WHO SHALL SUCCEED? HOW CEO/BOARD PREFERENCES AND POWER AFFECT THE CHOICE OF NEW CEOS

EDWARD J. ZAJAC
JAMES D. WESTPHAL
Northwestern University

This study shows how social psychological and sociopolitical factors can create divergence in the preferences of an incumbent CEO and existing board regarding the desired characteristics of a new CEO, and how relative CEO/board power can predict whose preferences are realized. Using extensive longitudinal data, we found that more powerful boards are more likely to change CEO characteristics in the direction of their own demographic profile. Outside successors are also typically demographically different from their CEO predecessors but demographically similar to the boards.

Top management selection and succession has long been the subject of interdisciplinary research interest. Prior research has primarily sought to identify economic and behavioral factors leading to changes in CEO (e.g., Allen & Panian, 1982; Boeker, 1992; Harrison, Torres, & Kukalis, 1988; Salancik & Pfeffer, 1980) or to isolate the consequences of succession for organizational change and performance (e.g., Beatty & Zajac, 1987). However, within the CEO succession literature, there has also been some recognition that not all CEO successors are the same. For example, considerable attention has been devoted to the potential differences between insiders—those promoted from within an organization—and outsiders, those selected from outside the firm (e.g., Boeker & Goodstein, 1993; Cannella & Lubatkin, 1993; Dalton & Kesner, 1985).

Interestingly, however, research on CEO succession that considers successor attributes has generally not gone beyond the familiar insider/outsider distinction. Moreover, the meaningfulness of this distinction is somewhat unclear (Zajac, 1990). Specifically, researchers have tended to equate outsiders with differences from the status quo, an equation that begs the question of why someone recruited from outside a firm should be considered truly different from someone from within the firm, given the many dimensions upon which individuals can differ. For example, when automobile companies are seeking to appoint a new CEO, there is often considerable debate.

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as to the desirability and possible organizationwide implications of choosing a “car person” versus a “numbers person.” Such a debate suggests that a narrow research focus on insider/outsider CEO distinctions may be limitedly useful and potentially less relevant than a focus on other, more fundamental, distinguishing demographic characteristics of CEOs.

This omission in the management succession literature seems surprising, given emerging evidence suggesting that a variety of top management characteristics both reflect and influence the distribution of power in and strategic direction of organizations (e.g., Bantel & Jackson, 1989; Chaganti & Sambharya, 1987; Finkelstein, 1992; Fligstein, 1987; Michel & Hambrick, 1992; Wiersema & Bantel, 1992). Much of this research on top management characteristics, however, has tended to focus on cross-sectional differences in CEO or other top manager profiles and has not examined CEO characteristics (and changes in those characteristics) in the CEO succession context.

This study sought to combine these largely nonoverlapping streams of research on CEO characteristics and CEO succession by developing an original, behaviorally based framework describing the succession event in terms of the likelihood and direction of changes in fundamental top manager characteristics. Specifically, we propose that a combination of social psychological and sociopolitical factors lead prior CEOs and existing boards to favor new CEOs who are demographically similar to themselves, and that the relative influences of the two parties will predict which is more likely to realize their respective preferences. The study also examines the more traditional insider/outsider distinction by observing the degree to which outside successors are in fact demographically different from their predecessors, while also considering how performance ambiguity and social uncertainty surrounding the selection of outside CEO successors may lead boards to prefer and choose new CEOs who are demographically similar to existing board members.

**PREDICTING CHANGES IN CEO CHARACTERISTICS**

Before considering the possible predictors of changes in CEO characteristics, it is necessary to discuss the type of CEO characteristics examined in this study. As noted above, this study focuses on demographic attributes of CEOs. Pfeffer (1983) suggested that demographic variables furnish parsimonious and objective representations of constructs that are otherwise difficult to measure and validate, especially for corporate elites. Recent research employing demographic variables in the study of top management includes Bantel and Jackson (1989), Chaganti and Sambharya (1987), Finkelstein (1992), Fligstein (1987), Michel and Hambrick (1992), and Wiersema and Bantel (1992). These scholars—and organizational demography researchers in general—have viewed demographically similar individuals as developing comparable attitudes and a shared language by virtue of common experiences and similar choices (Allen & Cohen, 1969; Rhodes, 1983).

Thus, in terms of the present study, it also follows that observing demographic dissimilarity between an old and a new CEO (change in leader charac-
characteristics) indicates change in leader attitudes and behavioral tendencies. For example, change in functional background, age, or educational background (degree type or affiliation) can indicate change in leadership style, personality, and attitudes on strategic issues.

A general limitation of using demographic characteristics is that one cannot determine precisely which of the many attitudinal and behavioral constructs indicated by a particular demographic characteristic is responsible for the observed relationship between that characteristic and the outcome of interest. However, this limitation would be more severe if the research objective were to relate demographic characteristics to specific strategic outcomes (e.g., Bantel & Jackson, 1989); in the present study, however, we merely presumed that demographic dissimilarity captured differences on some salient attitudinal or behavioral dimension. Moreover, given evidence that individuals use salient demographic characteristics as a basis for psychological group categorization (Stangor, Lynch, Duan, & Glass, 1992), demographic dissimilarity along salient dimensions can create the perception of dissimilarity in the eyes of relevant decision makers (e.g., board members and outgoing CEOs), independent of attitudinal or behavioral dissimilarity between old and new CEOs.

We now turn to introducing possible predictors of change in CEO characteristics. We begin by drawing primarily upon social psychological and sociopolitical perspectives in developing behaviorally based motives for change (as well as the expected direction of such change) and also consider the central role of relative CEO and board power in enabling different parties to act on these motives. We then consider how the economic motive of poor firm performance may interact with CEO or board power in predicting change in such a way that economic and behavioral motives combine to predict changes in CEO characteristics. Finally, we return to the more traditional insider/outsider distinction but use our behavioral framework to predict whether and how outside successors are in fact demographically different from their predecessors.

CEO/Board Influence and Changes in CEO Characteristics

Research on board decision making suggests that prior CEOs may exercise significant influence over the new-CEO selection process (Demb & Neubauer, 1992; Lorsch & MacIver, 1989). In fact, two recent studies show that a powerful CEO can minimize the likelihood of a firm’s choosing an outside CEO successor (Boeker & Goodstein, 1993; Cannella & Lubatkin, 1993). However, these studies did not examine whether CEO/board power predicted changes in more fundamental demographic characteristics of new CEOs. Any discussion of the differential impact of prior CEO and existing board influence on changes in CEO characteristics must address two related issues: (1) what are the likely preferences of prior CEOs and boards regarding the characteristics of new CEOs? and (2) to what extent are prior CEOs and boards influential enough to translate their preferences into actions? This section discusses both of these issues by detailing why
prior CEOs and boards may have divergent preferences for new CEOs based on their tendencies to prefer CEO successors who are demographically similar to themselves, and then by examining the relative influence of CEOs and boards in exercising their preferences.

**CEO preferences for demographically similar successors.** Research on performance evaluation and hiring practices has consistently documented bias in evaluation decisions favoring ratees who are similar to raters on some dimension (Tsui & O'Reilly, 1989; Wexley & Nemeroff, 1974). Many studies on hiring decisions in particular have shown a positive relationship between applicant-rater demographic similarity and the perceived quality of an applicant (e.g., Frank & Hackman, 1975; Latham, Wexley, & Pursell, 1975; Rand & Wexley, 1975; Wexley & Nemeroff, 1974). In several of these studies, participants assessed candidates on the basis of their résumés, which contain demographic information. Related evidence suggests that demographic similarity enhances interpersonal attraction (Byrne, Clore, & Worchel, 1966; Judge & Ferris, 1993; Tsui & O'Reilly, 1989). In general, these findings are consistent with the similarity-attraction principle (Byrne, 1971; O'Reilly, Caldwell, & Barnett, 1989), which suggests that similarity on virtually any salient dimension can enhance interpersonal attraction and produce bias in evaluation decisions. Latham and colleagues wrote the following summary: “The more closely an assessee resembles the rater in attitudes or background, the stronger the tendency of the rater to judge that individual higher” (1975: 551). Although Pulakos and Wexley (1983) suggested that attitudinal similarity may be more powerful than demographic similarity in biasing evaluations, many studies have found significant effects for demographic similarity, as noted above.

