Strength in numbers or guilt by association?: Intragroup effects of female chief executive appointments

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Abstract

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STRENGTH IN NUMBERS OR GUILT BY ASSOCIATION? INTRAGROUP EFFECTS OF FEMALE CHIEF EXECUTIVE ANNOUNCEMENTS

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We predict that the media reports on female CEOs as a coherent group, whereas male CEOs are treated as individuals by the media. We also suggest that the resulting investors' perceptions of group entitativity of female-led firms may not only influence the succession event–performance relationship at the focal firm, but may also have a significant effect on the value of other female-led companies. Results of a text analysis and an event study of appointments of female CEOs to Fortune 1000 firms provide support for these predictions.

INTRODUCTION

The relationship between managerial succession and stockholder wealth has been the subject of a large body of strategic management research (e.g., Beatty and Zajac, 1987; Davidson, Worrell, and Dutia, 1993; Friedman and Singh, 1989; Furtado and Rozeff, 1987; Reinganum, 1985; Worrell and Davidson, 1987; Worrell *et al.*, 1986). As a major firm event, CEO succession may foretell upcoming changes in top management team composition (Wagner, Pfeffer, and O'Reilly, 1984) or a significant change in strategic direction, decision making, and, ultimately, firm performance (for a review, see Kesner and Sebora, 1994; Virany, Tushman, and Romanelli, 1992). Thus, CEO succession may represent a signal regarding the future of the firm (e.g., Beatty and Zajac, 1987; Kesner and Sebora, 1994; Lubatkin and Shrieves, 1986).

Prior research examining the influence of CEO characteristics in the linkage between succession and performance has primarily focused on the insider/outsider distinction of the successor's origin with results reflecting mixed performance implications (e.g., Boeker, 1992; Canella and Lubatkin, 1993; Furtado and Rozeff, 1987; Kesner and Sebora, 1994; Shen and Cannella, 2002). Few researchers have devoted attention to the relationship between other CEO characteristics and shareholder wealth. One exception is a recent study, which found that shareholders react more negatively to the announcement of female CEO appointments than to male CEO appointments (Lee and James, 2007). The results of the study suggest that the demographic characteristics of the successor may influence investor perceptions and affect firm value (Lee and James, 2007).

Lee and James (2007) take a novel approach in suggesting that announcements of female CEOs

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focus more attention on gender and gender-related issues than announcements of male CEOs, resulting in a much more negative response from shareholders. This is consistent with Beatty and Zajac's (1987) response to the inconsistent findings regarding market reactions to executive succession events. These authors emphasize that it is investors' perceptions of the signal, rather than the signal itself, which is most important (Beatty and Zajac, 1987). With limited information for making judgments, investors' perceptions may be influenced by the content of media reports (e.g., Deephouse, 2000; Johnson *et al.*, 2005; Lee and James, 2007).

Several recent studies suggest that the media may play an important role in influencing investors' perceptions and investment decisions by influencing firm reputation and legitimation (Deephouse, 2000; Hayward and Hambrick, 1997; Johnson *et al.*, 2005; Lee and James, 2007; Pollock and Rindova, 2003). Further, the media not only propagates legitimacy, but it may also influence perceptions by creating "buzz" about a firm or conveying a sense of "dramatized reality" of an organization based on what may be otherwise factually accurate information about firms by stressing certain facts and meanings while underplaying others (Pollock and Rindova, 2003; Rindova, Pollock, and Hayward, 2006).

Thus, by selectively emphasizing or downplaying certain information, the press can reinforce stereotypes around female CEOs (Daily and Dalton, 2000; Lee and James, 2007). Entitativity reflects the degree to which groups are viewed as being a coherent, unified collective (Campbell, 1958; Hamilton and Sherman, 1996). Drawing on the social psychology literature, we propose that the media homogenizes the image of female CEOs, thereby creating an entitative group. Substantial empirical evidence exists suggesting that the press affects investors' opinions by influencing firm reputation and legitimation (e.g., Deephouse, 2000; Johnson *et al.*, 2005; Lee and James, 2007; Pollock and Rindova, 2003; Zuckerman, 1999).

Women have made great strides in entering the workforce and attaining positions in management, yet progress at the very top executive level has been much more limited (Daily, Certo, and Dalton, 1999; Helfat, Harris, and Wolfson, 2006; Lee and James, 2007). While the "glass ceiling" phenomenon has been studied from a number of perspectives, we consider the influence of a special status conferred upon female CEOs by examining the effects of female CEO succession events on the stock price of all firms employing female CEOs. In this paper, we explore whether female executives experience strength in numbers, guilt by association, or both. In other words, does the announcement of an additional female CEO increase the perceived legitimacy of existing female CEOs as well as the firms they lead? Or does a negative contagion effect exist that casts doubt on the competence of female CEOs? Additionally, do investors interpret the dismissal of one female CEO for poor performance as reflective of female executives in general?

