

PREDICTING ORGANIZATIONAL IDENTIFICATION AT THE CEO LEVEL

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To develop further insight into antecedents of the CEO's psychological orientation toward the firm, we investigate what might lead CEOs to identify with their firms. Although research suggests that CEO organizational identification can be quite consequential for the firm, little research attention has been paid to its determinants. To predict how the special context of the CEO position might lead to identification, we consider a set of motives that members have for identifying with their organizations and consider how unique features of the CEO position might be relevant to those motives. Our theory and supportive findings help explain how the context of the CEO position, including variables often conceptualized as control mechanisms in agency theory research, can have important effects on subsequent CEO organizational identification. Copyright © 2014 John Wiley & Sons, Ltd.

INTRODUCTION

There is a growing recognition in the strategy literature of the value in understanding various aspects of executives' psychological states given their potential consequences for the firm (Carpenter, Geletkanycz, and Sanders, 2004; Finkelstein, Hambrick, and Cannella, 2009; Ployhart, 2012). Evidence suggests that the chief executive officer's (CEO's) organizational identification, meaning the degree to which the CEO's own identity and his/her perceptions of the organization's identity are tied together or overlap, is a key psychological state to understand because it may have important strategic effects. Theory and

empirical evidence point to ways in which CEO organizational identification influences the CEO's leadership approach as well as his/her stewardship orientation toward the firm (e.g., Boivie *et al.*, 2011; Davis, Schoorman, and Donaldson, 1997; Peterson, Galvin, and Lange, 2012). Yet, in spite of the large and developing literature on organizational identification, the exploration of this construct at the top of the organization is relatively new and underdeveloped. Notably, there is little in the literature to address the antecedents of CEO organizational identification.

Indeed, to date, antecedents of executive psychological states have received relatively little research attention, although that inquiry is highly relevant to a better understanding of the microfoundations of strategy (cf. Hodgkinson and Healey, 2011; Ployhart, 2012). Ployhart (2012) describes the literature on the microfoundations of strategic management in terms of connecting and integrating micro and macro scholarship. In this study we contribute to that literature by exploring how constructs that

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prior research has shown to characterize the CEO position or to be especially associated with the actions of the CEO may affect the CEO's level of organizational identification. In so doing, we provide the first study to look at how a variety of firm-level factors affect the development of CEO organizational identification. The job of the CEO is qualitatively different from that of lower-level employees in important ways. The CEO is the primary target for causal attributions of firm image and performance. Further, by virtue of the high level of power and privileges inherent in the position, the CEO is the central focus of the financial and structural controls—rooted in agency theory ideology—that firms employ to attempt to constrain CEO self-serving behavior and to align CEO interests with those of the firm. We argue in this paper how each of these characteristics is relevant to the development of CEO organizational identification. We thereby contribute to the growing literature from the upper echelons perspective on the psychology of corporate leaders (e.g., Boivie *et al.*, 2011; Chatterjee and Hambrick, 2007; Gupta and Govindarajan, 1984; Hayward and Hambrick, 1997; Hayward, Rindova, and Pollock, 2004; Miller and Droge, 1986; Miller, Kets de Vries, and Toulouse, 1982; Nadkarni and Herrmann, 2010; Wally and Baum, 1994). Whereas most research has examined the consequences of CEOs' psychological traits, in this study we examine antecedents of an important dimension of the CEO's psychological orientation toward the firm.

Notably, our theory and supportive findings about determinants of CEO organizational identification also contribute to the corporate governance literature. Prior research has linked such corporate governance mechanisms as board independence, CEO ownership, institutional ownership, and the firm-performance contingency of CEO compensation to strategic behaviors and organizational outcomes (e.g., Brickley, Lease, and Smith, 1988; Dalton *et al.*, 2007; Yermack, 2006). By theorizing how these governance mechanisms may have significant effects on subsequent CEO organizational identification, we illuminate the role that governance mechanisms can have in shaping the psychological orientation of the CEO toward the firm.

We argue and show how certain types of governance mechanisms, namely those that entail vested interest and incentive alignment, may have the

indirect effect of enhancing organizational identification. We further argue and show how other types of governance mechanisms, those that entail structural limitations on the CEO's ability to exercise autonomous control, may have the side effect of diminishing organizational identification. All of these types of controls are rooted in agency theory thinking, and are intended to align the CEO's interests and behavior with the firm's interests. Prior research has argued and demonstrated that CEO organizational identification may reduce agency costs (Boivie *et al.*, 2011; Davis *et al.*, 1997). If, as we will argue here, a governance mechanism like firm-performance contingent CEO pay will enhance CEO organizational identification, then an indirect effect of that governance mechanism may be to enhance CEO stewardship behavior and therefore to reduce agency costs. But if, as we will argue here, a governance mechanism like board independence has a negative influence on CEO organizational identification, then a side effect of that governance mechanism may be a weakened effect on control over CEO self-serving behavior. The importance of our inquiry therefore is to suggest how these different corporate governance mechanisms can have differential and even opposing effects on an important dimension of the CEO's psychological orientation toward the firm.

BACKGROUND

Why CEO organizational identification matters

A key idea from the literature pertaining to outcomes of organizational identification is that members who identify more strongly with the organization are less likely to prioritize or even distinguish between their own self-interests and the interests of the organization (Dukerich, Golden, and Shortell, 2002; Dutton, Dukerich, and Harquail, 1994). The strategic leadership literature would suggest that such an orientation toward the firm when held by a CEO may have significant effects on firm outcomes (Davis *et al.*, 1997; Finkelstein *et al.*, 2009). In the context of the CEO's high levels of perceived and actual influence over firm outcomes, a CEO who identifies strongly with the organization may be apt to act as a good steward of the firm's interests, tantamount to them being his/her own interests (Boivie *et al.*, 2011; Davis *et al.*, 1997). In support of these ideas, Boivie *et al.* (2011)

found evidence that organizational identification was predictive of reduced self-serving outcomes with respect to both compensation and perquisites among the CEOs they studied. CEOs who identified more with the firm were less likely to draw high compensation and make extensive personal use of corporate aircraft when firm performance was poor.

Even as CEO organizational identification may have those positive implications for the firm, it is important to recognize its possible “dark side” (Dukerich, Kramer, and McLean Parks, 1998; Umphress and Bingham, 2011). Very high levels of CEO organizational identification can have nonbeneficial consequences for the firm and its stakeholders when the CEO begins to view certain pro-organizational behaviors as correct and appropriate even if in a broader moral sense they are not. So, even though research generally supports the idea that CEO organizational identification will lead to stewardship type behaviors, we must allow for the fact that, depending upon how narrowly an executive perceives the scope and time horizons of the firm’s interests, their pursuit could come at the expense of harming various stakeholders and even threatening the long term survival of the firm. Our presumption in the current study as we examine and test its antecedents is that increased CEO organizational identification is beneficial, but this is not necessarily the only outcome, and our study of antecedents is relevant to its development regardless of its outcomes.

How the current study of CEO organizational identification relates to existing research on antecedents of organizational identification

Very little theory or research has considered the determinants of organizational identification in the upper echelons of the organization (cf. Johnson *et al.*, 2006; Kreiner and Ashforth, 2004; Peterson *et al.*, 2012). We begin our study by reviewing the literature pertaining to antecedents of member organizational identification in general. We organize our review according to the six motives that Vignoles *et al.* (2006) identified as the most important motives that people have for moving “toward certain identity states and away from others” (p. 309), i.e., to maintain or enhance feelings of self-esteem, distinctiveness, belonging, efficacy, meaning, and continuity. We then make connections between that literature and the special context of the CEO. In

doing so, we identify key features of the CEO position that both distinguish the CEO from other roles in the organization and that are highly relevant to motives for organizational identification.

The self-esteem motive

The fundamental human drive to maintain or enhance self-esteem plays a role in many different theoretical perspectives (for reviews see Leary, 2007; Sedikides and Gregg, 2003; Vignoles *et al.*, 2006), and notably is central to social identity theory (see reviews by Edwards, 2005; Haslam and Ellemers, 2005). An organization that is viewed favorably by its members provides the members with a ready source of positive feedback about themselves and a source of positive social comparison, to the extent that their own identities overlap with the organization’s identity (Hogg and Terry, 2000; Pratt, 1998). Theory and supportive empirical findings have therefore suggested that higher levels of member organizational identification will follow when members see their organizations as prestigious, having an attractive identity, and/or having a positive external image (Ashforth and Mael, 1989; Bergami and Bagozzi, 2000; Dukerich *et al.*, 2002; Dutton *et al.*, 1994; George and Chattopadhyay, 2005; Mael and Ashforth, 1992; Pratt, 1998).

The belonging and distinctiveness motives

People derive and confirm information about how they are similar to and different from others based on their identification with social groups (Brewer, 1991). Two contrasting motivations are at play here; namely, that people are driven to assimilate and affiliate with others at the same time that they have a strong desire to distinguish themselves from others (Brewer, 1991; Turner *et al.*, 1994). Social group identification results from both of these motives as people seek a sense of belonging within in-groups even as they seek a sense of distinctiveness by perceiving how their in-group is differentiated from out-groups (Brewer, 1991). The latter drive, articulated in uniqueness theory (Snyder and Fromkin, 1980), that humans will tend to strive for individuation, or the “establishment and maintenance of a sense of differentiation from others” (Brewer, 1991; Vignoles *et al.*, 2006: 310), is argued to be fundamental to a meaningful sense of identity (Vignoles *et al.*, 2006). Accordingly, theory and supportive empirical findings have suggested that

organizational characteristics that make the member's organization distinctive, that make other organizations salient as out-groups, and/or that make the organization's identity clear will lead to organizational identification, because they help the member to define who he/she is, as well as who he/she is not (Ashforth and Mael, 1989; Bartel, 2001; Dutton *et al.*, 1994; George and Chattopadhyay, 2005; Mael and Ashforth, 1992; Pratt, 1998).

Contrasting with the need for individuation, but also important to social identification, is the human drive for belonging, assimilation, or affiliation; for a sense of "validation and similarity to others" (Brewer, 1991: 477; Vignoles *et al.*, 2006). Theory and supportive empirical findings have therefore suggested that member organizational identification will follow from the member's perceptions that he/she is fairly homogeneous with the organization's other members and/or that his/her self is well described by the organization's identity (Bartel, 2001; Dutton *et al.*, 1994; George and Chattopadhyay, 2005; Hogg and Terry, 2000; Mael and Ashforth, 1992; Pratt, 1998).