Furthermore, according to Byrne and colleagues (1966), similarity provides mutual reinforcement or “consensual validation” of each individual’s characteristics, thus enhancing interpersonal attraction and producing bias in evaluation decisions. More recent interpretations (Tajfel & Turner, 1986; Tsui, Egan, & O'Reilly, 1992) of this finding suggest that individuals derive self-esteem and self-identity from perceived group (or “psychological group”) membership. Given that demographic similarity provides a salient basis for psychological group membership (Useem & Karabel, 1986), individuals may

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1 Evaluation biases are most common where performance information is ambiguous. As Pfeffer noted, “non-bureaucratically rational factors such as social similarity, social contacts, and personal style are more likely to affect career progress in those circumstances in which objective evaluations are more difficult to obtain or less likely to be available” (1981: 250). Several researchers have argued that such “non-bureaucratically rational factors” are especially prominent in the selection of top managers (Kanter, 1977; Pfeffer, 1981; Useem, 1984). Given the unique responsibilities attending the CEO position and the difficulties inherent in attributing firm performance to particular CEO characteristics (Walsh & Seward, 1990: 430), it seems reasonable to assume that assessing the relationship between different candidates’ prior performance histories, backgrounds, and so forth and their likely performance as CEO is a highly ambiguous matter.
favor (e.g., prefer to hire or promote) demographically similar individuals. Individuals may also seek to construct or maintain homogeneous groups in order to increase the salience of in-group membership, thus maintaining or enhancing their self-esteem, identity, or both. This argument is also clearly consistent with Byrne and colleagues’ (1966) interpretation. Furthermore, research has consistently shown that “minimal categorizations” (group categorizations based upon irrelevant criteria) are sufficient to produce in-group bias, or discrimination favoring in-group members (Messick & Mackie, 1989; Tajfel & Turner, 1986). Thus, for example, if educational background affords a salient basis for group categorization, CEOs possessing master’s degrees from Harvard Business School may favor candidates holding similar credentials, regardless of whether educational background is a meaningful criterion for CEO selection. In other words, this research suggests that demographic similarity can produce biased evaluations of job candidates independent of underlying attitudinal or behavioral similarities. Therefore, according to both the similarity-attraction principle and self-categorization theory, CEOs should prefer demographically similar replacements.

In addition to these specific social psychological mechanisms, sociopolitical interests may also impel CEOs to favor similar replacements. Specifically, qualitative studies of CEO succession suggest that top managers are reluctant to abdicate control (Sonnenfeld, 1986; Vancil, 1987). Moreover, where custom compels them to retire, CEOs may seek to preserve their legacy. As Sonnenfeld noted, “Many CEOs do not take well to the destruction of their dreams” (1986: 327). One solution to this dilemma is the selection of demographically similar successors: replacements having similar philosophies and skill repertoires are more likely to preserve a departing CEO’s vision for an organization. Thus, given the social psychological and sociopolitical forces discussed above, it should not be surprising that a survey by Hambrick, Geletkanycz, and Fredrickson (1993) showed that CEOs were more likely than their subordinates to agree to the statement “The firm’s ideal CEO in the Year 2000 should be similar to the current CEO.”

But although CEOs may often be influential in realizing their preferences for demographically similar successors, there appears to be considerable variation in the relative influence of CEOs and boards over the CEO selection process (Lorsch & Maclver, 1989; Vancil, 1987). Although an outgoing CEO often exerts “considerable influence” over the successor choice, “for more than half the companies . . . the board is the driving force in the process” (Demb & Neubauer, 1992: 84). Given that powerful boards are less likely than weak boards to indulge a CEO’s preferences for a similar successor, the extent of CEO influence over a board may be an important determinant of relative similarity (i.e., lack of change) between old and new CEOs. This suggests the following hypothesis:2

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2 As will be discussed in the Methods section, board power is measured four ways in this study, and changes in CEO characteristics will be measured five ways.
Hypothesis 1a: The greater the power of a firm’s board in relation to its existing CEO, the greater the likelihood of change in CEO characteristics when succession occurs.

Board preferences for demographically similar new CEOs. The prior discussion emphasized CEOs’ preferences for demographically similar successors and the possible conflict between CEO and board over realizing such preferences. However, the same social psychological mechanisms discussed above should also influence the preferences of board members. More specifically, to the extent that in-group favoritism and attraction toward similar others are fundamental social psychological forces (Byrne, 1971; Tajfel & Turner, 1986), board members should favor new CEOs who are demographically similar to themselves.

As noted earlier, evaluation biases are most common where performance information is ambiguous, and “non-bureaucratically rational factors such as social similarity, social contacts, and personal style are more likely to affect career progress in those circumstances in which objective evaluations are more difficult to obtain or less likely to be available” (Pfeffer, 1981: 250). Given inevitable uncertainties regarding a candidate’s likely performance as CEO, boards may favor similar candidates to minimize “social uncertainty” (Kanter, 1977: 58). Similarly, boards may favor demographically similar successors in order to ensure efficient and frequent communication with the CEO and, more generally, to enhance social integration (O’Reilly et al., 1989; Useem & Karabel, 1986). As Kanter noted in a discussion of general management promotion criteria: “One way to ensure acceptance and ease of communication was to limit managerial jobs to those who were socially homogenous. Social certainty could compensate for some of the other sources of uncertainty in the tasks of management” (1977: 58).

The desire to minimize social uncertainty may also derive from sociopolitical motives, insofar as boards may believe that choosing demographically similar new CEOs can facilitate socialization attempts (Kanter, 1977; O’Reilly, et al., 1989). From this perspective, boards may favor “compatible” successor candidates (i.e., those demographically similar to themselves) in an attempt to maintain greater interpersonal influence over new CEOs. Thus, where boards have a significant role in the CEO selection process, the social psychological and sociopolitical forces discussed earlier can precipitate a change in CEO characteristics, and this change will be toward resemblance with the characteristics of existing board members.

Thus, boards who are relatively powerful vis-à-vis outgoing CEOs may not only be more likely to change CEO characteristics, but may also use the succession event as an opportunity to exercise their preference for changing CEO characteristics in the direction of existing board member characteristics.
Accordingly, we posit a second hypothesis regarding the direction—rather than just the likelihood—of changes in CEO characteristics.\(^3\)

Hypothesis 1b: The greater the power of a firm’s board in relation to its existing CEO, the greater the demographic similarity between a new CEO and existing board members.

In summary, this section has shown that outgoing CEOs and existing board members may both favor demographically similar successors for the social psychological and sociopolitical reasons noted above and that the degree to which these preferences are realized may be a function of the balance of CEO and board power. Taken together, the preceding discussion provides a theoretical basis for explaining and predicting what Useem and Karabel and others have argued, namely, that “the already powerful promote people most similar to themselves” (Useem & Karabel, 1986: 198).

Firm Performance, CEO/Board Influence, and Changes in CEO Characteristics

The model of CEO/board relative power developed in the preceding section contrasts with an economic-strategic model of successor characteristics by including the recognition that different parties in an organization can have divergent preferences regarding successor choice (cf. March, 1962) and that these preferences may reflect social psychological and sociopolitical forces rather than organizationally strategic imperatives. However, relative power may also interact with economic factors to influence successor choice. Specifically, boards may be particularly likely to act on the social psychological and sociopolitical motives discussed above when they have the power to do so and poor firm performance provides a reinforcing economic or strategic rationale for change. This logic suggests the following, additional hypotheses:

Hypothesis 2a: Board power and low firm performance will interact to predict an increased likelihood of change in CEO characteristics.

Hypothesis 2b: Board power and low firm performance will interact to predict increased demographic similarity between a new CEO and existing board members.