This study contributes to the strategic management literature by showing that certain CEO characteristics—in this case, gender—may influence not only the succession event–performance relationship at a given firm, but may also have a significant effect on the value of other companies perceived as being tied to that firm by virtue of being led by female CEOs. Although the bulk of research on the relationship between endorsement and perceived legitimacy has focused on individual rather than collective responses (e.g., Thomas, Walker, and Zelditch, 1986; Zelditch and Walker, 1984), this study provides the opportunity to test this relationship at the group level. Finally, our results highlight the role of the media in influencing group perceptions of female executives.

THEORY AND HYPOTHESES

Strength in numbers: legitimation

Sociologists and organizational theorists provide various perspectives of legitimacy. The population ecology view considers an organizational form as legitimate when its existence is taken for granted (Hannan and Carrol, 1992). As such, rising numbers, signifying success in securing resources, represent increased legitimation (Hannan and Carrol, 1992). From an organizational perspective, Suchman (1995) defined legitimacy as "a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions" (574). Similarly, Scott (1995) argued that legitimacy comes about through the authorization or endorsement of particular actors in the surrounding environment.

In addition to organizational forms, theories of legitimation have also been applied to status positions in groups. The literature from sociology's *theory of legitimation in task groups* argues that support for an informal hierarchy frequently develops from members' beliefs, called referential beliefs, about the types of people that usually hold high- and low-status positions in the surrounding society (Ridgeway, 1997; Ridgeway and Berger, 1986; Ridgeway, Johnson, and Diekema, 1994). These are widely shared cultural beliefs that describe what people take to be the typical association between individual attributes and the occupation of valued status positions in social hierarchies (Ridgeway, 1997; Ridgeway and Berger, 1986; Ridgeway *et al.*, 1994). Prior research findings indicate that outside support is a necessary condition for an authority to achieve the compliance that signifies legitimacy (Thomas *et al.*, 1986; Walker, Thomas, and Zelditch, 1986; Zelditch and Walker, 1984).

Given the small number of females in CEO positions and on corporate boards, gender may be a particularly salient attribute influencing referential beliefs, resulting in an association of males with high-status positions in the hierarchy of organizations and women with lower levels or middle management (Daily and Dalton, 2000; Lee and James, 2007). As a result, female CEOs may have a more difficult time achieving legitimation in their position. Evidence supports this argument, finding that when a firm appoints a female CEO, that firm, in turn, may experience a more negative market reaction than if the firm had appointed a male CEO (Lee and James, 2007).

When a firm appoints a female CEO, the succession event may represent an indirect, but symbolic endorsement of firms with existing female CEOs resulting in a positive market reaction for those firms. The appointment of a female CEO may implicitly serve as an endorsement of female CEOs, in general, thus increasing perceived legitimacy for existing female executives and the firms that they lead. Moreover, cognitive legitimacy of female executives may increase as more women enter into the upper echelons of firms providing examples of comparable others. Thus, female executives may experience a strength in numbers effect in that when an existing female CEO receives an outside endorsement, it may provide the symbolic mechanism necessary to change perceptions required to legitimize members of the group.

Guilt by association: contagion

On the other hand, because female CEOs are linked together as a coherent group in appointment announcements with gender as a salient attribute, we may expect a contagion effect. According to the finance literature, a contagion effect traditionally exists when a firm-specific event elicits a stock price reaction for both the affected firm and its industry counterparts (e.g., Chen, Ho, and Shih, 2007; Foster, 1981; Lang and Stulz, 1992; Laux, Starks, and Yoon, 1998; Szewczyk, 1992). The primary explanation for the contagion effect phenomenon is that an event — in this case, an announcement — for one firm conveys information regarding other firms as well (e.g., Foster, 1981; Lang and Stulz, 1992; Laux *et al.*, 1998). Researchers have similarly theorized that reputation may be a common resource shared by all firms in a given industry (King, Lenox, and Barnett, 2002). Thus, investors use the information provided by one firm to make assumptions about other firms in the same industry (e.g., Lang and Stulz, 1992; Laux *et al.*, 1998). In such cases, a "reputation commons" problem may occur if stakeholders sanction all firms in an industry as a result of a single firm's actions (King *et al.*, 2002). For example, various studies document intraindustry effects in response to news releases regarding sales announcements, mergers, industrial accidents, regulatory actions, and management forecasts (e.g., Bowen, Castanias, and Daley, 1983; Eckbo, 1983; Foster, 1981; Joh and Lee, 1992; Slovin, Sushka, and Bendeck, 1991). The majority of these studies support a contagion rather than a competition effect explanation in response to news releases, with stock price reactions typically in the same direction as that of the announcing firm (e.g., Aharony and Swary, 1983; Baginski, 1987; Foster, 1981). For example, when a firm announces a bankruptcy, industry rivals experience a generally negative stock price reaction (Lang and Stulz, 1992).

