The role of managerial discretion in the setting of CEO compensation." Academy of Management Journal, 41: 179–199.

Finkelstein, S., and D. C. Hambrick
1990 "Top management team tenure and organizational outcomes: The moderating role of managerial discretion." Administrative Science Quarterly, 35: 484–503.
1996 Strategic Leadership: Top Executives and Their Effects on Organization. New York: West Publishing.

Fogarty, T. J., and R. K. Rogers
2005 "Financial analysts' reports: An extended institutional theory evaluation." Accounting, Organizations and Society, 30: 331–356.

Fonda, D.
2002 "The French rejection: Employees and investors turn against Messier's Vivendi media empire. Can Barry Diller help?" Time, April 29: 50–51.

Fowler, K. L., and D. R. Schmidt
1988 "Tender offers, acquisitions, and subsequent performance in manufacturing firms." Academy of Management Journal, 31: 962–974.

Freud, S.
1957 "The history of the psychoanalytic movement." In J. Strachey (ed.), The Standard Edition of the Complete Psychological Works of Sigmund Freud, 14: 7–66. London: Hogarth Press.

Gosling, S. D., S. Jin Ko, T. Mannarelli, and M. Morris
2002 "A room with a cue: Personality judgments based on offices and bedrooms." Journal of Personality and Social Psychology, 82: 379–398.

Gupta, A. K., and V. Govindarajan
1984 "Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation." Academy of Management Journal, 27: 25–41.

Hambrick, D. C., and A. A. Cannella, Jr.
2004 "CEOs who have COOs: Contingency analysis of an unexplored structural form." Strategic Management Journal, 25: 959–979.

Hambrick, D. C., and S. Finkelstein
1987 "Managerial discretion: A bridge between polar views of organizational outcomes." In L. L. Cummings and B. M. Staw (eds.), Research in Organizational Behavior, 9: 369–406. Greenwich, CT: JAI Press.

Hambrick, D. C., M. A. Geletkanycz, and J. W. Fredrickson
1993 "Top executive commitment to the status quo: Some tests of its determinants." Strategic Management Journal, 14: 401–418.

Hambrick, D. C., and P. A. Mason
1984 "Upper echelons: The organization as a reflection of its top managers." Academy of Management Review, 9: 193–206.

Hannan, M. T., and J. Freeman
1977 "The population ecology of organizations." American Journal of Sociology, 82: 929–964.

Harter, S.
1990 "Issues in the assessment of the self-concept of children and adolescents." In S. M. LaGreca (ed.), Through the Eyes of the Child: Obtaining Self-reports from Children and Adolescents: 292–325. Boston: Allyn & Bacon.

Haspeslagh, P., and D. B. Jemison
1991 Managing Acquisitions. New York: Free Press.

Hayward, M., and D. C. Hambrick
1997 "Explaining the premiums paid for large acquisitions: Evidence of CEO hubris." Administrative Science Quarterly, 42: 103–127.

Hogben, G.
1977 "Linguistic style and personality." Language and Style, 10: 270–284.

House, R. J., W. D. Spangler, and J. Woycke
1991 "Personality and charisma in the U.S. presidency: A psychological theory of leader effectiveness." Administrative Science Quarterly, 36: 364–396.

Iaquinto, A. L., and J. W. Fredrickson
1997 "TMT agreement about the strategic decision process: A test of some of its determinants and consequences." Strategic Management Journal, 18: 63–75.

Jensen, M., and E. J. Zajac
2004 "Corporate elites and corporate strategy: How demographic preferences and structural position shape the scope of the firm." Strategic Management Journal, 27: 507–524.

John, O. P., and R. Robins
1994 "Accuracy and bias in self-perception: Individual differences in self-enhancement and the role of narcissism." Journal of Personality and Social Psychology, 66: 206–219.

Judge, T. A., A. Erez, J. E. Bono, and C. J. Thoreson
2003 "The core self-evaluation scale: Development of a measure." Personnel Psychology, 56: 303–331.

Judge, T. A., J. LePine, and B. L. Rich
2006 "Loving yourself abundantly: Relationship of the narcissistic personality to self and other perceptions of workplace deviance, leadership, and task and contextual performance." Journal of Applied Psychology, 91: 762–776.

Kernberg, O. F.
1975 Borderline Conditions and Pathological Narcissism. New York: Aronson.

Kernis, M. H.
2005 "Measuring self-esteem in context: The importance of stability of self-esteem in psychological functioning." Journal of Personality, 73: 1569–1606.

Kernis, M. H., and C. R. Sun
1994 "Narcissism and reactions to interpersonal feedback." Journal of Research in Personality, 28: 4–13.

Kets de Vries, M. F. R.
1993 "The dynamics of family controlled firms: The good and bad news." Organizational Dynamics, 21 (3): 59–71.
1994 "The leadership mystique." Academy of Management Executive, 8 (3): 73–92.

Kets de Vries, M. F. R., and D. Miller
1985a "Narcissism and leadership: An object relations perspective." Human Relations, 38: 583–601.
1985b The Neurotic Organization. London: Jossey-Bass.