\(^3\) Hypothesis 1b is related to but analytically distinct from Hypothesis 1a. Specifically, Hypothesis 1a addresses the issue of whether powerful boards block CEOs’ preference for demographically similar CEO successors, and Hypothesis 1b addresses the issue of whether boards realize their own preferences for CEO successors who are demographically similar to themselves. Positing one hypothesis but not the other would be incomplete, because each dependent variable contains unique information not contained in the other. For instance, evidence that weak boards are less able to increase CEO-board similarity does not necessarily imply that CEO characteristics remain unchanged (i.e., that successors are similar to the prior CEO)—instead, they may resemble neither the CEO nor other board members. Thus, evidence for Hypothesis 1b regarding board preferences does not fully address whether CEOs realize their preferences.
We began our discussion of changes in CEO characteristics by suggesting that the traditional focus in succession research on insider/outsider distinctions is useful but incomplete, since changes in other, more fundamental demographic characteristics have not been examined. We can now assess whether the appointment of an outsider does, in fact, usually result in a greater change in CEO characteristics. Specifically, if outsider CEOs are considered more likely than insider CEOs to function as organizational change agents (as is often assumed in the succession literature), one would expect outsiders to possess different characteristics than insiders (Hambrick & Fukotomi, 1991).

Hypothesis 3a: Outsider succession is positively related to the likelihood of change in CEO characteristics.

However, our earlier discussion of the social psychological and sociopolitical factors affecting board preferences for demographically similar CEOs suggest a modification of Hypothesis 3a. Specifically, even if outside succession represents a means of facilitating or signaling strategic change, boards face certain risks in appointing an outsider. In particular, less information is typically available regarding the abilities, values, and behavioral styles of outsider candidates than is available for insiders (Zajac, 1990). As noted earlier, the social psychological literature suggests that evaluation biases are most common where performance information is ambiguous, and this ambiguity is likely to be highest in the case of outside successors.

Moreover, whereas insider candidates share common socialization experiences with some portion of board members, outsiders may have experienced very different socialization processes (Kanter, 1977; Schein, 1968). Thus, boards may be concerned about the social and attitudinal compatibility of outsider CEOs (Demb & Neubauer, 1992: 84) and board ability to subsequently influence such CEOs. As a result, when boards consider an outside successor they may compensate for higher levels of performance ambiguity and social-attitudinal incompatibility by placing greater emphasis on demographic similarity. Thus, both the social psychological and sociopolitical forces lead to the prediction that, ceteris paribus,

Hypothesis 3b: Outside succession will be positively associated with increased demographic similarity between a new CEO and existing board members.

METHODS

Sample and Data Collection

The population for this study includes the largest U.S. industrial and service firms, as listed in the 1988 Forbes and Fortune 500 indexes. Firms

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4 Note that this discussion assumes that boards have at least some influence in the selection of new outsider CEOs. Such an assumption seems justifiable, given prior research indicating that boards are generally more influential in cases of outside succession (Boeker & Goodstein, 1993; Vancil, 1987).

5 The Forbes 500 uses multiple lists whose overlap depends on the specific size measure used. This study used those firms that appeared on at least two size measures.
were excluded from the final sample if complete demographic data were unavailable for more than a quarter of the outside directors in each year. This procedure yielded 413 companies. T-tests revealed no significant differences in size (measured as sales and number of employees) or performance (measured as return on assets and total stock returns) between the initial and final samples.

Data were collected for the years 1986 through 1991. Demographic data were obtained from the *Dun & Bradstreet Reference Book of Corporate Management, Standard & Poor's Register of Corporations, Directors, and Executives*, and *Who's Who in Finance and Industry*. Data on diversification and industry concentration were obtained from the COMPUSTAT *Business Segment Tapes*. Succession was observed from 1987 to 1991 using the on-line *Wall Street Journal Index*. During the period of study, 232 successions were observed among 198 companies. Although prior theory and research has sometimes attempted to distinguish voluntary from involuntary forms of succession, such as CEO “dismissals” (e.g., Boeker, 1992), the present study is not burdened with such a task, given that both types of succession events provide firms with the opportunity to change CEO characteristics.

**Dependent Variables**

The following demographic characteristics were examined in this study: functional background, age, and educational background (degree type and affiliation). These particular characteristics were chosen because they are most often discussed in the existing literature. We tested the hypothesized relationships for each of the characteristics separately, as well as in combination with each other. To measure change in specific CEO characteristics, several dichotomous measures were created. Each variable was coded as 1 if the existing CEO was replaced by an individual possessing a different demographic trait and as 0 otherwise. For instance, using Hambrick and Mason’s (1984) categorization (cf. Chaganti & Sambharya, 1987), *change in functional background* was coded as 1 if a CEO with primary experience in operations was replaced with an individual possessing, for instance, a marketing or legal background and as 0 if the new CEO possessed experience in operations or another throughput function. Degree type was measured as the presence or absence of an advanced management degree, and *change in degree type* was coded as 1 if a CEO with a master’s of business administration (M.B.A.) was replaced by an individual not possessing one.

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6 We followed prior research (e.g., Chaganti & Sambharya, 1987; Michel & Hambrick, 1992; Murray, 1989) in assessing functional background primarily according to an individual’s current and prior job titles, while also considering other aspects of his or her employment history. Where possible, we examined information from more than one of the data sources listed above. Although coding this variable entails a degree of subjectivity, Michel and Hambrick (1992) found a high correlation (.86) between the ratings of two different sets of coders. We also correlated the ratings of two different coders for a random sample of 50 directors and obtained a correlation of .89, suggesting very high reliability.
or vice versa. Educational affiliation was measured as the presence or absence of an Ivy League degree (undergraduate or postgraduate) (D’Aveni, 1990). Prior researchers have viewed possession of a degree from a prestigious institution, such as an Ivy League school (D’Aveni, 1990), as a salient criterion for executive selection (Collins, 1979; Useem & Karabel, 1986) that also provides a meaningful basis for psychological group membership. Thus, change in educational affiliation was coded as 1 if a CEO possessing an Ivy League degree was replaced by an individual not possessing one, or vice versa. Change in age was simply measured as the new CEO’s age minus the prior CEO’s age.

We also developed a composite measure indicating change in CEO characteristics across multiple dimensions. This was done for two reasons. First, recent research suggests that individuals may diagnose similarity on the basis of multiple social features, so that in-group bias is more likely where individuals share multiple group memberships (Stangor et al., 1992). Second, as noted above, several empirical studies demonstrating the similarity-attraction effect in the context of hiring decisions have examined the effect of “biographical similarity” (i.e., similarity in résumé content), which captures similarity across multiple demographic dimensions, including age and functional and educational background (e.g., Frank & Hackman, 1975; Latham et al., 1975; Wexley & Nemeroff, 1974). Change across multiple dimensions was measured as a dichotomous variable coded as 1 if the new and old CEOs differed across all three categorical variables (functional background, educational degree type, and educational affiliation).

To assess change in CEO-board similarity, we constructed four measures of demographic similarity for each company in each year. In general, similarity was assessed by aggregating measures of the similarity of all CEO-board member dyads. More specifically, age similarity was measured with an analog of the euclidean distance measure (i.e., the coefficient of variation) commonly used in research on organizational demography (O’Reilly et al., 1989; Wagner, Pfeffer, & O’Reilly, 1984), defined as

$$\left( \sum_{j=1}^{n} \frac{(S_i - S_j)^2}{n} \right)^{1/2},$$

where $S_i$ is the CEO’s age, $S_j$ indicates the age of board member $j$, and $n$ represents the total number of non-CEO board members. We converted this measure to an indicator of similarity by subtracting each firm’s coefficient from the highest value in the sample. In general, the inverted coefficient of variation constitutes a scale-invariant indicator of similarity and has the advantage of giving proportionate weight to greater similarity (Allison, 1978).