The contagion effect has also been extended beyond industry effects and is often used to explain the impact of unfavorable news on financial markets as a whole as well as consumer confidence (Stringa and Monks, 2007). Therefore, linkages do not have to originate from direct channels, but can also come about through indirect channels such as media reports (Stringa and Monks, 2007). In our study, a contagion effect suggests that not only will the firm appointing a female CEO experience a negative market reaction (Lee and James, 2007), but that the portfolio of female-led firms will also experience a negative stock price reaction associated with the succession event. Therefore, we may expect the guilt by association effect.

Thus, although both the legitimacy and contagion perspectives predict significant intragroup effects for female-led firms, the directionality of such effects differs. To address this issue, we present competing hypotheses, an approach that can play an important role in critical theory building. In doing so, we put the question of whether female CEOs experience strength in numbers or guilt by association to a rigorous test.

Hypothesis 1a: Firms with existing female CEOs will experience positive stock market reactions when there is a succession event resulting in the appointment of a female CEO at another firm.

Hypothesis 1b: Firms with existing female CEOs will experience negative stock market reactions when there is a succession event resulting in the appointment of a female CEO at another firm.

Perceived group entitativity

The intragroup stock market effects for female CEOs may be particularly salient due to perceptions of group entitativity or the degree to which groups are perceived as being a coherent, unified collective (Campbell, 1958; Hamilton and Sherman, 1996). Entitativity perceptions result when "an aggregate of individuals is bonded together in some way to constitute a group" (Hamilton, Sherman, and Castelli, 2002: 141). Campbell (1958) first used the term entitativity, but it has only been in recent years that theoretical and empirical work on entitativity has increased. This social psychological perspective of group perceptions contributes to our understanding of how particular features of groups may influence the judgments made about these groups (e.g., Campbell, 1958; Hamilton and Sherman, 1996; Hamilton, Sherman, and Lickel, 1998; Pickett and Perrott, 2004). When groups are perceived as being highly entitative, they are more likely to be categorized as coherent groups rather than as incidental aggregates of individual members (Hamilton and Sherman, 1996; Hamilton *et al.*, 1998; Pickett and Perrott, 2004). This perception also influences the extent to which traits are generalized from one individual in a group to other group members (Park and Hastie, 1987).

Implicit in views of entitativity is the assumption that the degree to which an individual is used as a comparison standard for another should be influenced not only by whether the individuals are actually members of the same group, but also on the group's perceived entitativity (Pickett, 2001; Pickett and Perrott, 2004). Evidence suggests that high group entitativity makes the comparison process easier. Pickett and Perrott (2004) provide strong evidence that high group entitativity perceptions facilitate intragroup comparative judgment. Furthermore, previous work has shown that similar physical attributes (e.g., race) can lead to perceptions of entitativity in which groups are viewed as both physically *and* psychologically homogeneous, resulting in trait and behavioral judgments of the members (Dasgupta, Banaji, and Abelson, 1999).

In highly entitative groups, an underlying cognitive process is implied in which trait impressions of the group form from judgments of new information about individual group members (Crawford, Sherman, and Hamilton, 2002; Park and Hastie, 1987). Information on individual members is eventually lost once the group trait information has been abstracted (Pickett and Perrott, 2004). Thus, a high degree of group entitativity can lead to perceptions of interchangeability among individual group members because it is difficult to recall information specific to any one individual (Pickett and Perrott, 2004). In one study, participants asked to recall behaviors of observed individuals were more likely to misidentify two actors from the same group type (i.e., confusing family member actions with those of a friend, both intimacy groups) than those from different types (family member with those of a committee member/task group; Sherman, Castelli, and Hamilton, 2002). This evidence suggests that it is not necessary for individuals to be specifically instructed to create groups in order for entitativity perceptions to influence their representation of behaviors (Rutchick, Hamilton, and Sack, 2008).

Entitativity, stereotyping, and identity

Entitativity research is a part of the greater body of literature on group perceptions that has primarily focused on the role of categorization on stereotyping, people's belief systems about categories of people (Allport, 1954; Fiske, 1998). While stereotyping concerns belief systems regarding groups, entitativity takes a step back and explains the extent to which people are perceived to be in a meaningful and unified group. Thus, entitativity perceptions ultimately influence stereotypes and related judgments. When groups are perceived as highly entitative, members are perceived as "psychologically interchangeable" (Crawford *et al.*, 2002; Yzerbyt, Rogier, and Fiske, 1998). Hamilton (2007) theorized that when groups are perceived as being interchangeable and sharing attributes, then generalizing becomes easier and thus facilitates stereotyping (Hamilton, 2007). Results of a recent empirical study find support for this argument in that entitativity was an important predictor in stereotyping of particular groups (Spencer-Rodgers, Hamilton, and Sherman, 2007). In sum, a person must view an aggregate of individuals as a meaningful group before they can have a stereotype regarding that group (Spencer-Rodgers *et al.*, 2007).