The efficacy motive

The drive for efficacy, referring to the need to maintain and enhance feelings that one is competent and in control (Breakwell, 1993) is an important identity-relevant motivation (Vignoles *et al.*, 2006). Self-determination theorists and identity process theorists have argued that the need to feel competence and control is fundamental to human nature, and that people will strive for identities that contribute to feelings of efficacy (Breakwell, 1993; Deci and Ryan, 2000; Vignoles *et al.*, 2006). Group membership is argued and has been shown to be a positive influence on relevant personal outcomes including efficacy, competence, control, and power (e.g., Breakwell, 1993; Riketta, 2008; Vignoles *et al.*, 2006). Efficacy has been argued to be a strong driver of why people move toward certain identity states (Breakwell, 1993; Deci and Ryan, 2000; Vignoles *et al.*, 2006) including why members move toward identification with their organizations (Riketta, 2008).

The meaning and continuity motives

A sense of meaning in life—of purpose or significance—is argued to be central to psychological wellbeing, and its pursuit is another motive for

why members may identify with their organizations (Vignoles *et al.*, 2006). Social identification can enhance one's sense of meaning by helping to curb subjective uncertainty about one's "place in the social world" (Hogg and Terry, 2000: 124), about what outcomes in life are desirable and about the appropriate means to achieve those outcomes (Hogg, 2000; Hogg and Terry, 2000). When affiliation with an organization helps to give a member that sense of meaning, identification may be strengthened. In addition, the need for a sense of continuity—of relative stability in personal identity "across time and situation" (Breakwell, 1986: 24)—is another motive underlying the tendency of individuals toward social identification (Breakwell, 1986; Vignoles *et al.*, 2006). Social group identification, including identification with organizations, helps the individual to maintain a relatively consistent self-conception and helps the individual to construct a coherent "life story" (Vignoles *et al.*, 2006: 310). People are drawn to identify with organizations that provide that sense of continuity by confirming their own self-conception; that provide the individual with feedback that is self-verifying (Swann, Rentfrow, and Guinn, 2002; Vignoles *et al.*, 2006).

Organizational identification and the special context of the CEO position

The CEO position by definition and design is different from other roles in the organization in ways that are directly relevant to the six motives for organizational identification that we describe above. An important way in which the CEO position is unique is that the image and performance of the firm are attributed far more—by an order of magnitude—to the decisions and actions of the CEO than to the actions and decisions of any other individual organizational members (Hayward *et al.*, 2004; Meindl, Ehrlich, and Dukerich, 1985; Wade *et al.*, 2006b). Although the organizational identification of any member may be influenced by the overall performance and image of the firm, we argue below that, by nature of the CEO role, the CEO will be especially aware of and focused on the overall performance and image of the firm, and that those organizational characteristics will be key drivers of CEO organizational identification. Simply stated, our overall model draws on the self-esteem and distinctiveness motives in describing how CEO organizational identification may be associated with the

high degree to which the CEO is the target of causal attributions of firm image and performance.

Further, our model draws on the belonging, efficacy, meaning, and continuity motives in describing how CEO organizational identification may be associated with the tendency for the CEO position to be subject to the financial and structural controls designed to constrain CEO self-serving behavior and to align CEO interests with those of the firm. An effect of those governance mechanisms and structures is that, relative to any other organizational member, the CEO is much more likely to have a significant financial interest in the overall performance of the firm, both in terms of wealth invested in the firm and the degree to which the CEO's compensation is tied to overall firm performance (Carpenter and Sanders, 2002; Fredrickson, Davis-Blake, and Sanders, 2010; Wade, O'Reilly, and Pollock, 2006a). Vested financial interest in the firm has not received a great deal of attention in the literature as an antecedent of organizational identification (cf. Johnson *et al.*, 2006), perhaps because having substantial wealth invested in the firm and dependent on the overall success of the firm is not a salient feature of organizational life for most organizational members. We argue below that vested financial interest can be a salient feature of organizational life for CEOs, and that, because of the belonging, efficacy, meaning, and continuity motives, it will be a key driver of CEO organizational identification. In addition, more than in any other organizational role, autonomy in the CEO role is associated with the overall governance and ownership structure of the organization (Dalton *et al.*, 2007; Finkelstein *et al.*, 2009; Ryan and Schneider, 2002). The firm's governance and ownership structures are a salient feature of organizational life for the CEO, and, by design, affect his/her autonomy. We argue below that, because of the efficacy and belonging motives, variance in structural controls that firms employ to attempt to rein in CEO self-serving behavior will be a key driver of CEO organizational identification.

A presumption consistent with our theoretical approach about the relationship between these features of organizational life and CEO organizational identification is that firm-level characteristics in general are likely to have a stronger influence on the CEO's identification with the firm than on lower-level members' identification. We know from past research that lower-level employees can identify with the firm, but the upper range of that identification is constrained by their subunit

as a competing basis for identification (Ashforth and Rogers, 2012). Ashforth *et al.* (2008: 353) review the considerable amount of literature that points to the idea that "lower order identities tend to be more salient and, therefore, more likely to have a greater impact on cognition, affect, and behavior" than higher order identities. Lower-level members are likely to identify with their own subunits because they are the primary "basis for task interdependence and interaction," because subunits are more localized and less abstract than the larger organization, as they are "more exclusive, concrete, and proximal" for the member, because knowledge of and impact on the identity of the subunit is salient for the member, because the subunit provides a salient contrast with other work groups and subunits in a given work day, and because the modern firm emphasizes subunit identification by favoring "teamwork, occupational empowerment, and lateral communication" (Ashforth *et al.*, 2008: 353). CEOs, in contrast to lower-level members, do not typically have subunit membership competing with the larger firm as a salient target for their identification. Our overarching argument then is that not only are CEOs more attuned to the performance and image of the firm, to vested financial interest and contingent compensation, and to the governance and ownership structure of the firm than would be any other organizational member, but that these organizational features are highly relevant to the CEO's identification with the firm as a whole, whereas lower-level employees are likely to attend relatively more to characteristics of their own subunits within the firm.

Below we elaborate on how these features of the CEO role are relevant to the six motives for identification as we develop specific hypotheses about the development of CEO organizational identification.

DETERMINANTS OF IDENTIFICATION AT THE TOP OF THE ORGANIZATION

The high degree to which the image and performance of the firm are attributed to the CEO

Due to the power inherent in the CEO position, more than any other organizational member the CEO has the potential to believe that his/her actions and decisions are tied to the firm's overall efficiency and effectiveness and to the firm's image (Finkelstein *et al.*, 2009; Meindl *et al.*, 1985). Others, both

inside and outside the firm, are likely to reinforce that belief. CEO actions tend to be very visible and extensively scrutinized by the business press, financial analysts, and other information intermediaries and firm stakeholders (Hayward *et al.*, 2004; Meindl *et al.*, 1985; Wade *et al.*, 2006b). Insiders and outsiders often exaggerate credit for the CEO when things go well for the firm, and ascribe blame to the CEO when things go poorly (Meindl *et al.*, 1985). Because press coverage about the firm is quite influential on stakeholder impressions of the firm (Deephouse, 2000; Westphal and Deephouse, 2011) as well as their perceptions of the CEO's image (Hayward *et al.*, 2004; Wade *et al.*, 2006b; Westphal and Deephouse, 2011) it is likely that CEOs care deeply about and monitor changes in that coverage. Westphal and Deephouse (2011) provided evidence that CEOs react to new negative press coverage by constraining the responsible journalists' access to firm information, an indication that CEOs both monitor and are concerned about the tenor of press coverage. Bednar, Boivie, and Prince (2013) found that negative media coverage prompted firms to engage in strategic change.

Due to self-serving bias, CEOs will tend to over-attribute positive firm outcomes such as positive press and good financial performance to themselves (e.g., as an outcome of their strategies), and over-attribute negative outcomes to external causes (e.g., difficult industry or macroeconomic conditions) (Clapham and Schwenk, 1991; Hayward *et al.*, 2004). As a result, positive firm-level outcomes will increase the tendency for the CEO to perceive connections between the firm and the self (e.g., the CEO's strategy and leadership), whereas negative firm-level outcomes increase the tendency for the CEO to perceive connections between the firm and factors that do not implicate the self (e.g., extraneous industry-level factors). In other words, firm-level outcomes constitute salient feedback for the CEO that is potentially very relevant to his/her self-esteem. The more favorable that feedback is, the more the CEO can gain self-esteem benefits by reducing his/her perceptions that there is a dissimilarity between his/her own identity and the firm's identity. By reducing that perceived dissimilarity (i.e., by increasing identification with the firm), the CEO can essentially convert positive press coverage about the firm and/or positive firm performance into self-esteem enhancing feedback about him/herself. At the same time, positive press coverage and positive firm performance can appeal to the CEO's

distinctiveness motive by helping to favorably distinguish the firm in the mind of the CEO from average or poorly performing firms. The distinguished firm then serves as a salient and attractive target for identification for the CEO, who by perceiving that the organization's identity and his/her own identity are tied together thereby distinguishes him/herself.

Hypothesis 1: Positive press about the firm will lead to more CEO organizational identification.

Hypothesis 2: Positive firm performance will lead to more CEO organizational identification.

We note here that these two main effect hypotheses were the result of the a priori hypothesizing that we conducted as we created a construct validity test for Boivie *et al.* (2011). In those minimally specified models, both variables were statistically significant. In the current study we test these hypotheses in models that are much more fully specified, including many new hypothesized predictor variables, interactions, and control variables.

The potentially high degree to which the CEO has vested financial interest in the firm

Members at any level of the organization may, and often do, have financial ownership in the firm, typically through employee stock ownership or retirement savings plans, and further may have potential income tied to the performance of the firm as a whole, typically through profit-sharing, restricted stock, performance shares, or related incentive plans. However, even in a context where organizational member vested financial interest is not uncommon, the CEO position is an outlier in terms of the potentially higher level of vested interest and the meaning associated with it. Relative to other members, the CEO is more likely to have a larger equity stake in the organization and to have a compensation plan that includes a firm-performance-contingent element (Carpenter and Sanders, 2002; Fredrickson *et al.*, 2010; Wade *et al.*, 2006a). Consistent with the predominant ideology of agency theory, this kind of CEO vested financial interest in the firm is often encouraged or formally structured by the board in an effort to ensure that the CEO's financial incentives will be aligned with the shareholder's goals (Dalton *et al.*, 2007).