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7 In two separate analyses, we coded this variable as (1) change across two or more dimensions and (2) change across three or more dimensions. The findings reported below were substantively unchanged.
For the categorical variables, we applied a variant of Blau’s (1977) index of heterogeneity, defined as $\left(P_i\right)^2$, where $P_i$ is the proportion of CEO-board member dyads sharing the $i$th category (Murray, 1989). Thus, for functional background, this measure indicates the squared proportion of CEO-board member dyads in which both individuals have primary experience in the same core functional area; for educational affiliation and degree type, it represents the squared proportion of such dyads in which both individuals possess, or do not possess, an Ivy League degree or an M.B.A., respectively.

From these measures, we created several continuous indicators of change in demographic similarity by simply subtracting similarity with the old CEO from similarity with the new CEO. For example, *change in background similarity* equals the difference between the portion of new CEO-board member dyads sharing primary functional experience in the same area and the portion of prior CEO-board member dyads sharing such experience. The other variables capturing changes in similarity along particular dimensions (*change in age similarity*, *change in degree type similarity*, and *change in affiliation similarity*) were constructed in the same way. Finally, *change in similarity across multiple dimensions* was calculated by standardizing each change-in-similarity variable and summing them.

**Independent Variables**

**Relative board power.** This study measured the relative power of CEO and board in four ways. First, corporate governance researchers and reformers have long argued that CEO duality—joint possession of the CEO and board chairperson positions—hampers board independence and promotes managerial entrenchment (Cannella & Lubatkin, 1993; Crystal, 1991; Rechner & Dalton, 1991). In general, CEOs holding both positions possess greater formal authority and heightened informal stature relative to board members (Harrison et al., 1988; Patton & Baker, 1987), suggesting that the CEOs can exert greater influence over successor choices. *Separation of the CEO and board chair positions* is a binary variable, coded as 1 if a CEO was not also chairperson and as 0 otherwise.

Second, several studies have hypothesized an effect on CEO tenure, assessed relative to board members’ average tenure, on the influence shares of the two (e.g., Singh & Harianto, 1989; Wade, O’Reilly, & Chandratat, 1990). High relative tenure confers expert power through a greater familiarity with an organization’s resources and methods of operation (Alderfer, 1986; Zald, 1969). High-tenured CEOs may also acquire a “personal mystique or patriarchy” (Finkelstein & Hambrick, 1989: 124), resulting in sanctions against questioning their authority. Similarly, widely held behavioral norms may induce newcomers to remain silent or defer to others in board meetings (Alderfer, 1986). *Board tenure relative to CEO* was calculated as the average tenure of a firm’s directors divided by its CEO’s tenure.

Third, Wade and colleagues (1990) proposed a relatively direct measure of cooptation. They observed that the percentage of a board composed of outside directors appointed after a CEO was positively associated with the
likelihood of golden parachute adoption. Through control of the director-nominating process, CEOs can select individuals with whom they have personal relationships or who are otherwise sympathetic to themselves (Fredrickson, Hambrick, & Baumrin, 1988; Mace, 1971). Moreover, like insiders, these directors may feel beholden to the CEOs for their positions. Studies have found that this variable predicts a lower likelihood of succession (Boeker, 1992) and use of contingent CEO compensation (Westphal & Zajac, 1994). Boards with a greater portion of outsiders appointed before the CEO took office, on the other hand, are likely to be more influential in exercising their own preferences. Independent outside directors represent the number of outside (nonemployee) directors appointed before a CEO began his or her tenure divided by the total number of board members.

Finally, one of the formally defined roles of corporate board members is to participate in the CEO selection process while representing shareholder interests. Outside directors having equity investments in a firm should be particularly vigilant and active monitors of CEO behavior (Beatty & Zajac, 1994; Finkelstein & D’Aveni, 1994), challenging CEO recommendations, suggesting alternative candidates, and generally playing a larger role in the selection process. Moreover, voting rights afford additional power to owner-directors, and this power increases with the portion of total shares held (Zald, 1969). Outsider stock ownership was measured as the percentage of total common stock owned by outside directors (Hoskisson, Johnson, & Moesel, 1994).

Other independent variables. Given that firm performance may have a main effect on the likelihood of change, we included two performance measures as controls. Excess stock returns was used as a market-based measure of firm performance, calculated as cumulative daily stock returns (i.e., capital gains plus dividend payouts) in excess of returns on a market portfolio of stocks with similar systematic risk. In addition, return on assets was employed as an operating measure of performance. For both variables, we used the average value for the prior three years: year \( t - 4 \) to year \( t - 1 \), inclusive (while prior year performance could be most salient to board members, boards may be reluctant to change CEO characteristics after only one year of poor performance).

To test the effect of the interaction of low firm performance and board power on changes in CEO characteristics, we constructed a single interaction term based upon composite measures of each. Specifically, we standardized each performance measure by converting it to a Z-score and then summed the two standardized values into a single composite measure. We then subtracted each value from the highest value in the sample, so higher values reflect lower performance. Next, we developed a similar composite measure of relative board power using the three continuous variables discussed above (board tenure relative to CEO, independent outside directors, and outsider stock ownership). Specifically, these three variables were each converted to Z-scores and summed into a single measure. We then multiplied these two
composite variables together to generate a single interaction term.\footnote{Before multiplying the composite measures, we added a constant to each so that all values were greater than or equal to zero. Also, though separate interactions for all possible combinations of the performance and power measures could be developed, multicollinearity problems preclude including all interaction terms in a single model.} Moreover, to test Hypotheses 3a and 3b, which related outside succession to the likelihood and direction of change in CEO characteristics, we created a binary variable indicating successor origin (outside succession), which was coded as 1 if the new CEO was hired from outside the organization and as 0 otherwise.

Several control variables were also included in the models. First, we controlled for industry by including dummy variables at the two-digit Standard Industrial Classification (SIC) code level in all models (given the large number of primary two-digit SIC codes represented in the sample, coefficients for these variables are not reported in the tables). In addition, we also included a measure of firm environmental instability in all models (Duncan, 1972). To the extent that frequent changes in a firm’s industry are associated with more frequent changes in leadership (Tushman & Romanelli, 1985), environmental instability may also increase the likelihood of change in CEO characteristics. We followed Wiersema and Bantel (1993) in measuring environmental instability according to absolute changes in the four-firm concentration ratio for a focal firm’s three largest lines of business, weighted by each business’s sales revenue. According to Wiersema and Bantel, “Large absolute changes in the firm’s weighted concentration ratio would indicate high degrees of environmental instability” (1993: 493).

Moreover, given that strategic change may be associated with top management turnover (Wiersema & Bantel, 1993) and that widespread restructuring occurred among large diversified firms during the period of study (Bethel & Liebeskind, 1993), we also controlled for corporate diversification, using the entropy measure (Jacquemin & Berry, 1979), which takes into account the number of segments in which a firm operates and the importance of each segment as a portion of total sales. It is given by