Entitativity is also relevant to the identity literature, which expands upon group categorization to argue that the categorization of groups is also important for one's own social identity or belief of belonging to certain groups associated with some significant emotion or value (Tajfel, 1978; Tajfel and Turner, 1979). Empirical research on the relationship between entitativity and identity has focused on perceptions of in group members and associated behaviors such as the relationship between perceived in group entitativity and group identification (Lickel *et al.*, 2000) or the relationship between entitativity and ingroup bias (Castano *et al.*, 2002; Gaertner and Schopler, 1998). Other identity research, however, has examined entitativity perceptions of nongroup members and associated outcomes (e.g., Sherman *et al.*, 2002). For example, highly entitative groups have also been found to have a stronger influence on members' social identity than low entitative groups (Castano *et al.*, 2002; Hogg, 2004; Hogg *et al.*, 2007; Sherman *et al.*, 1999). Entitativity perceptions appear to be important antecedents to people's social identity, which, in turn, enables people to define themselves in the larger social environment.

Factors that influence entitativity perceptions

Perceptions of group entitativity are thought to be influenced by the extent of (1) the frequency of interaction among members, (2) the importance of the group, (3) the similarity among members, and (4) the extent to which they share common goals and common outcomes (Lickel *et al.*, 2000). Importantly, theorists emphasize that groups vary in the extent to which they are perceived as having entitativity (Campbell, 1958; Hamilton, 2007). Thus, groups are not classified dichotomously as either entitative or not. Rather, group entitativity should be conceptualized along a continuum where groups may be viewed as possessing more or fewer of these characteristics and qualities.

The role of the media in perceptions of female CEOs

Female CEOs receive a great deal of publicity, and the nature of media reports on female CEOs contributes to perceptions of female executives as being an entitative group. The literature examining media effects demonstrates that news reports can be instrumental in shaping perceptions of executives and firms (Hayward, Rindova, and Pollock, 2004; Rindova *et al.*, 2006). Theorists suggest that the media socially constructs a version of reality that results in CEOs being credited with firm strategic actions and outcomes, and, in some cases, CEOs becoming synonymous with the firms they serve (Hayward *et al.*, 2004; Ketchen, Adams, and Shook, 2008). Empirical studies have even found that media reports can interact with firm performance to influence CEO compensation awards (Wade *et al.*, 2006). Thus, we believe that the media plays an important role in determining perceptions of business firms and executives and may be instrumental in creating the impression that female CEOs form a cohesive group.

Frequency of interaction and the importance of the group

As noted earlier, the extent of perceived frequency of interaction and the importance of the group are two characteristics that influence perceptions of entitativity (Campbell, 1958; Hamilton, 2007).

Although female CEOs may not frequently interact in the traditional sense (i.e., in person), the frequency with which the media reports on female executives as a coherent group rather than as unique individuals may influence perceptions of group entitativity. For example, *Fortune* magazine dedicates an annual issue to the "50 Most Powerful Women in Business" or "The Power 50" (Kowitt and Rupali, 2011; Shambora and Kowitt, 2011), *The Wall Street Journal* until recently published its yearly "50 Women to Watch" (Marr, 2008), and *USA Today* conducts an annual performance evaluation of female CEOs of *Fortune* 500 companies, complete with a listing of each firm along with a stock analysis that results in headlines such as "Female CEOs struggle in '04," "Not-so-good year for female CEOs," or "2009 was great for female CEOs' companies" (Jones, 2005a,b, 2009). Given that media reports in general, and female CEO announcements specifically, often mention existing female CEOs and their firms, the linkages may be especially salient due to high perceived group entitativity, which facilitates intragroup comparative judgments (Pickett and Perrott, 2004). As an important collective, female CEOs of large firms may receive more press as a group precisely because they are so underrepresented (Daily *et al.*, 1999). Moreover, being a distinctive minority likely leads to especial scrutiny (e.g., press) that serves to further highlight stereotyping. Accordingly, perceptions of individual female CEOs, for better or worse, may be influenced by perceptions of the group, rather than the accomplishments of the individual.