Researchers, particularly from a social psychological perspective, have elaborated on the link between possessions and self-identity (e.g., Beggan, 1992; Belk, 1988; Dittmar, 1992). Possessions serve as an extension and expression of self. As the owner reflects on them and their meaning, they contribute to the way the owner sees him/herself, thereby helping to establish, maintain, and reproduce the owner's sense of identity (Dittmar, 1992). In what Thaler (1980: 44) calls the "endowment effect," people value more highly what they own than what they do not own. In what Beggan (1992: 229) calls the "mere ownership effect," ownership increases affect for (or positive evaluation of) objects, and increases the tendency to see characteristics of the self in the object. Owner-members of firms extend their selves into their firms and define themselves through their ownership (Schneider, 1987; Zellweger and Astrachan, 2008). All these effects of ownership are relevant to the belonging and continuity motives for the CEO to identify with the firm he/she owns, as the CEO is likely to perceive ownership as reflective of self; a relatively stable indicator of who he/she is and a meaningful indicator that he/she is part of a collective. Higher levels of ownership are likely to lead the CEO to perceive an increased affinity with the firm's goals, processes, and structures (Schneider, 1987).

In turn, ownership is relevant to the meaning motive for the CEO to identify with the firm. With increased organizational identification, organizational goals can become personal goals for the CEO, enhancing purpose and meaning in life (Hogg, 2000; Hogg and Terry, 2000). Financial ownership can also serve as a source of power and control in the organization for the CEO, making ownership also relevant to the efficacy motive for the CEO to identify with the firm. As CEO financial ownership is higher, the CEO's actual power and self-perceptions of power in the firm are likely to be higher, and higher organizational identification is likely to follow as the CEO derives a strong personal sense of control from perceiving that the organization's identity and his/her own identity are tied together.

Along with ownership, the other predominant form of vested financial interest for the CEO, firm-performance contingent pay, will also have substantial implications for the CEO's organizational identification. The tying of CEO compensation to firm performance outcomes is a practice extensively used in large business organizations as part of the belief that the firm

and its owners benefit if the financial incentives of top managers and the owners are aligned (Dalton *et al.*, 2007; Sanders, 2001; Zajac and Westphal, 2002). The argument that performance-contingent pay is necessary to achieve alignment between firm and executive interests is so widely held, it is virtually a taken-for-granted assumption (Zajac and Westphal, 1995, 2002). Firm-performance contingent pay gives the CEO an overt stake in firm outcomes (Eisenhardt, 1989), and in doing so is consistent with the belonging motive for the CEO to identify with the firm, because it emphasizes for the CEO his/her role in the success of the collective and highlights how the firm and its members are an extension of self. It is also consistent with the meaning motive for the CEO to identify with the firm, as firm-performance contingent pay signifies to the CEO that his/her future and the future of the firm are intertwined. The CEO with higher organizational identification can adopt that structural intertwining of futures as an enhancement of his/her personal sense of purpose.

Hypothesis 3: CEO ownership of the firm will lead to more CEO organizational identification.

Hypothesis 4: Firm-performance contingency of CEO compensation will lead to more CEO organizational identification.

The structural controls that firms employ to attempt to rein in CEO self-serving behavior

Like vested financial interest, CEO control is associated with agency theory ideology. Structural limitations on the CEO's ability to exercise autonomous control exist in many firms, consistent with the agency theory assumption that an unrestrained CEO may behave in ways that serve the CEO's interests at the expense of the organization and its shareholders (Dalton *et al.*, 2007; Finkelstein *et al.*, 2009; Ryan and Schneider, 2002). Board independence from management is thought to be beneficial because it increases the vigilance with which outside directors monitor CEO behavior and because it increases directors' willingness to challenge CEO actions that are viewed as inconsistent with shareholder interests (Dalton *et al.*, 2007). In general, independent boards are expected to be less willing to acquiesce to CEO wishes and desires that may diverge from organizational interests.

Similarly, stock ownership by so-called pressure-resistant institutional investors (e.g., public pension funds and mutual funds) has been found to constrain CEO self-serving behavior (Brickley *et al.*, 1988; Bushee, 1998; Hartzell and Starks, 2003). Researchers have found that pressure-resistant institutional owners can exert control over managers, for example by blocking anti-takeover provisions (Brickley *et al.*, 1988); influencing the level and structure of executive compensation (David, Kochar, and Levitas, 1998; Hartzell and Starks, 2003); blocking attempts to reduce spending on research and development (Bushee, 1998); and spurring investments in international expansion (Tihanyi *et al.*, 2003). These pressure-resistant institutional investors, due to the size of their shareholdings, have the power to exert influence and control over the organization and the CEO (Ryan and Schneider, 2002), and are seen as having strong incentives to be active shareholders and to monitor executive behavior (Sanders and Boivie, 2004). Large shareholders can influence executive behavior through the threat of selling large blocks of the firm's stock, which would decrease firm value (David *et al.*, 2010). Pressure-resistant institutional investors can also exert influence in the organization because they have the capacity to develop monitoring routines and technologies (Almazan, Hartzell, and Starks, 2005). Such monitoring includes the use of sophisticated financial systems as well as directly contacting and pressuring directors and executives (Almazan *et al.*, 2005; Connelly *et al.*, 2010; Ryan and Schneider, 2002). CEOs, expecting a high degree of autonomy in their work, should be especially averse to this kind of direct, regular monitoring of their behavior.

The limitations on autonomous CEO control over the firm inherent in board independence and institutional ownership have implications for the level of CEO organizational identification. Prior research provides evidence that one's control over an object leads to feelings of ownership and to the sense that the object is an extension of self (for a review, see Pierce, Kostova, and Dirks, 2001). When relatively unrestrained, control over the firm, especially to the significant degree that the CEO can potentially affect the organization and its outcomes, will lead to a sense of psychological ownership of the firm; a sense that the firm is an extension of and descriptive of self (Pierce *et al.*, 2001). In other words, when the CEO has more control over the organization, he/she

will view it more like an owner, regardless of his/her actual level of ownership. Organizational identification is likely to follow, consistent with the efficacy motive, as the organization will be a means to the CEO's sense of competence and control. From the perspective of a CEO with relatively high control over the firm, the firm and its members are in the service of the CEO's values, desires, priorities, and overall vision. Additionally, if the CEO has substantial control, he/she can exert more influence over the goals, structures, and processes of the organization to align them with his/her own goals, priorities and characteristics, increasing the degree to which the organization contributes to both his/her sense of efficacy and sense of belonging. In contrast, organizational structural elements that diminish the CEO's autonomous control may impede the CEO's sense of the firm and its members as an extension of self, the CEO's sense of the firm as a means to fulfillment of the need for competence and control, the CEO's affinity with the firm's goals, processes, and structures, the degree to which the CEO can exert his/her influence to make the firm self-defining, the CEO's sense of the firm as a means to fulfillment of the need for belonging, and consequently the CEO's organizational identification.

Hypothesis 5: Board independence will lead to less CEO organizational identification.

Hypothesis 6: Institutional ownership of the firm will lead to less CEO organizational identification.

The interaction of structural controls with positive press and with performance

Our earlier arguments about how positive firm press coverage and favorable firm performance can enhance CEO organizational identification presume that the CEO feels control over the firm and its outcomes. In other words, those arguments follow the premise that a distinguishing feature of the CEO position, relative to even other top executives in the firm, is that the CEO has a higher degree of felt influence over the firm's image and performance. That feeling of influence is reinforced not only by the high degree to which the CEO actually has control over the firm and its outcomes, but also by the considerable extent to which the firm's observers pay attention to the CEO's statements

and actions and attribute firm outcomes to the CEO (Finkelstein *et al.*, 2009; Hayward *et al.*, 2004; Meindl *et al.*, 1985; Wade *et al.*, 2006b). High felt control over the firm, its image, and outcomes provides a context for the CEO to strongly identify with the firm when it is doing well, since the CEO has both opportunity and motive to perceive a strong connection between the firm's success and his/her own agency; i.e., to perceive that the firm's successes are literally his/her successes.

Indeed, even as the CEO may share with lower level members the tendency to identify with the well-performing firm simply as a way of basking in reflected glory and thereby increasing feelings of self-worth (Ashforth and Mael, 1989; Cialdini *et al.*, 1976; Dutton *et al.*, 1994; Mael and Ashforth, 1992), the CEO's high level of felt control over the organization provides a potentially important mechanism linking positive firm outcomes and organizational identification. Specifically, high felt control over the organization facilitates the CEO's identification with the firm when it is doing well because high felt control provides the CEO opportunity to feel genuine responsibility for and ownership over the organization's glory. In turn, those feelings of genuine responsibility and ownership lead the CEO to perceive him/herself as defined to some significant degree by the organization's identity because the favorability of the organization's identity makes it psychologically desirable and esteem enhancing to do so.

Even though the CEO position lends itself to high felt control, the structural limitations on the CEO's ability to exercise autonomous control that we described earlier—board independence and institutional ownership—may attenuate that felt control. An independent board and institutional owners can reduce the CEO's actual and perceived control over the firm and its outcomes by exerting pressure and scrutiny on the CEO and by playing an active role in policy formation and decision making (Tihanyi *et al.*, 2003; Westphal, 1999). The presence of an independent board and institutional owners can also represent for the CEO the possibility that those independent monitors will exercise post-hoc control, especially by removing the CEO from his/her position (Mizruchi, 1983). Earlier we argued that board independence and institutional ownership will impede the CEO's organizational identification, as they lessen the CEO's sense of the firm as an extension of self, and as they lessen the degree to which the CEO can exert his/her influence to shape

the organization so that it is reflective of self. Here we argue that variance in the degree to which the CEO feels control over the organization will not only have that main effect on subsequent CEO organizational identification, but also that such variance combined with variance in the favorability of firm attributes (as proxied by firm financial performance and press coverage) will have an interactive effect on subsequent CEO organizational identification.