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\sum_{i=1}^{n} P_i \ln(1/P_i),
\]

where \( P_i \) is the revenue share of segment \( i \). The \textit{logarithm of sales} was also included as a control variable in all analyses, given that inertial tendencies associated with firm size (Hannan & Freeman, 1984) could extend to leader characteristics as well as structural characteristics (cf. Dalton & Kesner, 1983). Finally, \textit{board size} was included in all models, and several additional control variables were included in equations predicting CEO succession; these variables are described in the following section. Table 1 provides the means, standard deviations, and bivariate correlations for all data pooled.
| Variables | Mean | s.d. | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   |
|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|      |
| 1. Excess stock returns | 0.01 | 0.14 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2. Return on assets | 5.15 | 4.93 | 0.28 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 3. Separation of CEO and board chair | 0.22 | 0.41 | 0.08 | 0.05 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4. Board tenure relative to CEO | 2.67 | 0.43 | 0.03 | 0.15 | 0.18 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 5. Independent outside directors | 0.43 | 0.20 | 0.06 | 0.11 | 0.17 | 0.44 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 6. Outsider stock ownership | 0.02 | 0.06 | 0.04 | 0.13 | 0.20 | 0.22 | 0.14 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 7. Outside succession | 0.11 | 0.31 | -0.17 | -0.23 | 0.11 | 0.09 | 0.06 | 0.21 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 8. Logarithm of sales (in thousands) | 7.98 | 1.22 | -0.06 | -0.07 | -0.09 | -0.02 | -0.17 | -0.04 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 9. Diversification | 1.22 | 0.37 | -0.06 | -0.04 | -0.06 | -0.03 | -0.07 | -0.11 | -0.02 | 0.30 |      |      |      |      |      |      |      |      |      |      |      |      |
| 10. Environmental instability | 0.02 | 0.04 | -0.05 | -0.07 | -0.13 | -0.19 | -0.20 | -0.14 | 0.04 | 0.07 | -0.10 | -0.20 |      |      |      |      |      |      |      |      |      |      |      |
| 11. Board size | 13.77 | 3.36 | -0.03 | -0.08 | -0.04 | -0.01 | -0.14 | -0.05 | -0.14 | -0.13 | -0.13 | -0.01 |      |      |      |      |      |      |      |      |      |
| 12. Change in functional background | 0.40 | 0.49 | -0.23 | -0.22 | -0.18 | -0.32 | -0.20 | -0.18 | 0.17 | 0.04 | 0.03 | 0.08 | -0.02 |      |      |      |      |      |      |      |      |
| 13. Change in age | 6.52 | 4.19 | -0.24 | -0.25 | -0.21 | -0.29 | -0.20 | -0.17 | -0.24 | 0.02 | 0.02 | 0.10 | -0.03 | 0.54 |      |      |      |      |      |      |      |
| 14. Change in degree type | 0.35 | 0.48 | -0.30 | -0.26 | -0.18 | -0.25 | -0.15 | -0.09 | -0.19 | 0.02 | 0.05 | 0.14 | -0.01 | -0.54 | 0.51 |      |      |      |      |      |
| 15. Change in educational affiliation | 0.30 | 0.46 | -0.29 | -0.20 | -0.25 | -0.30 | -0.21 | -0.09 | -0.23 | -0.01 | -0.07 | -0.07 | -0.08 | 0.52 | 0.49 | 0.55 |      |      |      |      |
| 16. Change in multiple characteristics | 0.19 | 0.40 | -0.31 | -0.28 | -0.27 | -0.32 | -0.21 | -0.18 | -0.23 | 0.02 | 0.04 | -0.15 | 0.06 | 0.56 | 0.52 | 0.62 | 0.70 |      |      |      |
| 17. Change in background similarity | 0.08 | 0.07 | -0.21 | -0.21 | -0.29 | -0.32 | -0.24 | -0.19 | -0.21 | -0.09 | -0.01 | -0.13 | -0.04 | -0.78 | 0.37 | 0.40 | 0.43 | 0.45 |      |      |
| 18. Change in degree similarity | 2.27 | 1.48 | -0.26 | -0.19 | -0.17 | -0.23 | -0.24 | -0.18 | -0.19 | -0.06 | 0.00 | -0.13 | -0.07 | -0.42 | 0.80 | 0.36 | 0.41 | 0.44 | 0.58 |      |
| 19. Change in affiliation similarity | 0.10 | 0.08 | -0.31 | -0.20 | -0.20 | -0.13 | -0.17 | -0.11 | -0.23 | -0.02 | -0.06 | -0.18 | -0.01 | -0.38 | 0.37 | 0.77 | 0.39 | 0.40 | 0.59 | 0.53 |
| 20. Change in similarity: Multiple characteristics | 0.13 | 0.08 | -0.25 | -0.21 | -0.30 | -0.26 | -0.18 | -0.09 | -0.16 | 0.10 | 0.02 | 0.14 | 0.03 | 0.40 | 0.35 | 0.31 | 0.80 | 0.37 | 0.62 | 0.64 | 0.62 |
| 21. Change in similarity: Functional characteristics | 0.00 | 3.02 | -0.24 | -0.22 | -0.28 | -0.30 | -0.26 | -0.20 | -0.25 | -0.11 | -0.03 | -0.47 | -0.43 | 0.42 | 0.52 | 0.73 | 0.81 | 0.79 | 0.78 | 0.84 |

* N = 232.
Analysis

To analyze change in CEO characteristics and CEO-board similarity, we used the Heckman selection model (Heckman, 1979; Maddala, 1983). This is a two-staged procedure that corrects for sample selection bias in regression analysis. Given that changes in CEO characteristics and changes in CEO-board similarity only occur when firms experience a succession event, it is necessary to correct for selection bias in analyzing these changes. The Heckman model assumes that a potential observation is observed if $x_1B_1 + u_1 > 0$, where $u_1$ has a standard normal distribution. In addition, there is another regression equation, $y = x_2B_2 + \sigma u_2$, where $u_2$ also has a standard normal distribution but is potentially correlated with $u_1$ with correlation $p$. In this case, the latter equation represents change in similarity or CEO characteristics, and the former represents the likelihood of succession. When $p$ is significantly different from zero, standard regression analysis techniques applied to the second equation yield biased results. In other words, if error terms in both equations contain some common omitted variables, selection bias will occur (van de Ven & van Praag, 1981). For example, in the present context, if relative CEO/board power were generally more important in prompting change for the kind of firms that experience succession, specification error would be present. The Heckman procedure generates consistent, asymptotically efficient estimates for such models, allowing us to generalize to the larger population of Fortune or Forbes 500 firms.

This method is essentially a two-stage procedure that first estimates the likelihood of succession with a discrete-time event history model for the full sample and then incorporates estimates of parameters from that model into a second-stage ordinary-least-squares (OLS) regression model to predict measures of changes in CEO characteristics and CEO-board similarity for those firms experiencing succession (where the measures of change were dichotomous, rather than continuous, the second stage used bivariate probit regression [van de Ven & van Praag, 1981]). It should also be noted that sample selection models represent a more precise approach for testing our hypotheses than a single event-history model: although the reported sample size for the model as a whole is 2,065 firm-years, standard errors for coefficients of variables predicting change in characteristics (and change in CEO-board similarity) appropriately reflect only the smaller sample of those firms experiencing succession (232 firms).

To permit annual updating of the time-varying covariates, we divided the succession intervals into firm years (Amburgey, Kelly, & Barnett, 1993; Haveman, Meyer, & Russo, 1994; Ocasio, 1994). Moreover, given that firms were at risk of succession throughout the five-year time period, we treated succession as a repeatable event (Boeker, 1992; Haveman et al., 1994), assuming that a firm’s likelihood of succession in a given year is independent of its prior event history (Allison, 1984; Yamaguchi, 1991). In order to minimize the consequences of potentially violating this assumption, we included three control variables suggested by Allison (1982, 1984) for repeated event models:
(1) the length of the prior interval between successions, measured in years, (2) the length of time since the prior succession, also measured in years, and (3) the number of prior successions observed during the time period (cf. Amburgey et al., 1993; Mizruchi & Stearns, 1988). To measure the first two variables, we used data on CEO succession for all firms in the sample during the prior 15-year time period and from earlier years where necessary. Moreover, to ensure that the results were not dependent upon unspecified, time-specific factors, we included dummy variables for the first four years in the sample (Allison, 1984). These dummy variables were also included in the second stage OLS-probit regressions. All independent variables were lagged by one year.