Similarity among members

The emphasis on gender and gender-related stereotypes may increase the perceived similarity among female CEOs, an additional quality of highly entitative groups (Campbell, 1958; Hamilton, 2007). Announcements of female CEO appointments may play a particularly important role in influencing group similarity perceptions since these announcements are so rare that they generate a great amount of attention (Lee and James, 2007). Research suggests that the media reports female executive appointments differently than announcements of male counterparts, which reinforces stereotypes by referring to gender (e.g., "woman," "female," "feminine"), as well as emphasizing information regarding the CEO's family, which is not the case in announcements of male CEOs (Lee and James, 2007). Moreover, announcements of female executive appointments appear to differ in another notable way in that press reports often explicitly link female CEOs together as a heterogeneous group, whereas male CEOs are reported as individuals. Thus, when a new female CEO is announced, news articles report that a new member has joined the ranks of the "elite sisterhood" (Stanley, 2002) or has become one of the "chief executive sisters" (Joyce, 2005), which increases the likelihood of perceived entitativity of the small, but growing, group of female CEOs. Consider a typical excerpt from a newspaper article announcing PepsiCo's appointment of a female CEO:

> The 50-year-old Nooyi will be the rarest of CEOs: a wife, a mother and a woman of color. Nooyi's appointment makes her only the 11th female CEO of a *Fortune* 500 company . . . Here are the others . . . (list of all *Fortune* 500 female CEOs, firms, and revenues follows) (Selvin, 2006: C1).

Common goals and outcomes

The final dimension of entitative groups, perceptions of common goals and outcomes (Campbell, 1958; Hamilton, 2007), may also be emphasized through the nature of media reports. Interestingly, these media reports linking female CEOs are not only prominent for reporting general positive news regarding female CEOs (e.g., *Fortune*'s Most Powerful Women) and for CEO appointments, but when reporting negative information as well. As *USA Today* reports, "This is going to go down as a miserable year for female CEOs of *Fortune* 500 companies . . . 2005 can't end soon enough for women who are at the helms of large companies" (Jones, 2005a: 3B). The article provides a list of all current female CEOs along with firm names and stock value information. Additionally, three recently dismissed female CEOs are named, with the added information that the three *Fortune* 500 companies where men replaced women have "done nicely" (Jones, 2005a: 3B).

Increased publicity and scrutiny of female CEO dismissal

Strategic management researchers have long observed the challenges associated with accurately identifying the true nature of CEO succession because firms rarely fully divulge the actual reasons behind CEO dismissals even in light of poor firm performance leading up to the departure (Beatty and Zajac, 1987; Boeker, 1992; Denis and Denis, 1995; Fredrickson, Hambrick, and Baumrin, 1988; Pitcher, Chreim, and Kisfalvi, 2000; Shen and Cannella, 2002; Warner, Watts, and Wruck, 1988; Weisbach, 1988; Wiersema, 1995). As Beatty and Zajac (1987) explain, "The majority of public announcements are silent or ambiguous regarding the reason for the CEO change" (316). Thus, there is a great deal of difficulty in distinguishing among voluntary departures (e.g., "to spend more time with family"), true retirements, and dismissals.

The difficulty in accurately judging the nature of an executive's departure may be more applicable for male CEOs than for their female counterparts. Specifically, departing female CEOs may face a great deal of personal and professional scrutiny. The ousting of Mattel's Jill Barad resulted in unfavorable newspaper headlines, which emphasized gender including "The Rise and Fall of Bossy Barbie" (Broughton, 2000), "Toy Queen is Toppled" (Helmore, 2000), and *The Wall Street Journal's* "The Rise and Fall of Toyland's Princess" (Miller, 2000). Moreover, research shows that women managers are evaluated less favorably than male managers when performing similar leadership roles (Eagly, Makhijani, and Klonsky, 1992). Media reports on the downfall of Mattel's Jill Barad suggest that the press is not immune to this perceptual bias. The article "Princess on a Steeple," in *The Economist* (1999), anticipated Barad's departure and claimed that "Barad's career reads like a parable for female chief executives" (*The Economist*, 1999: 85). The article credits Barad's "feminine traits," such as "energy and charm," and a "bubbling personality" for her success in increasing Barbie sales tenfold and her board appointment at Microsoft, but also blames them for her failure, concluding that they provide "evidence that she should have stuck to marketing, rather than worrying her pretty little head about running the company" (*The Economist*, 1999: 85).

Unlike the often ambiguous context of male CEO succession, the greater degree of publicity and scrutiny awarded female CEOs rarely leaves any question as to the nature of female CEO dismissal. Ironically, female CEOs may face a double-edged sword in that a common and often ambiguous reason reported for a male CEO's departure in the light of poor performance, frequently "a desire to spend more time with his family," may further reinforce gender stereotypes if used to cover up a female CEO dismissal.