Variance in felt control affects the CEO's *opportunity* to identify with the favorable firm, while variance in the favorability of firm attributes affects the CEO's *motivation* to identify with the firm even if opportunity for identification is high. Less felt control by the CEO will detract from the CEO's sense of ownership and responsibility for positive press reports and positive firm performance that otherwise would have enhanced organizational identification. As the CEO's felt control weakens, his/her opportunity to identify with the firm diminishes, even when positive firm press coverage or positive firm performance provides the CEO motivation to identify with the firm. Correspondingly, less favorable press coverage and firm performance will detract from the psychological desirability and esteem enhancement that would lead the CEO with high control to strongly identify with the organization. When press coverage and firm performance are diminished in favorability, the CEO's motivation to identify with the firm is weakened, even when the CEO's high level of control over the firm provides ample opportunity for identification. Together, these arguments lead to our final set of hypotheses:

Hypothesis 7a: Board independence negatively moderates (dampens) the degree to which positive press about the firm will lead to more CEO organizational identification.

Hypothesis 7b: Board independence negatively moderates (dampens) the degree to which positive firm performance will lead to more CEO organizational identification.

Hypothesis 7c: Institutional ownership negatively moderates (dampens) the degree to which positive press about the firm will lead to more CEO organizational identification.

Hypothesis 7d: Institutional ownership negatively moderates (dampens) the degree to which positive firm performance will lead to more CEO organizational identification.

METHODS

Sample and data collection

The data for this study were collected as part of an ongoing stream of research related to the attitudes of corporate executives (Boivie *et al.*, 2011). We measured CEO organizational identification with a survey sent to all CEOs in a sample frame that consisted of Reference USA's 2000 largest U.S. public industrial and service firms. To manage the time and expense in conducting this large survey, we sent out the initial (time $t - 1$) surveys in two waves: half in January 2004 and the other half in January 2005. To measure subsequent organizational identification, each responding CEO received a follow-up (time t) survey one year after the initial survey, and then another follow-up (time $t + 1$) survey one year later. A total of 40 initial respondent CEOs left their positions and were not available for one or both of the follow-up surveys, and therefore were dropped from the sample. In supplementary analyses we used two-stage Heckman sample selection models to predict the probability that a CEO was not dropped, and then to control for that probability when testing the hypotheses (Heckman and Borjas, 1980). In these supplementary analyses, our results were unchanged from the results we report in this paper. To collect data for a robustness check on a measure of friendship ties between the CEO and outside directors (described below), we sent questionnaires to all outside directors at firms with a responding CEO.

To attempt to maximize response rates, we followed steps described in prior research (e.g., McDonald and Westphal, 2003), including pretests and interviews to help modify and refine the wording of the survey items, layout, and instructions, an endorsement from a well-known corporate leader included with the survey, an invitation to participate that explained how it is part of an ongoing program of research on corporate leadership by faculty at prominent universities, and follow up survey attempts for non-respondents. After excluding respondents where needed firm-level archival data (such as unrelated diversification) was not available, the overall participation rate for the CEO survey was 39 percent ($N = 772$) for the one-year lag and 38 percent ($N = 753$) for the two-year lag. The participation rate for the survey of outside directors was 41 percent, with at least two outside directors

responding for 87 percent of firms with a participating CEO. We used both Kolmogorov-Smirnov two-sample tests and two-stage Heckman sample selection models to check for and rule out the possibility of nonrespondent bias (Conover, 1999; Heckman and Borjas, 1980).

We gathered demographic data on CEOs from *Standard and Poor's Register*, *Capital IQ*, *Dun and Bradstreet's Reference Book of Corporate Management*, *Marquis' Who's Who*, corporate proxy statements, and annual reports. Data on CEO ownership and compensation came from proxy statements and the *ExecuComp* database, and data on institutional ownership came from *Thomson Financial Securities Data*. Data on board characteristics came from proxy statements and *Compact D*. Data on firm performance and size came from *CRSP*, *COMPUS-TAT*, and *EDGAR Online*.

Data for independent and control variables were collected for year $t - 1$; data for the dependent variable were collected for year t and year $t + 1$. In our primary analyses independent variables are measured in year $t - 1$. As a robustness check, we also ran separate analyses (not shown) with tenor of press coverage, firm performance, CEO ownership, compensation contingency, board independence, institutional ownership, unrelated diversification, number of board appointments, sales, and CEO cash compensation averaged over (1) the prior two years, (2) the prior three years, and the results were very consistent with the results we are reporting.

Dependent variable

The dependent variable in this study is the level of *CEO organizational identification*. Our measure of organizational identification was developed and validated in prior research (Boivie *et al.*, 2011). The Boivie *et al.* (2011) measure is adapted from a set of survey items developed by Mael and Ashforth (1992) and Bergami and Bagozzi (2000) to measure organizational identification, a scale that has been used and validated extensively in prior studies (e.g., Dukerich *et al.*, 2002; Johnson *et al.*, 2006). One of the questions asks respondents to assess the degree of overlap between their self-definition and that of the firm as represented pictorially in the survey by a series of Venn diagram-type circles ranging from far apart to complete overlap (see Boivie *et al.*, 2011, for the wording of all the survey items and for an illustration of the pictorial question).

Although the measures we used have been validated in prior research, including Boivie *et al.*'s (2011) evidence of discriminant validity relative to the other survey scales in their study, we conducted tests in order to ensure validity for our sample. A confirmatory factor analysis on the nine survey items showed consistent evidence for an adequate model fit. Several widely used fit indexes exceeded 0.90 (e.g., GFI, NFI, and CFI), and the root mean square residual (RMR) was less than 0.035. Moreover, the overall chi-square was not statistically significant (Shook, Ketchen, and Hult, 2004). Inter-item reliability was high (coefficient alpha = 0.87) and the lambdas (standardized validity coefficients) were highly significant for all nine items in the organizational identification scale.

To assess the distribution of the CEO organizational identification variable, we conducted the skewness and kurtosis tests for normality described by D'Agostino, Belanger, and D'Agostino (1990), with the adjustment made by Royston (1991) implemented in Stata. The adjusted chi-square for the joint test of skewness and kurtosis was not statistically significant ($\chi^2 = 2.73$, $p > 0.2557$), and the p-values for skewness and kurtosis taken separately were 0.1195 and 0.9066, respectively. Thus, we cannot reject the null hypothesis that our measure of CEO organizational identification is normally distributed; the skewness and kurtosis of our measure are not significantly different from that of a normal distribution at the five percent significance level.

Independent variables

We measured the *tenor of press coverage* received by the firms in our sample using the content analysis procedure described by Pollock and Rindova (2003). This technique calculates the coefficient of imbalance (Deepphouse, 2000) using the formula:

$$\text{Tenor} = (P^2 - PN) / V^2 \text{ if } P > N; 0 \text{ if } P = N, \\ \text{and } (PN - N^2) / V^2 \text{ if } N > P,$$

where P is the number of positive articles about a firm, N is the number of negative articles, and V is the volume of articles about the firm (including those that are neutral) (Pollock and Rindova, 2003). This variable can range from negative one to one. A score of negative one indicates that all the articles are negative about a firm and score

of one indicates all positive coverage. Articles about the focal firm were collected from major news and business publications in the U.S., as listed in *Factiva* and *LexisNexis* (Pollock and Rindova, 2003). Also included were articles about the firm from daily newspapers in a city where the firm is headquartered or has significant operations. Two coders independently read and assessed the articles: one was an MBA student at a leading business school with an undergraduate degree in finance; the second coder was a master's degree student in nursing with no background in business. Thus, the coders had substantially different backgrounds, permitting a stronger test of interrater reliability (Weber, 1990). The intra-class correlation coefficient was 91 percent, indicating a high level of reliability. The primary analysis included articles from the year preceding the measure of the dependent variable. The results were robust to the inclusion of articles from the two year or three year period preceding the dependent variable.

We measured the level of *firm performance* using three indicators of financial performance: return on assets (ROA) for an accounting-based measure, and market-to-book value of equity and total stock returns as market-based measures. Factor analysis showed that these indicators loaded on a single construct. Factor scores were obtained using the Bartlett method but our results were robust to the regression method. The firm performance variable was lagged by one year in the primary analysis. The results were robust to measures of that variable averaged over the prior two years, or over the prior three years.

We measured the level of *CEO ownership* as the value of common shares owned by a CEO divided by total common stock. We measured the *performance contingency of CEO compensation* as the total value of long-term incentives granted to the CEO in the particular year divided by total direct compensation, which includes annual salary, short-term bonus, and the value of long-term incentive grants (Carpenter and Sanders, 2004; Sanders and Carpenter, 1998). Stock option grants were valued using the Black-Scholes method (Sanders and Carpenter, 1998). The results were robust to alternative valuation methods, including the SEC present value method (Sanders and Carpenter, 1998). Performance shares, restricted stock, and other long-term grants were valued at the market price on the date of grant (Crystal, 1984). The CEO

ownership and performance contingency of CEO compensation variables were lagged by one year in the primary analysis.

Board independence is a complex construct and consequently we measured it using multiple indicators (for reviews, see Chatterjee and Harrison, 2001; Finkelstein *et al.*, 2009). First, we measured the proportion of the board composed of outside directors not affiliated with the firm (i.e., they lack any known employment or business ties to the firm) (Brickley *et al.*, 1988). Second, we measured whether the CEO and board chair positions are separate. Boards with an independent chairperson are better able to prevent the CEO from advancing his/her personal interests by controlling the agenda of board meetings (Finkelstein *et al.*, 2009). Third, we measured the portion of outside directors whom the CEO considered to be personal friends, because governance scholars have suggested that outside directors who are friends with the CEO may lose objectivity when assessing the CEO's decision making or performance (for review, see Finkelstein *et al.*, 2009; see also Fredrickson, Hambrick, and Baumrin, 1988; Westphal, 1999). Our measure of friendship ties has been used and validated in several recent studies (McDonald, Khanna, and Westphal, 2008; McDonald and Westphal, 2003; Westphal, 1999). There was a high degree of inter-rater agreement between CEOs and responding outside directors about the strength of their personal relationship (weighted kappa = 0.88). In the primary analyses we used CEO responses to measure friendship ties. As a robustness check in separate analyses we used director responses and the hypothesized results were unchanged. Finally, we measured outside director ownership—which is thought to motivate directors to block policies that would advance CEO interests at the expense of shareholders (Finkelstein *et al.*, 2009)—as the percentage of total common stock held by outside directors.