Khurana, R.
2002 Searching for a Corporate Savior: The Irrational Quest for Charismatic CEOs. Princeton, NJ: Princeton University Press.

Kohut, H., and E. S. Wolf
1986 "The disorders of the self and their treatment: An outline." In A. Morrison (ed.), Essential Papers on Narcissism: 175–196. New York: New York University Press.

Leonard, D.
2001 "Mr. Messier is ready for his close-up: A maverick Frenchman auditions for the part of an American media mogul. Weird casting? Maybe. But he's sure having fun." Fortune, September 3: 136–150.

Levinthal, D. A., and J. G. March
1993 "The myopia of learning." Strategic Management Journal, 14: 95–112.

Liang, K. Y., and S. L. Zeger
1986 "Longitudinal data analysis using generalized linear models." Biometrika, 73: 13–22.

Lieberman, M., and D. Montgomery
1988 "First-mover advantages." Strategic Management Journal, 9: 41–58.

Lieberson, S., and J. F. O'Connor
1972 "Leadership and organizational performance: A study of large corporations." American Sociological Review, 37: 117–130.

Livesley, W. J., K. L. Jang, D. N. Jackson, and P. A. Vernon
1993 "Genetic and environmental contributions to dimensions of personality disorder." American Journal of Psychiatry, 150: 1826–1831.

Lubatkin, M.
1987 "Merger strategies and stockholder value." Strategic Management Journal, 8: 39–53.

Lubit, R.
2002 "The long-term organizational impact of destructively narcissistic managers." Academy of Management Executive, 16 (1): 127–138.

Maccoby, M.
2003 The Productive Narcissist: The Promise and Peril of Visionary Leadership. New York: Broadway Books.

Malmendier, U., and G. Tate
2005 "CEO overconfidence and corporate investment." Journal of Finance, 60: 2661–2700.

Meyer, J., and B. Rowan
1977 "Institutionalized organizations: Formal structure as myth and ceremony." American Journal of Sociology, 83: 340–363.

Miles, R. E., and C. C. Snow
1978 Organizational Strategy, Structure and Process. New York: McGraw-Hill.

Miller, D.
1991 "Stale in the saddle: CEO tenure and the match between organization and environment." Management Science, 37: 34–52.

Miller, D., and C. Droge
1986 "Psychological and traditional determinants of structure." Administrative Science Quarterly, 31: 539–560.

Miller, D., M. F. R. Kets de Vries, and J. M. Toulouse
1982 "Top executive locus of control and its relationship to strategy making, structure, and environment." Academy of Management Journal, 25: 237–253.

Miller, D., and J. Toulouse
1986 "Chief executive personality and corporate strategy and structure in small firms." Management Science, 32: 1389–1409.

Millon, T.
1981 Disorders of Personality. New York: Wiley.

Molden, D. C., and E. T. Higgins
2005 "Motivated thinking." In K. Holyoak and B. Morrison (eds.), The Cambridge Handbook of Thinking and Reasoning: 295–320. Cambridge: Cambridge University Press.

Montgomery, C. A.
1998 "Vivendi." Case 9-799-019. Boston: Harvard Business School.

Morf, C. C., and F. Rhodewalt
1993 "Narcissism and self-evaluation maintenance: Explorations in object relations." Personality and Social Psychology Bulletin, 19: 668–676.
2001 "Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model." Psychological Inquiry, 12: 177–196.

Morf, C. C., C. R. Weir, and M. Davidov
2000 "Narcissism and intrinsic motivation: The role of goal congruence." Journal of Experimental Social Psychology, 36: 424–438.

Nunnally, J. C.
1978 Psychometric Theory, 2d ed. New York: McGraw-Hill.

Pennebaker, J. W., M. R. Mehl, and K. G. Niederhoffer
2003 "Psychological aspects of natural language use: Our words, our selves." Annual Review of Psychology, 54: 547–577.

Peterson, R. S., D. B. Smith, P. V. Martorana, and P. D. Owens
2003 "The impact of chief executive officer personality on top management team dynamics." Journal of Applied Psychology, 88: 795–808.

Porter, M. E.
1980 Competitive Strategy: Techniques of Industry and Competitor Analysis. New York: Free Press.

Postman, L., J. S. Bruner, and E. M. McGinnies
1948 "Personal values as selective factors in perception." Journal of Abnormal and Social Psychology, 43: 142–154.

Ramsay, R.
1968 "Speech patterns and personality." Language and Speech, 71: 54–63.

Raskin, R. N., and C. S. Hall
1979 "A narcissistic personality inventory." Psychological Reports, 45: 590.

Raskin, R., J. Novacek, and R. Hogan
1991 "Narcissistic self-esteem management." Journal of Personality and Social Psychology, 60: 911–918.

Raskin, R., and R. Shaw
1988 "Narcissism and the use of personal pronouns." Journal of Personality, 56: 393–404.

Raskin, R., and H. Terry
1988 "A principal-components analysis of the narcissistic personality inventory and further evidence of its construct validity." Journal of Personality and Social Psychology, 54: 890–902.