In sum, past research has emphasized that the rarity of female executives results in a great deal of media attention, placing female CEOs under the microscope of increased personal and professional scrutiny (Daily *et al.*, 1999; Lee and James, 2007). Further, press reports of CEO appointment announcements emphasize gender and personal information for female executives significantly more so than their male counterparts (Lee and James, 2007). We assert that the amount and nature of media attention reinforces gender-related stereotypes and may contribute to perceptions of entitativity. In addition, we argue the press plays an active role in creating perceptions of high entitativity among female executives by linking female CEOs together in media reports whereas male CEOs are more likely to be reported on as individuals.

Hypothesis 2: Media reports of CEO appointment announcements are more likely to link female CEOs as an entitative group based on gender compared to male CEO counterparts.

Although the appointment of a new female CEO may lead to increased legitimacy for the group as a whole, the increased coverage and scrutiny associated with female CEO dismissals may negatively affect shareholder value for the remaining female-led firms. Prior research suggests media coverage affects perceptions of legitimacy by bringing attention and exposure to firms (e.g., Fombrun, 1995; Hoffman and Ocasio, 2001; McCombs *et al.*, 1997; Pollock and Rindova, 2003; Suchman, 1995). In addition, the media's framing of information, whether negative or positive, has been found to influence legitimacy perceptions of political candidates (McCombs, 1981; McCombs *et al.*, 1997). Pollock and Rindova (2003) found support for their proposition that media coverage affects the legitimacy of IPOs, thereby influencing investors' perceptions. By extension, as long as the media continues to cover female CEO performance and dismissals with increased scrutiny and an emphasis on gender stereotypes, the remaining female CEOs may be cast in a negative light. Whereas the addition to the list of female CEOs of large firms may serve as an outside endorsement, the dismissal of a female executive may reinforce existing referential beliefs and send a signal which decreases legitimacy for firms currently employing female CEOs. Thus, we believe that when a female CEO is dismissed, other firms with female CEOs may suffer a decline in stock price by experiencing guilt by association.

Hypothesis 3. Firms with existing female CEOs will experience negative stock market reactions when there is a succession event resulting in an announcement of a female CEO dismissal at another firm.

METHOD

Sample and data collection

The hypothesized relationships were tested by examining all female CEO announcements and dismissals between 1991 and 2006 in order to avoid confounding events associated with the financial crisis in 2008. The firms considered for analysis in this study consisted of the entire population of female-led *Fortune* 1000 and *Fortune* Global 500 firms for the 16-year period ending 31 December 2006. The male sample used for comparison consisted of all male-led *Fortune* 50 firms from 2003 through 2006 in order to obtain a comparative sample of CEOs. Although male CEO appointments are not novel, *Fortune* 50 firms tend to be in the media spotlight and their executives may be perceived as linked through membership in this elite group. Firms were initially identified using the COMPUSTAT Executive Compensation Database. We identified the appointment and dismissal dates for each female CEO using LexisNexis searches that included newspapers, magazine articles, industry newsletters, press releases, and news wires. This search resulted in 35 unique female CEO appointment announcements and 19 male appointments used for the initial sample for Hypothesis 1. Full text announcements from *New York Times* and *Wall Street Journal* articles were then extracted and used to test Hypothesis 2.

We also used LexisNexis to search the same sources for confounding events at both the focal and peer firms during a time period starting from three days prior and ending three days after each announcement. Two announcements were eliminated because the female executives were founders of the firms that they led. In addition, in one case a female CEO was dismissed one day prior to an appointment announcement of a female CEO at another firm. We regarded this as a confounding event given the occurrence of both events simultaneously within the specified three-day analysis window and both were deleted from the sample. We also searched for confounding events at both the male focal and peer firms and removed those associated with confounding events such as mergers, acquisitions, other executive appointments or dismissals, and company scandals. The remaining sample used in the analyses included those in which only one event appeared to have happened in the three-day analysis window. This procedure left 33 unique appointments and 11 CEO departures at female-led firms along with 12 unique appointments at male-led firms. All dismissals appeared to be nonvoluntary terminations as opposed to planned retirements.

In order to test the effect of a female CEO appointment or dismissal announcement on other female-led firms (Hypotheses 1 and 3), we first formed a portfolio of all female-led firms with stock returns from the Center for Research in Security Prices (CRSP). This approach is consistent with prior research when testing intraindustry effects (e.g., Lang and Stulz, 1992; Xu, Najand, and Ziegenfuss, 2006). This process required forming a peer female-led firm portfolio for each announcement (or dismissal) and then pooling the peer portfolios together to test abnormal returns. Female-led firm portfolios include all other female-led firms in our sample on any given announcement date. For example, if a female CEO was appointed on April 3, 2003, then the associated female-led portfolio for that announcement would consist of all other firms in our sample that had a female CEO on April 3, 2003. This procedure was repeated for each announcement event date. Abnormal returns of the firms in the female portfolios were then pooled in order to determine if other female-led firms, as a whole, experience abnormal stock returns. Overall, the female-led firm portfolios included 26 companies per event on average with a range of 11–39 female-led firms over the sixteen-year period.