We combined the four indicators of board independence into an index using principal components analysis (PCA) (Jackson, 1991). PCA is primarily a data reduction technique which is appropriate when combining a set of causal indicators (i.e., formative rather than reflective indicators) (MacCallum and Browne, 1993). Although causal indicators do not necessarily need to be correlated, factor analysis showed that all four indicators loaded on the same factor with an eigenvalue greater than one. In

separate analyses we included the portion of outside directors appointed during the CEO's tenure as another indicator of board independence (Wade, O'Reilly, and Chandratat, 1990), and the hypothesized results presented below were unchanged.

We measured the level of **pressure-resistant institutional ownership** as the equity held by public pension funds, mutual funds, endowments and foundations, divided by the total amount of common stock. The board independence and pressure-resistant institutional ownership variables were lagged by one year in the primary analysis.

Control variables

To rule out alternative explanations we controlled for CEO attributes and firm characteristics that could be associated with CEO organizational identification. It is possible that, when the firm is diversified into different business areas that have little in common with each other, the CEO will be less likely to perceive the firm as a coherent, unified, and meaningful whole with which to identify. We therefore controlled for **unrelated diversification** using the unrelated entropy measure (Palepu, 1985). This measure is given by:

$$DU = \sum_{i=1}^N P_i \ln(1/P_i)$$

where P_i is the proportion of business activity (sales) in SIC code i , for a corporation with N different two-digit SIC businesses. CEOs often exercise their boundary-spanning role by sitting as outside members on the boards of directors of other firms. As the CEO's attention and energy are dispersed across a wider set of firms, the degree to which the CEO perceives his/her home firm as a distinct in-group with which to identify relative to the out-group represented by the other firms, may decrease. We therefore controlled for **number of outside board appointments** as a count of all the external board appointments the CEO had outside the firm. The unrelated diversification and number of outside board appointments variables were lagged by one year in the primary analysis. The results were robust to measures of these variables that averaged each over the prior two years, or over the prior three years.

Being the founder of the organization, or being a member of the founder's family, could lead to

higher levels of CEO organizational identification because of the increased exposure to the firm and increased control over and knowledge about the firm. We therefore controlled for *CEO founder or founding family member*, a dichotomous variable set at one if the CEO was the founder of the firm or was part of the founding family, and set at zero otherwise. The length of time that the CEO has been with the firm could also be associated with his/her level of organizational identification. Theorists have argued that increased tenure with the organization leads members to see organizational attributes as more salient and memorable, to perceive the organization's identity as more favorable, to view organizational membership as more salient for self-categorization, and to consider organizational membership as more primary as opposed to other group memberships (Dutton *et al.*, 1994; Mael and Ashforth, 1992; O'Reilly and Chatman, 1986). However, the positive effect of tenure on identification might be weakened if individuals also identify strongly with the organization shortly after joining it. A strong sense of belonging helps to justify the choice to join the organization. We controlled for *CEO tenure* as the number of years the individual has been the CEO at the focal firm. Although a relationship between organizational size and organizational identification is not typically predicted in the organizational identification literature, as a precaution we controlled for firm size to allow for any effect that size might have on the degree to which the CEO sees the organization as self-enhancing, distinctive, or an appealing place to belong. We control for firm size as annual *sales (log)* (Finkelstein *et al.*, 2009; Yermack, 2006). For similar reasons, we controlled for industry in all models by including a series of dummy variables. We created our dummy variables at the two-digit SIC code level of the firm's primary industry (coefficients for these variables are not reported but are available from the authors). We hypothesized in this study about the effect on CEO organizational identification of pay that is performance contingent. To test that prediction while holding constant the level of pay that is not performance contingent, we control for *CEO total cash compensation*, which includes the CEO's annual salary and bonus. To mitigate hypothetical sources of unobserved heterogeneity not captured by our other controls, and to rule out the alternative explanation of reverse causality, we controlled for the one-year prior value of the dependent variable, CEO organizational

identification (Bergh and Fairbank, 2002). To determine whether instrumentation is required we tested for residual autocorrelation when the lagged dependent variable is included (Keele and Kelly, 2006). The Breusch-Godfrey/Wooldridge test was not significant ($p > 0.43$), and thus we cannot reject the null hypothesis that residual autocorrelation is absent from our model. The Breusch-Pagan/Cook-Weisberg test also indicated that heteroskedasticity is not present in the model (Wooldridge, 2010). In separate models we established the robustness of our results to including different instrumental variables.¹ Finally we note that the results are robust to including or excluding the lagged dependent variable from the models.

RESULTS

Table 1 provides descriptive statistics and Table 2 shows the OLS regression results. There was no evidence of multicollinearity affecting the results. In each of the models all variance inflation factors were below 10 and the average was not significantly greater than 1 (Chatterjee, Hadi, and Price, 2000). Model 1 in Table 2 includes the control variables, Model 2 adds the hypothesized main effect variables, and Model 3 adds in the hypothesized interactions.

Hypotheses 1 and 2 predicted that the tenor of the firm's press coverage and firm performance would each be positively related to subsequent CEO organizational identification. The positive, statistically significant coefficients for those variables shown in Models 2 and 3 strongly support both hypotheses. Hypotheses 3 and 4 predicted that the level of CEO

¹ In one model we followed the approach described by Bond (2002: 145), in which the value of the dependent variable in year $t-2$ is used as the instrumental variable. Although this model reduces our sample size, the hypothesized results were essentially unchanged. In another model we added the performance contingency of CEO compensation in year $t-2$ as an instrumental variable. The intuition for this instrument is that the CEO's current organizational identification is not likely to be influenced by the performance contingency of their pay in year $t-2$ independently of identification in year $t-1$ or performance contingency in year $t-1$. Again, the hypothesized results were essentially unchanged. Since this model is overidentified, we were able to conduct the Sargan identification test (Bond, 2002; Murray, 2006). It was not statistically significant ($p > 0.37$), and thus we cannot reject the null hypothesis that the instruments are valid. We also note that the first-stage F-statistic was statistically significant and exceeded the most conservative Stock-Yogo critical value (Stock and Yogo, 2005). Thus, we can reject the null hypothesis that the instruments are weak.

Table 1. Means, standard deviations, and correlations of key variables^a

Variable	Mean	S.D.																	
1. Tenor of press coverage	0.11	0.31																	
2. Firm performance	0.00	0.93																	
3. CEO ownership	0.01	0.04																	
4. Performance contingency of CEO compensation	0.45	0.19																	
5. Board independence	0.00	1.31																	
6. Pressure-resistant institutional ownership	0.39	0.19																	
7. Unrelated diversification	0.04	0.43																	
8. Number of outside board appointments	2.58	2.04																	
9. CEO founder or founding family member	0.06	0.23																	
10. CEO tenure	6.41	5.77																	
11. Sales (log)	9.79	0.60																	
12. CEO total cash compensation	8.33	1.15																	
13. CEO organizational identification	0.00	0.95																	
14. Prior CEO organizational identification	0.00	0.95																	
Variable	1	2	3	4	5	6	7	8											
1. Tenor of press coverage																			
2. Firm performance	-0.13																		
3. CEO ownership	0.03	-0.09																	
4. Performance contingency of CEO compensation	0.07	0.03	0.13																
5. Board independence	0.02	0.07	-0.01	-0.07															
6. Pressure-resistant institutional ownership	0.02	0.04	-0.11	0.03	0.05														
7. Unrelated diversification	-0.06	-0.12	-0.08	-0.01	-0.07	-0.08													
8. Number of outside board appointments	-0.01	0.05	0.04	0.03	-0.03	-0.02	0.04												
9. CEO founder or founding family member	0.02	-0.07	0.32	0.12	-0.12	-0.04	0.04	0.08											
10. CEO tenure	-0.03	-0.04	0.06	-0.11	-0.10	-0.02	0.03	0.07											
11. Sales (log)	-0.07	-0.06	-0.05	0.04	0.05	0.16	0.27	0.06											
12. CEO total cash compensation	-0.14	0.11	0.03	0.12	-0.12	-0.05	0.05	0.04											
13. CEO organizational identification	0.21	0.19	0.14	0.17	-0.20	-0.17	-0.28	-0.26											
14. Prior CEO organizational identification	0.14	0.11	0.10	0.07	-0.14	-0.13	-0.19	-0.18											
15. Board independence × tenor of press coverage	0.06	-0.07	0.02	0.02	0.16	0.07	-0.09	-0.03											
16. Board independence × firm performance	-0.02	0.03	-0.06	-0.02	-0.10	0.04	-0.10	0.03											
17. Inst'l ownership × tenor of press coverage	0.08	-0.06	-0.03	0.08	0.04	0.11	-0.09	-0.01											
18. Institutional ownership × firm performance	-0.09	0.03	-0.12	0.04	-0.01	0.05	-0.03	0.02											
Variable	9	10	11	12	13	14	15	16	17										
10. CEO tenure	0.24																		
11. Sales (log)	-0.25	0.08																	
12. CEO total cash compensation	0.06	0.11	0.36																
13. CEO organizational identification	0.22	0.09	-0.07	0.05															
14. Prior CEO organizational identification	0.19	0.07	-0.05	0.02	0.49														
15. Board independence × tenor of press coverage	-0.08	-0.07	-0.01	-0.16	-0.15	-0.08													
16. Board independence × firm performance	-0.09	-0.05	-0.02	-0.03	-0.17	-0.09	-0.11												
17. Inst'l ownership × tenor of press coverage	0.03	-0.01	0.02	-0.08	-0.14	-0.11	0.04	-0.01											
18. Institutional ownership × firm performance	-0.05	-0.02	0.05	0.04	-0.10	-0.05	-0.01	0.11	-0.12										

^a $n = 772$, where $|r| > 0.07$, $p \leq 0.05$.

ownership in the firm and the firm-performance contingency of CEO compensation would each be positively related to subsequent CEO identification. The positive, statistically significant coefficients for those variables shown in Models 2 and 3 strongly support both hypotheses. Hypotheses 5

and 6 predicted that the levels of board independence and institutional ownership in the firm would each be negatively related to subsequent CEO organizational identification. The negative, statistically significant coefficients for those variables shown in Models 2 and 3 strongly support both hypotheses.