RESULTS

CEO/Board Influence and Changes in CEO Characteristics

Hypothesis 1a posits a positive relationship between a board’s power (measured relative to that of a CEO) and the likelihood of change in CEO characteristics. As shown in Table 2, the results are supportive across multiple indicators of relative power. First, organizations in which the CEO is also the board chairperson are less likely to experience change in any of the four CEO characteristics or in the additional composite measure indicating change across multiple characteristics. In addition, the greater CEO tenure is relative to the average tenure of board members, the lower the likelihood of change in CEO characteristics across all five measures. Further, the portion of the board composed of insiders and outside directors appointed after the CEO (nonindependent directors) is negatively related to changes in CEO characteristics for all five measures. Finally, outside directors’ stock ownership is significantly and positively related to change in functional background and the composite measure. Overall, the results support the general proposition that powerful CEOs can influence boards to appoint demographically similar successors, thus inhibiting change in CEO characteristics.9

Interestingly, the findings also demonstrate that economic conditions have a strong, independent effect on the likelihood of changing CEO demographic characteristics. Specifically, both measures of prior performance (excess stock returns and return on assets) are significantly and negatively related to the likelihood of change in all four CEO demographic characteristics (functional background, age, and educational background, both degree type and affiliation), as well as to the composite variable encompassing changes in multiple characteristics.

9 In separate models, we also analyzed change in CEO industry tenure and CEO organizational tenure as firms changed CEOs. The hypotheses were strongly supported for these additional characteristics: three of the four measures of relative board power were positively related to change in CEO industry tenure and CEO organizational tenure, and the interaction between board power and low firm performance was significant in both models (the outside succession variable was excluded from these models because it is by definition highly collinear with the dependent variables).
<table>
<thead>
<tr>
<th>Variables</th>
<th>Functional Background</th>
<th>Age</th>
<th>Degree Type</th>
<th>Educational Affiliation</th>
<th>Multiple Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Excess returns</td>
<td>-2.055 (0.902)**</td>
<td>-6.845 (2.251)**</td>
<td>-2.163 (0.934)*</td>
<td>-2.610 (1.011)**</td>
<td>-3.225 (1.188)**</td>
</tr>
<tr>
<td>2. Return on assets</td>
<td>-0.053 (0.021)**</td>
<td>-0.103 (0.050)*</td>
<td>-0.062 (0.023)**</td>
<td>-0.039 (0.025)†</td>
<td>-0.070 (0.029)**</td>
</tr>
<tr>
<td>3. Board tenure relative to CEO</td>
<td>0.760 (0.330)*</td>
<td>1.492 (0.804)*</td>
<td>0.822 (0.354)*</td>
<td>0.632 (0.427)†</td>
<td>2.040 (0.539)***</td>
</tr>
<tr>
<td>4. Independent outside directors</td>
<td>1.591 (0.539)**</td>
<td>3.769 (1.313)**</td>
<td>1.395 (0.571)**</td>
<td>1.718 (0.622)**†</td>
<td>1.523 (0.755)*</td>
</tr>
<tr>
<td>5. Separation of CEO and board chair</td>
<td>1.187 (0.403)**</td>
<td>2.500 (1.026)**</td>
<td>0.867 (0.417)*</td>
<td>1.203 (0.449)***</td>
<td>1.281 (0.513)***</td>
</tr>
<tr>
<td>6. Outsider stock ownership</td>
<td>2.182 (1.064)*</td>
<td>1.682 (2.579)</td>
<td>0.975 (1.113)</td>
<td>0.764 (1.184)</td>
<td>2.966 (1.390)*</td>
</tr>
<tr>
<td>7. Board power × low performance</td>
<td>0.114 (0.050)*</td>
<td>0.303 (0.120)**</td>
<td>0.121 (0.053)*</td>
<td>0.074 (0.060)</td>
<td>0.144 (0.070)*</td>
</tr>
<tr>
<td>8. Outside succession</td>
<td>1.304 (0.467)**</td>
<td>2.997 (1.165)**</td>
<td>0.926 (0.483)*</td>
<td>0.816 (0.514)†</td>
<td>1.497 (0.582)**</td>
</tr>
<tr>
<td>9. Log of sales</td>
<td>0.037 (0.046)</td>
<td>0.088 (0.116)</td>
<td>0.040 (0.046)</td>
<td>0.032 (0.048)</td>
<td>0.040 (0.054)</td>
</tr>
<tr>
<td>10. Diversification</td>
<td>0.345 (0.341)</td>
<td>0.946 (0.852)</td>
<td>0.272 (0.354)</td>
<td>0.354 (0.377)</td>
<td>0.419 (0.446)</td>
</tr>
<tr>
<td>11. Environmental instability</td>
<td>3.785 (2.008)†</td>
<td>7.192 (5.083)</td>
<td>4.053 (1.981)*</td>
<td>3.430 (2.042)†</td>
<td>3.988 (2.172)†</td>
</tr>
<tr>
<td>12. Board size</td>
<td>-0.021 (0.035)</td>
<td>-0.067 (0.088)</td>
<td>-0.001 (0.037)</td>
<td>-0.025 (0.040)</td>
<td>-0.031 (0.050)</td>
</tr>
<tr>
<td>13. Year 1</td>
<td>-0.608 (0.347)†</td>
<td>-0.978 (0.877)</td>
<td>-0.824 (0.367)*</td>
<td>-0.624 (0.387)</td>
<td>-0.815 (0.474)†</td>
</tr>
<tr>
<td>14. Year 2</td>
<td>-0.598 (0.325)†</td>
<td>-1.458 (0.813)†</td>
<td>-0.560 (0.336)</td>
<td>-0.636 (0.355)†</td>
<td>-0.801 (0.434)†</td>
</tr>
<tr>
<td>15. Year 3</td>
<td>-0.027 (0.301)</td>
<td>-0.344 (0.749)</td>
<td>-0.463 (0.314)</td>
<td>-0.119 (0.339)</td>
<td>-0.319 (0.446)</td>
</tr>
<tr>
<td>16. Year 4</td>
<td>0.127 (0.324)</td>
<td>-0.102 (0.815)</td>
<td>-0.137 (0.339)</td>
<td>-0.317 (0.358)</td>
<td>-0.180 (0.409)</td>
</tr>
<tr>
<td>Constant</td>
<td>3.992 (0.847)***</td>
<td>7.360 (2.139)***</td>
<td>3.311 (0.883)***</td>
<td>-3.690 (0.935)***</td>
<td>3.658 (1.093)***</td>
</tr>
<tr>
<td>Estimated rho</td>
<td>.49</td>
<td>.41</td>
<td>.45</td>
<td>.45</td>
<td>.42</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>662.58</td>
<td>1,860.65</td>
<td>616.17</td>
<td>577.45</td>
<td>1,989.47</td>
</tr>
</tbody>
</table>

* N = 2,065. Standard errors are in parentheses. Significance levels are results of one-tailed tests for hypothesized effects, two-tailed for control variables.

Coefficients of variables in the selection criterion model (i.e., event history model) are not displayed (van de Ven & van Praag, 1981). This model takes the following form: \( \text{succession}_i = a + b_1 \text{excess returns}_{i-1} + b_2 \text{ROA}_{i-1} + b_3 \text{relative board tenure}_{i-1} + b_4 \text{independent directors}_{i-1} + b_5 \text{separate CEO/board chair}_{i-1} + b_6 \text{outsider ownership}_{i-1} + b_7 \log(\text{sales})_{i-1} + b_8 \text{diversification}_{i-1} + b_9 \text{instability}_{i-1} + b_{10} \text{board size}_{i-1} + b_{11} \text{length prior interval}_{i-1} + b_{12} \text{time since last event}_{i-1} + b_{13} \text{number of prior events}_{i-1} + b_{14} \text{Year dummies}_{i-1} + b_{15} \text{industry dummies}_{i-1} + u_i \). The Heckman model reports a log likelihood rather than an \( R^2 \) (Heckman, 1979; StataCorp, 1995: 388).