Rhodewalt, F., J. C. Madrian, and S. Cheney
1998 Narcissism, self-knowledge organization, and emotional reactivity: The effect of daily experiences on self-esteem and affect." Personality and Social Psychology Bulletin, 24: 75–87.

Rhodewalt, F., and C. C. Morf
1998 "On self-aggrandizement and anger: Temporal analysis of narcissism and affective reactions to success and failure." Journal of Personality and Social Psychology, 74: 672–685.

Roll, R.
1986 "The hubris hypothesis of corporate takeovers." Journal of Business, 59: 197–216.

Rumelt, R.
1974 Strategy, Structure, and Economic Performance. Boston: Harvard Business School Classics.
1991 "How much does industry matter?" Strategic Management Journal, 12: 167–185.

Sanders, W. G.
2001 "Behavioral responses of CEOs to stock ownership and stock option pay." Academy of Management Journal, 39: 891–919.

Sanders, W. G., and D. C. Hambrick
2007 "Swinging for the fences: The effects of CEO stock options on company risk-taking and performance." Academy of Management Journal, vol. 50, no. 5 (in press).

Schmalensee, R.
1985 "Do markets differ much?" American Economic Review, 75: 341–351.

Shapira, Z.
1995 Risk Taking: A Managerial Perspective. New York: Russell Sage Foundation.

Shleifer, A., and R. W. Vishny
1991 "Takeovers in the '60s and the '80s: Evidence and implications." Strategic Management Journal, 12 (Special Issue): 51–61.

Singh, J. V.
1986 "Performance, slack, and risk-taking in organizational decision making." Academy of Management Journal, 29: 562–585.

Sirower, M. L.
1994 "Acquisition behavior, strategic resource commitments and the acquisition game: A new perspective on performance and risk in acquiring firms." Unpublished doctoral dissertation, Columbia University.

Starbuck, W. H., A. Greve, and B. L. T. Hedberg
1978 "Responding to crises." Journal of Business Administration, 9 (2): 111–137.

Staw, B. M., L. E. Sandelands, and J. E. Dutton
1981 "Threat rigidity effects in organizational behavior: A multilevel analysis." Administrative Science Quarterly, 26: 501–524.

Thompson, J. D.
1967 Organizations in Action: Social Science Bases of Administrative Theory. New York: McGraw-Hill.

Tosi, H. L., Jr., and L. R. Gomez-Mejia
1989 "The decoupling of CEO pay and performance: An agency theory perspective." Administrative Science Quarterly, 34: 169–189.

Vazire, S., and S. D. Gosling
2004 "e-perceptions: Personality impressions based on personal websites." Journal of Personality and Social Psychology, 87: 123–132.

Vogel, C.
2006 "A field guide to narcissism." Psychology Today, 39 (1): 68–74.

Wallace, H. M., and R. F. Baumeister
2002 "The performance of narcissists rises and falls with perceived opportunity for glory." Journal of Personality and Social Psychology, 82: 819–834.

Watson, P. J., and M. D. Biderman
1993 "Narcissistic personality inventory factors, splitting, and self-consciousness." Journal of Personality Assessment, 61: 41–57.

Webb, E., D. Campbell, R. Schwartz, and L. Sechrest
1966 Unobtrusive Measures: Nonreactive Research in the Social Sciences. Chicago: Rand McNally.

Webb, E., and K. E. Weick
1983 "Unobtrusive measures in organizational theory: A reminder." In J. Van Maanen (ed.), Qualitative Methodology: 209–224. Beverly Hills, CA: Sage.

Weick, K. E.
1979 The Social Psychology of Organizing, 2d ed. New York: McGraw-Hill.

Westphal, J. D.
1999 "Collaboration in the boardroom: Behavioral and performance consequences of CEO-board social ties." Academy of Management Journal, 42: 7–24.

Westphal, J. D., M.-D. Seidel, and K. Stewart
2001 "Second-order imitation: Uncovering latent effects of board network ties." Administrative Science Quarterly, 46: 717–747.

White, H.
1980 "A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity." Econometrica, 48: 817–838.

Whyte, W. H.
1956 The Organization Man. New York: Simon and Schuster.

Wiersema, M. F., and K. A. Bantel
1992 "Top management team demography and corporate strategic change." Academy of Management Journal, 35: 91–121.

Wilson, S.
1956 The Man in the Gray Flannel Suit. New York: Pocket Books.

Wink, P., and K. Donahue
1997 "The relation between two types of narcissism and boredom." Journal of Research in Personality, 31: 136–140.

Wiseman, R. M., and L. R. Gomez-Mejia
1998 "A behavioral model of managerial risk taking." Academy of Management Review, 23: 133–153.

Zajac, E. J., and J. D. Westphal
1996 "Who shall succeed? How CEO/ board preferences and power affect the choice of new CEOs." Academy of Management Journal, 39: 64–90.

Zaleznik, A., and M. F. R. Kets de Vries
1975 Power and the Corporate Mind. Boston: Houghton Mifflin.