The same pooling procedure was then completed for each male appointment announcement. After eliminating confounding events at peer firms, the male-led firm portfolios included 45 companies per event on average with a range of 38–48 over the sample period. This resulted in 395 firms in our portfolio for appointment events and 101 firms in our portfolio for dismissal events at female-led firms. It also resulted in 443 firms in our portfolio for appointment events at male-led firms. Of these, 26 firms in the announcement portfolio and 11 firms in the dismissal portfolio at female-led firms and 19 firms in the announcement portfolio at male-led firms were dropped due to missing information. Thus, our final analysis consisted of 369 usable firms in our portfolio for appointment events and 90 usable firms in our portfolio for dismissal events at female-led firms, as well as 424 firms in our portfolio for appointment events at male-led firms.

Analysis

To test Hypotheses 1 and 3, we used the market model event study methodology to examine stock price responses to announcements and dismissals of female CEOs (e.g., McWilliams and Siegel, 1997; Peterson, 1989). We use the CRSP (1991–2006) equally weighted index as a proxy for market returns1991–2006. We measure abnormal returns for peer firms as the difference between the actual return and the expected return generated by the market model. The peer firms for each announcement (or dismissal) were then pooled together to test the cumulative average abnormal returns (CAAR) (Xu *et al.*, 2006). CAAR is the sum of the average abnormal returns of the female-led (or male-led) peer portfolios. Our parameters of the market model are estimated using the data over the period from 255 to 46 days before the announcement date. We used the CAAR of the peer portfolios for a three-day window (−1, +1), as well as examining daily abnormal returns within the window in addition to abnormal returns on a daily basis. We chose a short event window in order to reduce the likelihood of unrelated events affecting abnormal returns calculations (Johnson *et al.*, 2005; McWilliams and Siegel, 1997). We define day 0 as the initial announcement date identified and calculate the abnormal return as the difference between the actual return and an expected return generated by the equally weighted market model. To compensate for issues of cross-sectional correlation, we used the Patell test to report standardized returns (Patell, 1976). The Patell test mitigates possible variance increase on the event date by performing a cross-sectional variance adjustment (Boehmer, Musumeci, and Poulsen, 1991). Further, if an announcement came on a closed trading day, the next trading day was used. The EVENTUS program available on the Wharton Research Data Services website was used to estimate all models and evaluate the significance of the abnormal returns (Cowan, 2005).

A text analysis was completed on the sample of 33 female and 12 male CEO appointments in order to test Hypothesis 2. We reviewed the announcement articles for female CEO appointments to determine if any additional female executives were mentioned. The same text review was completed for the male announcements. In cases where other executives were mentioned, we recorded any linkages between the CEOs (i.e., gender). A *t*-test was used to test for significant differences between the male and female announcements.

RESULTS

Results of Hypothesis 1a and 1b are reported in Tables 1 and 2. The average abnormal returns and Patel *z* -values listed in Table 3 provide information about returns for the event window. Hypothesis 1a and 1b present competing hypotheses regarding the directionality of the predicted intragroup abnormal returns following the appointment of a new female CEO for firms with a female CEO already in place. Hypothesis 1a was not supported. Consistent with Hypothesis 1b and a contagion effect, the female-led firms experience statistically significant negative cumulative abnormal returns of −0.58 percent for the event window (−1, +1,) in reaction to a female CEO succession event at another firm, which is significantly greater than zero, $p < 0.05$. In further support of our results, male-led firms in the comparison sample did not experience significant cumulative abnormal returns for the event window (−1, +1) in reaction to a male CEO appointment at another firm (Patell $Z = -1.5$; $p = 0.07$).

In testing Hypothesis 2, our text analysis revealed that 18 (55%) female CEO appointment announcements made reference to other female executives. In all cases, no common linkage (e.g., industry) other than gender could be identified between the female executives mentioned. No male CEO announcement articles of the 12 examined made reference to other male executives.

Table 1. Abnormal market returns surrounding the announcement of CEO appointments

	Market-adjusted model			
	Female CEOs		Male CEOs	
Days	Abnormal return (%)	Patell Z	Abnormal return (%)	Patell Z
(H1) Cumulative abnormal returns				
−1 to +1	−0.58	−2.132[a]	−0.19	−1.508
0 to +1	−0.46	−2.025[a]	0.07	0.871
0 to +2	−0.20	−0.270	0.09	0.864

[a] Denotes statistical significance at the 0.05 level.