Table 2. Regression models of CEO organization identification^a

	Predicted	Model 1	Model 2	Model 3
Tenor of press coverage	H1 (+)		0.003*** (0.001)	0.003*** (0.001)
Firm performance	H2 (+)		0.100** (0.033)	0.103** (0.033)
CEO ownership	H3 (+)		2.041** (0.747)	2.046** (0.750)
Performance contingency of CEO compensation	H4 (+)		0.475** (0.164)	0.472** (0.165)
Board independence	H5 (-)		-0.069** (0.022)	-0.067** (0.022)
Pressure-resistant institutional ownership	H6 (-)		-0.378* (0.153)	-0.364* (0.154)
Board independence × tenor of press coverage	H7a (-)			-0.003*** (0.001)
Board independence × firm performance	H7b (-)			-0.015** (0.005)
Institutional ownership × tenor of press coverage	H7c (-)			-0.061** (0.020)
Institutional ownership × firm performance	H7d (-)			-0.304 [†] (0.163)
Unrelated diversification		-0.179*** (0.052)	-0.182*** (0.053)	-0.186*** (0.056)
Number of outside board appointments		-0.046*** (0.014)	-0.043*** (0.014)	-0.042** (0.014)
CEO founder or founding family member		0.312** (0.117)	0.310** (0.118)	0.314** (0.118)
CEO tenure		0.010* (0.005)	0.011* (0.005)	0.011* (0.005)
Sales (log)		-0.084 [†] (0.047)	-0.085 [†] (0.047)	-0.086 [†] (0.047)
Industry dummies		<i>Included</i>	<i>Included</i>	<i>Included</i>
CEO total cash compensation		0.046 [†] (0.025)	0.046 [†] (0.025)	0.046 [†] (0.025)
Prior CEO organizational identification		0.382*** (0.028)	0.350*** (0.028)	0.324*** (0.028)
Constant		0.881 (0.540)	0.843 (0.547)	0.687 (0.547)
F		8.89***	14.55***	21.23***
R ²		0.26	0.44	0.63

^a $n = 772$. Two-tailed t -tests. Standard errors are in parentheses.

[†] $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

The results of our hypotheses tests show effects that are fairly strong in magnitude. For example, an increase in board independence of one standard deviation from the mean level is associated with a reduction in CEO organizational identification of more than two points on an eight-point scale (e.g., from “very large overlap between self-image and the organization’s” to a level that is between a “small overlap” and a “moderate overlap”). Each of the other independent variables has effects of comparable magnitude. In each case a standard deviation increase in the independent variable is

associated with a difference in CEO organizational identification of at least two points on an eight-item scale. Similarly, for the five-point scale “to what degree does your self-image overlap with the organization,” for each of the independent variables an increase in the variable of one standard deviation is associated with a difference of more than one point. (e.g., from “a substantial degree” of overlap to “a modest degree” of overlap).

Hypotheses 7a–d each predicted an interactive effect on CEO organizational identification between structural limitations on the CEO’s control

(board independence or institutional ownership) and favorable firm outcomes (positive press or firm performance). Model 3 shows negative, statistically significant coefficients for the interactions of board independence and tenor of firm press coverage, board independence and firm performance, and institutional ownership and tenor of firm press coverage, indicating strong support for Hypotheses 7a–c. Model 3 shows a negative, marginally significant ($p = 0.06$) coefficient for the interaction of institutional ownership and firm performance, suggesting tentative support for Hypothesis 7d. When those interactions are plotted (graphs are available in Figure S1), the graphs further confirm that as tenor of press coverage becomes more favorable, high board independence (and high institutional ownership) constrain the effect of CEO organizational identification more than does low board independence (and low institutional ownership). Likewise, as firm performance becomes more favorable, high board independence (and high institutional ownership) constrain the effect of CEO organizational identification more than does low board independence (and low institutional ownership). As a robustness check, we conducted separate models (not shown) that regress CEO organizational identification at time t on changes in the independent variables from time $t - 2$ to time $t - 1$ and the results are very similar to those reported in Table 2 (none of the hypothesized results become nonsignificant).

DISCUSSION

The goal of this paper was to develop additional insight into organizational factors that may influence the psychological orientation of the CEO toward the firm and to provide a more complete understanding of what may lead CEOs to identify with their firms. To do so, we drew on Vignoles *et al.* (2006) to outline motives that people might have for organizational identification. We then considered how variables that prior research has shown to characterize the CEO position or to be especially associated with the actions of the CEO might be relevant to those motives. The theory and hypotheses we developed pertained to the high degree to which the image and performance of the firm are attributed to the CEO, the potentially high degree to which the CEO has vested financial interest in the firm, and the structural controls that firms employ to attempt to

rein in CEO self-serving behavior. We further theorized that the CEO's felt control and the favorability of firm attributes would have an interactive effect on CEO organizational identification. Our empirical findings strongly supported the main effect and most of the interactive effect antecedents of CEO organizational identification that we hypothesized.

By examining and predicting the organizational identification of CEOs, this study makes a number of valuable contributions to theory and research. First, we contribute to the upper echelons perspective, in particular the growing literature on the psychology of corporate leaders (e.g., Boivie *et al.*, 2011; Chatterjee and Hambrick, 2007; Gupta and Govindarajan, 1984; Hayward and Hambrick, 1997; Hayward *et al.*, 2004; Miller and Droge, 1986; Miller *et al.*, 1982; Nadkarni and Herrmann, 2010; Wally and Baum, 1994). Most of that literature investigates stable executive traits or dispositions as antecedents of firm outcomes. In our study we turn that equation around by investigating organizational factors as predictors of a relatively changeable psychological state: CEO organizational identification. We provide evidence that different facets of the experience of being a CEO influence the CEO's psychological relationship with the firm.

Second, this study contributes to the nascent literature on organizational identification at the top of the firm (Boivie *et al.*, 2011; Davis *et al.*, 1997; Johnson *et al.*, 2006; Peterson *et al.*, 2012). By considering aspects of the CEO position that make it qualitatively different from other positions in the organization, and by considering those aspects in light of theory from the identification literature, we show how such firm characteristics as financial performance and positive press coverage can influence the CEO's level of organizational identification. Prior theory and empirical findings have considered the positive outcomes for organizations of CEO organizational identification (Boivie *et al.*, 2011; Davis *et al.*, 1997). The central argument in those studies is that a CEO with strong organizational identification will tend to see little or no distinction between the organization's interests and his/her own. Here, we provide a complement to that prior research by investigating characteristics of the organization and CEO position that may predict the potentially beneficial state of CEO organizational identification.

Third, by examining motives leading to organizational identification in the context of the CEO position, this study makes a contribution to the

governance literature by extending prior research that has examined the effects of CEO organizational identification on important firm outcomes. In particular, while Boivie *et al.* (2011) found that high organizational identification made governance controls effectively redundant, in this study we show how governance controls can themselves reduce or enhance the degree to which the CEO identifies with the firm. We draw on the motives that lead to identification to show how aspects of the CEO's organizational life that are widely considered to be governance mechanisms, including the degree of the CEO's financial investment in the firm, the degree to which the CEO's financial rewards are tied to firm performance, the degree to which the firm is owned by institutional investors, and the degree to which the board is independent of management, have a relationship to organizational identification. When these studies are considered together, they suggest that extrinsic controls emphasized in the prior literature have unanticipated side effects on agency costs, through reducing CEO organizational identification, that diminish their overall value to corporate governance. For example, institutional ownership is a commonly theorized source of control on CEO self-serving behavior (Brickley *et al.*, 1988; Bushee, 1998; David *et al.*, 1998, 2010; Hartzell and Starks, 2003). Yet if, as we show here, institutional ownership has a negative influence on CEO organizational identification, then its ultimate controlling effect on CEO self-serving behavior may be weakened.

One of the major implications of this study, then, is that one category of traditional agency problem controls, namely those that entail vested interest and incentive alignment, may have the indirect effect of enhancing organizational identification, and therefore of furthering the goals of those agency problem controls—to promote and encourage the CEO's stewardship orientation. At the same time, the other dominant category of traditional agency problem controls, those that entail structural limitations on the CEO's ability to exercise autonomous control, may have the side effect of diminishing organizational identification, and therefore paradoxically may work at cross purposes with the goals of those agency problem controls. Moreover, because those autonomy reducing controls (especially board independence) appear to diminish the otherwise positive effect of favorable firm attributes (including positive press and firm performance) on CEO organizational

identification, they may further work at cross purposes with the goals of those controls.

Thus, our results contribute to the stream of research that has focused on the potential substitutability and/or complementarity of monitoring and incentive systems to control agency problems (e.g., Rediker and Seth, 1995; Tosi, Katz, and Gomez-Mejia, 1997; Ward, Brown, and Rodriguez, 2009; Zajac and Westphal, 1994). That stream of research has explored how, given the right conditions, certain governance control mechanisms may serve as functional replacements for other governance control mechanisms, or sometimes may serve as complements for other governance control mechanisms, meaning that “the presence or addition of one mechanism strengthens the other and leads to more effective governance in addressing agency problems” (Ward *et al.*, 2009: 648). The findings from the current study suggest one way in which, due to their conflicting influence on CEO organizational identification, the effects of monitoring and incentive systems on agency problems in the firm may ultimately have differential, indeed opposing, effects on an important dimension of the CEO's psychological orientation toward the firm.

A valuable subject for future research is a more in-depth exploration of the contingencies (e.g., individual CEO differences, organizational contextual differences) that might enhance or hamper the degree to which the antecedents we identified in this study do indeed lead to organizational identification. One can imagine how variables that we did not collect or theorize about in this study—e.g., the CEO's psychological traits, the CEO's personal wealth outside of his/her vested financial interest in the focal organization, the organization's culture—might represent factors that affect the mechanisms of identification we argue in this study. For example, high personal wealth of the CEO outside of the organization may render even high degrees of vested financial interest in the focal firm less salient for the CEO, and therefore less predictive of organizational identification. Contingencies such as these represent boundary conditions that may need to be isolated as we continue to improve our understanding of what leads to organizational identification among members in general and CEOs in particular.

Our findings that CEO organizational identification may be influenced by common features of the organization and the CEO position, and by

commonly employed mechanisms for controlling the agency problem in organizations, have practical implications for the governance of organizations. If indeed there is an indirect link between those organizational identification antecedents and important firm outcomes—such as firm performance—which may stem from the stewardship orientation of the CEO, it would be valuable for boards of directors to consider which of the antecedents of CEO organizational identification might be in their control. The control variables in our models suggest that CEO organizational identification may be enhanced if boards retain the founder as the CEO, or leave the CEO in his/her position for a long time. Yet, prior research suggests that founder status, especially beyond the early years of the organization's life, and very long executive tenure, are not unambiguously positive contributors to organizational performance (e.g., Jayaraman *et al.*, 2000; Miller and Shamsie, 2001).