† \( p < .10 \)
* \( p < .05 \)
** \( p < .01 \)
*** \( p < .001 \)
Hypothesis 1a addresses whether CEO power affects the likelihood of a change in CEO characteristics, and Hypothesis 1b addresses whether board power affects the direction of such changes, predicting they will be toward similarity with existing board members. Table 3 provides results of the sample selection models relating specific sources of board power to increased CEO-board similarity. In general, the results provide strong support for Hypothesis 1b. For example, separation of the CEO and board chair positions and board tenure relative to that of the CEO are significantly and positively related to increased CEO-board similarity across all four demographic measures and the composite measure. Moreover, the portion of a board composed of outsiders appointed before a CEO (independent outside directors) is significantly related to the likelihood of increased CEO-board demographic similarity across four of the five measures. Finally, outside directors’ stock ownership is significantly and positively related to increased CEO-board demographic similarity (as predicted by Hypothesis 1b) for two of the five measures: functional background and the composite measure. Thus, it appears that the presence of relatively powerful boards and poor prior performance lead to change in CEO characteristics in the direction of board member characteristics, increasing CEO-board similarity.10

Firm Performance, CEO/Board Influence, and Changes in CEO Characteristics

Hypothesis 2a brings economic and political logics together by suggesting that boards may be particularly likely to change CEO characteristics when they have the power to do so and poor firm performance provides a reinforcing economic rationale for change. In other words, Hypothesis 2a argues that board power and firm performance will interact to predict an increased likelihood of change in CEO characteristics. As shown in Table 2, coefficients for the interaction term are significant across four of the five measures, thus lending strong support to this hypothesis. Similarly, Hypothesis 2b argues that board power and firm performance will interact to predict increased demographic similarity between a CEO and board members. The results in Table 3 show that this hypothesis is supported across four of the five measures of CEO-board similarity.

CEO Origin and Changes in CEO Characteristics

Finally, Hypothesis 3a examines whether outsider succession is positively related to the likelihood of change in CEO characteristics, ceteris

10 We also considered whether this tendency was greatest for the most powerful subgroups of boards of directors. Specifically, rather than consider a board as a whole, we examined CEO-board similarity for the subgroup of most powerful directors (e.g., outside directors only, or outside directors appointed before a CEO’s arrival). We found that increased CEO-board similarity resulting from a change in CEO characteristics was greatest for the powerful board subgroups. Thus, it appears that CEO characteristics frequently change in the direction of relatively powerful subgroups of such directors.
<table>
<thead>
<tr>
<th>Variables</th>
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<th>Age</th>
<th>Degree Type</th>
<th>Educational Affiliation</th>
<th>Multiple Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Excess returns</td>
<td>-0.083 (.044)*</td>
<td></td>
<td>-0.130 (.047)**</td>
<td>-0.120 (.047)**</td>
<td>-3.755 (1.377)**</td>
</tr>
<tr>
<td>2. Return on assets</td>
<td>-0.003 (.001)**</td>
<td></td>
<td>-0.002 (.001)*</td>
<td>-0.001 (.001)</td>
<td>-0.075 (.030)**</td>
</tr>
<tr>
<td>3. Board tenure relative to CEO</td>
<td>0.044 (.016)**</td>
<td></td>
<td>0.032 (.017)*</td>
<td>0.048 (.017)**</td>
<td>1.240 (.502)**</td>
</tr>
<tr>
<td>4. Independent outside directors</td>
<td>0.045 (.026)*</td>
<td>1.598 (.493)**</td>
<td>0.031 (.027)</td>
<td>0.086 (.027)**</td>
<td>1.797 (.803)*</td>
</tr>
<tr>
<td>5. Separation of CEO and board chair</td>
<td>0.056 (.023)**</td>
<td>1.159 (.447)**</td>
<td>0.056 (.024)*</td>
<td>0.051 (.024)*</td>
<td>1.494 (.728)*</td>
</tr>
<tr>
<td>6. Outsider stock ownership</td>
<td>0.090 (.052)*</td>
<td>0.948 (1.029)</td>
<td>0.037 (.055)</td>
<td>0.054 (.056)</td>
<td>2.654 (1.677)*</td>
</tr>
<tr>
<td>7. Board power × low performance</td>
<td>0.005 (.003)*</td>
<td>0.090 (.049)*</td>
<td>0.002 (.003)</td>
<td>0.004 (.003)†</td>
<td>0.170 (.079)*</td>
</tr>
<tr>
<td>8. Outside succession</td>
<td>0.057 (.025)*</td>
<td>1.294 (.482)**</td>
<td>0.069 (.026)**</td>
<td>0.034 (.027)</td>
<td>2.253 (.785)**</td>
</tr>
<tr>
<td>9. Log of sales</td>
<td>0.000 (.002)</td>
<td>0.077 (.049)</td>
<td>0.003 (.003)</td>
<td>0.002 (.003)</td>
<td>0.091 (.079)</td>
</tr>
<tr>
<td>10. Diversification</td>
<td>0.016 (.017)</td>
<td>0.093 (.323)</td>
<td>0.018 (.017)</td>
<td>0.010 (.018)</td>
<td>0.557 (.527)</td>
</tr>
<tr>
<td>11. Environmental instability</td>
<td>0.223 (.125)†</td>
<td>3.696 (2.351)</td>
<td>0.050 (.131)</td>
<td>0.262 (.134)†</td>
<td>6.461 (3.830)†</td>
</tr>
<tr>
<td>12. Board size</td>
<td>-0.001 (.002)</td>
<td>-0.040 (.034)</td>
<td>-0.000 (.002)</td>
<td>-0.001 (.002)</td>
<td>-0.029 (.056)</td>
</tr>
<tr>
<td>13. Year 1</td>
<td>-0.029 (.017)†</td>
<td>-0.429 (.332)</td>
<td>-0.025 (.018)</td>
<td>-0.034 (.018)†</td>
<td>-0.978 (.540)†</td>
</tr>
<tr>
<td>14. Year 2</td>
<td>-0.033 (.016)*</td>
<td>-0.455 (.311)</td>
<td>-0.027 (.017)</td>
<td>-0.025 (.017)</td>
<td>-0.997 (.515)†</td>
</tr>
<tr>
<td>15. Year 3</td>
<td>-0.014 (.015)</td>
<td>-0.250 (.296)</td>
<td>-0.013 (.016)</td>
<td>-0.006 (.016)</td>
<td>-0.109 (.482)</td>
</tr>
<tr>
<td>16. Year 4</td>
<td>-0.001 (.016)</td>
<td>0.074 (.304)</td>
<td>-0.003 (.016)</td>
<td>-0.002 (.017)</td>
<td>-0.005 (.495)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.164 (.045)***</td>
<td>3.037 (.861)***</td>
<td>0.187 (.047)***</td>
<td>0.171 (.048)***</td>
<td>5.269 (1.402)***</td>
</tr>
<tr>
<td>Estimated rho</td>
<td>.41</td>
<td>.45</td>
<td>.44</td>
<td>.41</td>
<td>.39</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>359.64</td>
<td>3,337.69</td>
<td>356.71</td>
<td>372.51</td>
<td>1,121.75</td>
</tr>
</tbody>
</table>

* N = 2,065. Standard errors are in parentheses. Significance levels are the results of one-tailed tests for hypothesized effects, two-tailed for control variables.

** Coefficients of variables in the selection criterion model (event history model, see Table 2) are not displayed (van de Ven & van Praag, 1981).

† p < .10
* p < .05
** p < .01
*** p < .001
paribus, as implied (but not tested) in the traditional literature on outside succession. This hypothesis is consistently supported across all five measures, as shown in Table 2. However, the discussion leading to Hypothesis 3b further argues that even if outside succession represents a means of facilitating or signaling strategic change, boards may compensate for higher risks of social and attitudinal incompatibility attending outside succession by placing greater emphasis on demographic similarity between a CEO and existing board members. The results in Table 3 support Hypothesis 3b, showing that for four of five measures, outside succession leads to increased CEO-board similarity.

**DISCUSSION**

This study examined changing CEO characteristics in the CEO succession context. It extended research on why firms choose insider or outsider successors by considering more fundamental demographic characteristics of CEOs and develops an interdisciplinary framework to explain the likelihood and direction of changes in such characteristics. The study develops a theoretical framework suggesting that outgoing CEOs and existing board members may have somewhat divergent preferences regarding CEO successors, with each preferring a successor who is demographically similar to themselves. In general, our results demonstrate that the power of an outgoing CEO vis-à-vis a board consistently predicts whether the preferences of the CEO or the board will be met. Specifically, findings indicate that if the board is less powerful than the outgoing CEO, changes in CEO characteristics are less likely to occur. Furthermore, we found that if the board is more powerful than the CEO, board members tend to change CEO demographic characteristics to resemble their own demographic profile.

The underlying logic for why both parties would tend to favor similar successors was explained by the integrated social psychological and sociopolitical perspective developed earlier, and the results are consistent with that discussion. First, by taking a social psychological approach, we established that to the extent that demographic similarity provides a salient basis for in-group membership, deep-seated psychological tendencies toward in-group favoritism can lead both CEOs and board members to favor demographically similar CEOs (Byrne, 1971; Fiske & Taylor, 1991; Tajfel & Turner, 1986). Second, by taking a sociopolitical approach, we also established that outgoing CEOs and boards may both favor personally compatible (similar) successor candidates in an attempt to establish greater interpersonal influence over new CEOs and subsequent influence over organizational affairs. In effect, outgoing CEOs favor similar successors in order to preserve their legacies or visions for their organizations (Sonnenfeld, 1986), and boards prefer demographically similar new CEOs in order to facilitate socialization (Kanter, 1977; O'Reilly et al., 1989).

Given the additional, independent effect of prior performance on changes in CEO characteristics and increases in CEO-board similarity, the overall pattern of findings suggests that both economic conditions and CEO
and board power affect the likelihood and direction of change in CEO characteristics. In fact, we also hypothesized and found an additional interaction effect demonstrating that boards may be particularly likely to act on the social psychological and sociopolitical motives discussed above when they have the power to do so and poor firm performance provides a reinforcing economic or strategic rationale for change. These findings are consistent with recent research examining the role of economic and political factors in determining the likelihood of outside succession (Boeker & Goodstein, 1993; Cannella & Lubatkin, 1993) and extend that research by showing (1) how relative board power affects the likelihood of change in more fundamental demographic characteristics of top managers and (2) how a model of board power that incorporates social psychological as well as sociopolitical factors can predict the direction of such change.

A final set of results regarding outsider/insider succession provides additional insights. Specifically, we found that firms choosing outsiders are in fact likely to choose individuals whose demographic characteristics are quite different from those of the outgoing CEO. In other words, it appears that outsiders are usually different from insiders, but these differences can be attributed to more fundamental demographic characteristics, such as functional background, age, and educational background.

Interestingly, however, we also find that although outside successors are typically demographically different from their CEO predecessors, they are demographically more similar to members of the firms’ boards of directors. In other words, boards of directors may seek new outsider CEOs who are different from prior CEOs, but board members also seem to have a preference for outsider CEOs who demographically resemble themselves. The fact that this tendency is greater for outsider than for insider CEO successors is consistent with the notion that boards face greater performance ambiguity and social uncertainty in evaluating outsiders and thus are more likely to rely on demographic similarity as a way to reduce that ambiguity and uncertainty (Kanter, 1977; Pfeffer, 1981). Thus, although some view outside succession as a purely adaptive response to environmental change (cf. Tushman, Virany, & Romanelli, 1985), implying that CEO characteristics will change to reflect environmental demands, our findings suggest that when CEO characteristics change, they may also reflect board member characteristics. It should also be noted that environmental variables included as controls were not as strongly predictive of changes in CEO characteristics as the CEO/board power variables.

Our study also highlights how a behavioral perspective on the role of directors in the CEO selection process can enrich existing legal and economic perspectives on boards. Specifically, although the study suggests that powerful boards can exercise greater influence in the selection of new CEOs, consistent with previous research (Boeker & Goodstein, 1993; Cannella & Lubatkin, 1993), it is not obvious that their behavior-driven tendency to choose new CEOs who are demographically similar to themselves is necessarily in the shareholders’ best interests. Thus, Levinson’s (1974) well-known admoni-
tion, “don’t choose your own successor” might be relayed to board members as well as to the CEOs.

The present research also has implications for the top management team (TMT) literature. Theory and research on top management team composition is typically cross-sectional (Pettigrew, 1992) and treats top management demographic characteristics as given, but in this study we explicitly considered the role of social psychological and sociopolitical dynamics in determining the characteristics of top management. In other words, prior TMT research has shown that top manager characteristics may be associated with a variety of organizational decisions and outcomes; the present study contributes to such research by (1) treating top manager characteristics as endogenous, rather than exogenous, and (2) developing a model that explains and predicts how such characteristics come to be chosen. Moreover, the study also extends the level of Hambrick and Mason’s (1984) upper echelon perspective by demonstrating the relevance of outside director characteristics to top management characteristics.

In addition, we hope the study contributes to research on CEO succession and CEO-board relations by highlighting the importance of organizational demography. Specifically, demographic characteristics can more precisely capture the content of CEO succession, as the earlier discussion of insider versus outsider succession suggested. Knowing a set of fundamental CEO demographic characteristics can provide more insight than simply knowing successor origin when a researcher attempts to predict subsequent CEO and firm behavior. More generally, future succession research could begin to examine the consequences of changes in CEO characteristics and changes in CEO-board demographic similarity. For example, one could examine whether new CEOs differing on multiple demographic dimensions from their predecessors are more likely to initiate major strategic changes. Also, one could examine whether increased levels of CEO-board similarity result in increased board control over a CEO. Such research could assess whether boards use social similarity with top managers as a vehicle for social control and whether doing so is a substitute or a complement to more traditional forms of board monitoring (Beatty & Zajac, 1994; Zajac & Westphal, 1994).

More generally, the study also has implications for research on business elites, in that it suggests that the capacity for “self-cloning” (Hambrick et al., 1993; Smith & White, 1987) or “homosocial reproduction” (Kanter, 1977) may be available only to relatively powerful organizational actors, and not necessarily to all members of a cohesive, unified class (cf. Useem & Karabel, 1986). Of course, this differential capacity for self-cloning requires some variance in the relevant demographic attributes. Although there is significant variance among CEOs and directors in the demographic characteristics employed in this study, our findings can be viewed as particularly strong given that our data include cases in which prior CEOs and existing directors are highly similar. Future research might investigate whether the trend toward demographic similarity continues and consider the factors (e.g., a growing demand for demographic diversity) that may reverse this trend. To the extent
that boards will be seeking greater demographic diversity in attributes such as race and gender, our study implies that boards, in an attempt to minimize social uncertainty, will place greater emphasis on demographic similarity along other dimensions.

Several limitations of the present study should also be noted. First, our sample excluded small and family-owned companies, in both of which social compatibility factors might exert less influence over successor choice. Second, our theoretical framework does not accommodate the possibility that CEOs or boards learn to overcome similarity-attraction bias over time. Future research might examine whether the biases demonstrated in this study are less pronounced as CEO and board experience with succession increases. Finally, this study, like other large-sample studies of corporate boards, does not observe directly the dynamic political processes by which structural power is exercised over board decision making (Pettigrew, 1992).

In conclusion, the findings reported in this study show how an integrated social psychological and sociopolitical perspective can illuminate the workings of the CEO succession process above and beyond traditional economic, strategic, and legal perspectives. Change in CEO characteristics reflects the social psychologically and sociopolitically influenced preferences of prior CEOs and boards, along with the relative power of these actors in realizing their divergent preferences. Thus, the study suggests that a behavioral perspective incorporating the social psychological and sociopolitical aspects of CEO succession can enhance understanding of this complex organizational phenomenon.

REFERENCES


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Edward J. Zajac is the James F. Beré Professor of Organization Behavior at the J. L. Kellogg Graduate School of Management, Northwestern University. He received his Ph.D. degree in organization and strategy at the Wharton School, University of Pennsylvania. His research emphasizes the integration of economic and behavioral perspectives on organizational governance, strategic adaptation, and strategic alliances.

James D. Westphal is a doctoral candidate in organization behavior at the J. L. Kellogg Graduate School of Management, Northwestern University. His primary research interests include executive compensation, CEO-board relations, and new director selection.