Some of our predictors are out of the board's control, at least in the short term. In particular, although firms attempt to manage the press and its coverage of the firm (Graffin, Carpenter, and Boivie, 2011; Westphal and Deephouse, 2011), boards cannot readily manufacture the positive press and positive firm performance that our results suggest may enhance CEO organizational identification. However, other predictors in our model are under the board's control. As boards consider governance mechanisms intended to enhance the CEO's stewardship orientation toward the organization, either by restricting his/her ability to exercise autonomous control or by aligning his/her incentives with the organization's goals, our results may be informative. In particular, incentive alignment mechanisms—including those that increase CEO ownership in the firm, and those that increase the degree to which the CEO's pay is firm-performance contingent—may have beneficial effects on CEO organizational identification. By contrast, monitoring mechanisms—including those that increase institutional ownership of the firm, and those that increase board independence from management—may decrease CEO organizational identification. This latter implication may be especially important to the board working to ensure that the very exercise of governance control mechanisms does not undermine the effectiveness of those mechanisms.

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REFERENCES

- Almazan A, Hartzell JC, Starks LT. 2005. Active institutional shareholders and costs of monitoring: evidence from executive compensation. *Financial Management* **34**(4): 5–34.
- Ashforth BE, Harrison SH, Corley KG. 2008. Identification in organizations: an examination of four fundamental questions. *Journal of Management* **34**(3): 325–374.
- Ashforth BE, Mael F. 1989. Social identity theory and the organization. *Academy of Management Review* **14**(1): 20–39.
- Ashforth BE, Rogers KM. 2012. Is the employee-organization relationship misspecified? The centrality of tribes in experiencing the organization. In LM Shore, JA-M Coyle-Shapiro, LE Tetrick (eds). *The Employee-Organization Relationship: Applications for the 21st Century*. Routledge: New York.
- Bartel C. 2001. Social comparisons in boundary-spanning work: effects of community outreach on members' organizational identity and identification. *Administrative Science Quarterly* **46**(3): 379–413.
- Bednar MK, Boivie S, Prince NR. 2013. Burr under the saddle: how media coverage influences strategic change. *Organization Science* **24**(3): 910–925.
- Beggan JK. 1992. On the social nature of nonsocial perception: the mere ownership effect. *Journal of Personality and Social Psychology* **62**(2): 229–237.
- Belk RW. 1988. Possessions and the extended self. *Journal of Consumer Research* **15**(2): 139–168.
- Bergami M, Bagozzi RP. 2000. Self-categorization, affective commitment and group self-esteem as distinct aspects of social identity in the organization. *British Journal of Social Psychology* **39**(4): 555–577.
- Bergh DD, Fairbank JF. 2002. Measuring and testing change in strategic management research. *Strategic Management Journal* **23**(4): 359–366.
- Boivie S, Lange D, McDonald ML, Westphal JD. 2011. Me or we: the effects of CEO organizational identification on agency costs. *Academy of Management Journal* **54**(3): 551–576.
- Bond SR. 2002. Dynamic panel data models: a guide to micro data methods and practice. *Portuguese Economic Journal* **1**(2): 141–162.
- Breakwell GM. 1986. *Coping with Threatened Identities*. Methuen: London, UK.

- Breakwell GM. 1993. Social representations and social identity. *Papers on Social Representations* 2(3): 198–217.
- Brewer M. 1991. The social self: on being the same and different at the same time. *Personality and Social Psychology Bulletin* 17(5): 475–482.
- Brickley JA, Lease RC, Smith CW Jr. 1988. Ownership structure and voting on antitakeover amendments. *Journal of Financial Economics* 20(1–2): 267–291.
- Bushee BJ. 1998. The influence of institutional investors in myopic R&D investment behavior. *Accounting Review* 73(3): 305–333.
- Carpenter MA, Geletkanycz MA, Sanders WG. 2004. Upper echelons research revisited: antecedents, elements, and consequences of top management team composition. *Journal of Management* 30(6): 749–778.
- Carpenter MA, Sanders WG. 2002. Top management team compensation: the missing link between CEO pay and firm performance. *Strategic Management Journal* 23(4): 367–374.
- Carpenter MA, Sanders WG. 2004. The effects of top management team pay and firm internationalization on MNC performance. *Journal of Management* 30(4): 509–528.
- Chatterjee S, Hadi AS, Price B. 2000. *Regression Analysis by Example*. Wiley: New York.
- Chatterjee A, Hambrick DC. 2007. It's all about me: narcissistic chief executive officers and their effects on company strategy and performance. *Administrative Science Quarterly* 52(3): 351–386.
- Chatterjee S, Harrison JS. 2001. Corporate governance. In MA Hitt, RE Freeman, JS Harrison (eds). *Blackwell Handbook of Strategic Management*: 543–563. Blackwell: Oxford, UK.
- Cialdini RB, Borden RJ, Thorne A, Walker MR, Freeman S, Sloan LR. 1976. Basking in reflected glory: three (football) field studies. *Journal of Personality and Social Psychology* 34(3): 366–375.
- Clapham SE, Schwenk CR. 1991. Self-serving attributions, managerial cognition, and company performance. *Strategic Management Journal* 12(3): 219–230.
- Connelly BL, Hoskisson RE, Tihanyi L, Certo ST. 2010. Ownership as a form of corporate governance. *Journal of Management Studies* 47(8): 1561–1589.
- Conover WJ. 1999. *Practical Nonparametric Statistics* (3rd edn). Wiley: New York.
- Crystal GS. 1984. *Questions and Answers on Executive Compensation*. Prentice-Hall: Englewood Cliffs, NJ.
- D'Agostino RB, Belanger A, D'Agostino RB Jr. 1990. A suggestion for using powerful and informative tests of normality. *American Statistician* 44(4): 316–321.
- Dalton DR, Hitt MA, Certo ST, Dalton CM. 2007. The fundamental agency problem and its mitigation: independence, equity, and the market for corporate control. In JP Walsh, AP Brief (eds). *Academy of Management Annals*, Volume 1: 1–64. Taylor & Francis: New York.
- David P, Kochar R, Levitas E. 1998. The effect of institutional investors on the level and mix of CEO compensation. *Academy of Management Journal* 41(2): 200–208.
- David P, O'Brien JP, Yoshikawa T, Delios A. 2010. Do shareholders or stakeholders appropriate the rents from corporate diversification? The influence of ownership structure. *Academy of Management Journal* 53(3): 636–654.
- Davis JH, Schoorman FD, Donaldson L. 1997. Toward a stewardship theory of management. *Academy of Management Review* 22(1): 20–47.
- Deci EL, Ryan RM. 2000. Human needs and the self-determination of behavior. *Psychological Inquiry* 11(4): 227–268.
- Deephouse DL. 2000. Media reputation as a strategic resource: an integration of mass communication and resource-based theories. *Journal of Management* 26(6): 1091–1112.
- Dittmar H. 1992. *The Social Psychology of Material Possessions: To Have Is To Be*. St. Martin's Press: New York.
- Dukerich JM, Golden BR, Shortell SM. 2002. Beauty is in the eye of the beholder: the impact of organizational identification, identity, and image on the cooperative behaviors of physicians. *Administrative Science Quarterly* 47(3): 507–533.
- Dukerich JM, Kramer RM, McLean Parks J. 1998. The dark side of organizational identification. In DA Whetten, PC Godfrey (eds). *Identity in Organizations: Building Theory Through Conversations*: 245–256. Thousand Oaks, CA: Sage.
- Dutton JE, Dukerich JM, Harquail CV. 1994. Organizational images and member identification. *Administrative Science Quarterly* 39(2): 239–263.
- Edwards MR. 2005. Organizational identification: a conceptual and operational review. *International Journal of Management Reviews* 7(4): 207–230.
- Eisenhardt KM. 1989. Agency theory: an assessment and review. *Academy of Management Review* 14(1): 57–74.
- Finkelstein S, Hambrick DC, Cannella AA Jr. 2009. *Strategic Leadership: Theory and Research on Executives, Top Management Teams, and Boards*. Oxford University Press: Oxford, UK.
- Fredrickson JW, Davis-Blake A, Sanders WG. 2010. Sharing the wealth: social comparisons and pay dispersion in the CEO's top team. *Strategic Management Journal* 31(10): 1031–1053.
- Fredrickson JW, Hambrick DC, Baumrin S. 1988. A model of CEO dismissal. *Academy of Management Review* 13(2): 255–270.
- George E, Chattopadhyay P. 2005. One foot in each camp: the dual identification of contract workers. *Administrative Science Quarterly* 50(1): 68–99.
- Graffin SD, Carpenter MA, Boivie S. 2011. What's all that (strategic) noise? Anticipatory impression management in CEO succession. *Strategic Management Journal* 32(7): 748–770.
- Gupta AK, Govindarajan V. 1984. Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation. *Academy of Management Journal* 27(1): 25–41.
- Hartzell JC, Starks LT. 2003. Institutional investors and executive compensation. *Journal of Finance* 58(6): 2351–2374.
- Haslam SA, Ellemers N. 2005. Social identity in industrial and organizational psychology: concepts, controversies and contributions. In GP Hodgkinson, JK Ford (eds).

- International Review of Industrial and Organizational Psychology*, Volume 20: 39–118. Wiley: New York.
- Hayward MLA, Hambrick DC. 1997. Explaining the premiums paid for large acquisitions: evidence of CEO hubris. *Administrative Science Quarterly* **42**(1): 103–127.
- Hayward MLA, Rindova VP, Pollock TG. 2004. Believing one's own press: the causes and consequences of CEO celebrity. *Strategic Management Journal* **25**(7): 637–653.
- Heckman JJ, Borjas GI. 1980. Does unemployment cause future unemployment? Definitions, questions and answers from a continuous time model of heterogeneity and state dependence. *Economica* **47**(187): 247–283.
- Hodgkinson GP, Healey MP. 2011. Psychological foundations of dynamic capabilities: reflexion and reflection in strategic management. *Strategic Management Journal* **32**(13): 1500–1516.
- Hogg MA. 2000. Subjective uncertainty reduction through self-categorization: a motivational theory of social identity processes. *European Review of Social Psychology* **11**(1): 223–255.
- Hogg MA, Terry DJ. 2000. Social identity and self-categorization processes in organizational contexts. *Academy of Management Review* **25**(1): 121–140.
- Jackson JE. 1991. *A User's Guide to Principal Components Analysis*. Wiley: New York.
- Jayaraman N, Khorana A, Nelling E, Covin J. 2000. CEO-founder status and firm financial performance. *Strategic Management Journal* **21**(12): 1215–1224.
- Johnson MD, Morgeson FP, Ilgen DR, Meyer CJ, Lloyd JW. 2006. Multiple professional identities: examining differences in identification across work-related targets. *Journal of Applied Psychology* **91**(2): 498–506.
- Keele L, Kelly NJ. 2006. Dynamic models for dynamic theories: the ins and outs of lagged dependent variables. *Political Analysis* **14**(2): 186–205.
- Kreiner GE, Ashforth BE. 2004. Evidence toward an expanded model of organizational identification. *Journal of Organizational Behavior* **25**(1): 1–27.
- Leary MR. 2007. Motivational and emotional aspects of the self. *Annual Review of Psychology* **58**: 317–344.
- MacCallum RC, Browne MW. 1993. The use of causal indicators in covariance structure models: some practical issues. *Psychological Bulletin* **114**(3): 533–541.
- Mael F, Ashforth BE. 1992. Alumni and their alma mater: a partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior* **13**(2): 103–123.
- McDonald ML, Khanna P, Westphal JD. 2008. Getting them to think outside the circle: corporate governance, CEOs' external advice networks, and firm performance. *Academy of Management Journal* **51**(3): 453–475.
- McDonald ML, Westphal JD. 2003. Getting by with the advice of their friends: CEOs' advice networks and firms' strategic responses to poor performance. *Administrative Science Quarterly* **48**(1): 1–32.
- Meindl JR, Ehrlich SB, Dukerich JM. 1985. The romance of leadership. *Administrative Science Quarterly* **30**(1): 78–102.
- Miller D, Droge C. 1986. Psychological and traditional determinants of structure. *Administrative Science Quarterly* **31**(4): 539–560.
- Miller D, Kets de Vries MFR, Toulouse JM. 1982. Top executive locus of control and its relationship to strategy-making, structure, and environment. *Academy of Management Journal* **25**(2): 237–253.
- Miller D, Shamsie J. 2001. Learning across the life cycle: experimentation and performance among the Hollywood studio heads. *Strategic Management Journal* **22**(8): 725–745.
- Mizruchi MS. 1983. Who controls whom? An examination of the relation between management and boards of directors in large American corporations. *Academy of Management Review* **8**(3): 426–435.
- Murray MP. 2006. Avoiding invalid instruments and coping with weak instruments. *Journal of Economic Perspectives* **20**(4): 111–132.
- Nadkarni S, Herrmann P. 2010. CEO personality, strategic flexibility, and firm performance: the case of the Indian business process outsourcing industry. *Academy of Management Journal* **53**(5): 1050–1073.
- O'Reilly CA III, Chatman JA. 1986. Organizational commitment and psychological attachment: the effects of compliance, identification, and internalization on prosocial behavior. *Journal of Applied Psychology* **71**(3): 492–499.
- Palepu K. 1985. Diversification strategy, profit performance and the entropy measure. *Strategic Management Journal* **6**(3): 239–255.
- Peterson SJ, Galvin BM, Lange D. 2012. CEO servant leadership: exploring executive characteristics and firm performance. *Personnel Psychology* **65**(3): 565–596.
- Pierce JL, Kostova T, Dirks KT. 2001. Toward a theory of psychological ownership in organizations. *Academy of Management Review* **26**(2): 298–310.
- Ployhart RE. 2012. The psychology of competitive advantage: an adjacent possibility. *Industrial and Organizational Psychology* **5**(1): 62–81.
- Pollock TG, Rindova VP. 2003. Media legitimation effects in the market for initial public offerings. *Academy of Management Journal* **46**(5): 631–642.
- Pratt MG. 1998. To be or not to be: central questions in organizational identification. In DA Whetten, PC Godfrey (eds). *Identity in Organizations: Building Theory Through Conversations*: 171–207. Thousand Oaks, CA: Sage.
- Rediker KJ, Seth A. 1995. Boards of directors and substitution effects of alternative governance mechanisms. *Strategic Management Journal* **16**(2): 85–99.
- Riketta M. 2008. Who identifies with which group? The motive-feature match principle and its limitations. *European Journal of Social Psychology* **38**(4): 715–735.
- Royston P. 1991. sg3.5: comment on sg3.4 and an improved D'Agostino test. *Stata Technical Bulletin* **3**: 23–24. Reprinted in *Stata Technical Bulletin Reprints*, Vol. 1: 110–112. Stata Press: College Station, TX.
- Ryan LV, Schneider M. 2002. The antecedents of institutional investor activism. *Academy of Management Review* **27**(4): 554–573.

- Sanders WG. 2001. Behavioral responses of CEOs to stock ownership and stock option pay. *Academy of Management Journal* **44**(3): 477–492.
- Sanders WG, Boivie S. 2004. Sorting things out: valuation of new firms in uncertain markets. *Strategic Management Journal* **25**(2): 167–186.
- Sanders WG, Carpenter MA. 1998. Internationalization and firm governance: the roles of CEO compensation, top team composition, and board structure. *Academy of Management Journal* **41**(2): 158–178.
- Schneider B. 1987. People make the place. *Personnel Psychology* **40**(3): 437–453.
- Sedikides C, Gregg A. 2003. Portraits of the self. In MA Hogg, J Cooper (eds). *Sage Handbook of Social Psychology*: 110–138. London, UK: Sage.
- Shook C, Ketchen DJ Jr, Hult GTM. 2004. An assessment of the use of structural equation modeling in strategic management research. *Strategic Management Journal* **25**(4): 397–404.
- Snyder CR, Fromkin HL. 1980. *Uniqueness: The Human Pursuit of Difference*. Plenum: New York.
- Stock JH, Yogo M. 2005. Testing for weak instruments in IV regression. In DWK Andrews, JH Stock (eds). *Identification and Inference for Econometric Models: A Festschrift in Honor of Thomas Rothenberg*: 80–108. Cambridge University Press: Cambridge, UK.
- Swann WB Jr., Rentfrow PJ, Guinn JS. 2002. Self-verification: the search for coherence. In M Leary, J Tagney (eds). *Handbook of Self and Identity*: 367–383. Guilford: New York.
- Thaler R. 1980. Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization* **1**(1): 39–60.
- Tihanyi L, Johnson RA, Hoskisson RE, Hitt MA. 2003. Institutional ownership differences and international diversification: the effects of boards of directors and technological opportunity. *Academy of Management Journal* **46**(2): 195–211.
- Tosi HL, Katz JP, Gomez-Mejia LR. 1997. Disaggregating the agency contract: the effects of monitoring, incentive alignment, and term in office on agent decision making. *Academy of Management Journal* **40**(3): 584–602.
- Turner JC, Oakes P, Haslam S, McGarty C. 1994. Self and collective: cognition and social context. *Personality and Social Psychology Bulletin* **20**(5): 454–463.
- Umphress EE, Bingham JB. 2011. When employees do bad things for good reasons: examining unethical pro-organizational behaviors. *Organization Science* **22**(3): 621–640.
- Vignoles VL, Regalia C, Manzi C, Golledge J, Scabini E. 2006. Beyond self-esteem: influence of multiple motives on identity construction. *Journal of Personality and Social Psychology* **90**(2): 308–333.
- Wade J, O'Reilly CA III, Chandratat I. 1990. Golden parachutes: CEOs and the exercise of social influence. *Administrative Science Quarterly* **35**(4): 587–603.
- Wade JB, O'Reilly CA III, Pollock TG. 2006a. Overpaid CEOs and underpaid managers: fairness and executive compensation. *Organization Science* **17**(5): 527–544.
- Wade JB, Porac JF, Pollock TG, Graffin SD. 2006b. The burden of celebrity: the impact of CEO certification contests on CEO pay and performance. *Academy of Management Journal* **49**(4): 643–660.
- Wally S, Baum JR. 1994. Personal and structural determinants of the pace of strategic decision making. *Academy of Management Journal* **37**(4): 932–956.
- Ward AJ, Brown JA, Rodriguez D. 2009. Governance bundles, firm performance, and the substitutability and complementarity of governance mechanisms. *Corporate Governance: An International Review* **17**(5): 646–660.
- Weber RP. 1990. *Basic Content Analysis*. Sage: London, UK.
- Westphal JD. 1999. Collaboration in the boardroom: behavioral and performance consequences of CEO-board social ties. *Academy of Management Journal* **42**(1): 7–24.
- Westphal JD, Deephouse DL. 2011. Avoiding bad press: interpersonal influence in relations between CEOs and journalists and the consequences for press reporting about firms and their leadership. *Organization Science* **22**(4): 1061–1086.
- Wooldridge JM. 2010. *Econometric Analysis of Cross Section and Panel Data* (2nd edn). MIT Press.: Cambridge, MA.
- Yermack D. 2006. Flights of fancy: corporate jets, CEO perquisites, and inferior shareholder returns. *Journal of Financial Economics* **80**(1): 211–242.
- Zajac EJ, Westphal JD. 1994. The costs and benefits of managerial incentives and monitoring in large U.S. corporation: when is more not better? *Strategic Management Journal* **15**(S1): 121–142.
- Zajac EJ, Westphal JD. 1995. Accounting for the explanations of CEO compensation: substance and symbolism. *Administrative Science Quarterly* **40**(2): 283–308.
- Zajac EJ, Westphal JD. 2002. Intraorganizational economics. In JAC Baum (ed). *The Blackwell Companion to Organizations*: 233–255. Malden, MA: Blackwell.
- Zellweger TM, Astrachan JH. 2008. On the emotional value of owning a firm. *Family Business Review* **21**(4): 347–363.

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Figure S1. The moderating effect of board independence or institutional ownership on the relationship between favorable firm outcomes (positive press or firm performance) and CEO organizational identification. High (low) levels of board independence or institutional ownership correspond to one standard deviation above (below) the mean.