Table 2. Excess market returns surrounding the announcement of a female CEO appointment

	Market-adjusted model	
Days	Abnormal returns (%)	Patell *Z*
−5	0.20	0.74
−4	−0.04	0.19
−3	−0.05	−0.10
−2	−0.02	0.56
−1	−0.18	−1.08
0	−0.13	−0.96
1	−0.29	−2.19*
2	0.19	1.457
3	−0.12	−1.15
4	−0.03	−0.73
5	−0.03	0.27

*Statistical significance at the 0.05 level

Table 3. Text analysis comparison of female versus male CEO announcements

	N	*M*	*SD*	*T*	*df*	Sig
Females	33	0.55	0.51	3.709	43	$p < 0.0001$
Males	12	0.00	0.00			

The results of a t-test provide strong support for Hypothesis 2 ($t = 3.709$, $p < 0.0001$) as reported in Table 3.

Hypothesis 3 states that a dismissal of a female CEO will result in negative abnormal returns for firms with existing female CEOs. The average abnormal returns and Patel z-values are reported in Tables 4 and 5. Surprisingly, although not statistically significant, the mean abnormal returns for female-led firms was positive at 0.20 percent. Thus, we did not find support for Hypothesis 3.

Table 4. Abnormal market returns surrounding the announcement of female CEO dismissal

	Market-adjusted model	
Days	Abnormal return (%)	Patell Z
(H2) Cumulative abnormal returns		
−1 to +1	0.20	−0.028
0 to +1	0.38	0.358
0 to +2	0.23	−0.305

Table 5. Excess market returns surrounding the announcement of a female CEO dismissal

	Market-adjusted model	
Days	Abnormal returns (%)	Patell *Z*
−5	0.25	0.18
−4	−0.27	−0.66
−3	0.44	1.19
−2	0.10	−0.01
−1	−0.18	−0.55
0	0.10	−0.30
1	0.28	−0.80
2	−0.15	−1.03
3	0.07	0.41
4	−0.21	−1.17
5	−0.12	−1.25

DISCUSSION

Overall, our results provide support for our contention that there may be intragroup effects for firms with female CEOs, while intragroup effects do not exist for male CEOs. Moreover, these results suggest that female CEOs may experience guilt by association. While prior work has shown that investors react more negatively to the appointment of female CEOs than to male counterparts (Lee and James, 2007), we find there may also be a contagion effect in which firms with existing female CEOs are also penalized. Evidence from our text analysis of announcement appointments suggests that this may occur because the media contributes to perceptions of group entitativity by reporting on female CEOs as a group while reporting on male CEOs as individual leaders of specific firms. Moreover, as noted in prior studies, the content of media reports differs for female CEO appointments making gender more salient (Daily and Dalton, 2000; Lee and James, 2007). Finally, the increased publicity surrounding female CEO appointments and dismissals, as well as a great deal of scrutiny of current female CEOs, may contribute to these effects.

While our results constitute interesting evidence of intragroup effects for female-led firms, the unexpected non-finding regarding female CEO dismissals warrants further exploration. As a result of female-led firms receiving a large degree of scrutiny and press coverage, a possible explanation is that the dismissal of a female CEO does not come as a surprise, but is anticipated long before the actual event date, thus making it difficult to identify an appropriate event date for analysis. This explanation is consistent with prior research, which has emphasized the challenges inherent in CEO dismissal research (James and Soref, 1981; Mizruchi, 1983). Our own *post hoc* analysis lends some support to this assertion. When examining a two-week window leading up to the actual dismissal announcement, the female-led firms did in fact experience statistically significant negative abnormal returns. This suggests that investors may have indeed anticipated the dismissal and were influenced by negative publicity occurring before the actual event date.

This study contributes to the strategic management literature in a number of ways. First, we provide evidence that significant intragroup effects may exist for female-led firms but do not appear to exist for male CEO counterparts. Second, although prior research, especially in the economics and finance disciplines, has examined intraindustry effects (Chen *et al.*, 2007; Lang and Stulz, 1992; Laux *et al.*, 1998), to our knowledge, this is the first study of this type examining intragroup market effects at firms that are seemingly unrelated other than by the gender of their CEO. Our results also reinforce prior research suggesting that the media may play an important role in influencing perceptions of female executives as a group (Daily and Dalton, 2000; Lee and James, 2007). Our findings indicate that female-led firms may need to be proactive in public relations efforts during female CEO succession events at other firms. Further, the organization should actively take steps to bring legitimacy to the CEO by managing press releases in a way that highlights the qualifications and accomplishments of the CEO, while minimizing gender-related stereotypes.

The results of this study highlight the need for future research. The entitativity literature is new to management research and has not yet been explored in relation to other existing theories. We would benefit from a better understanding of how entitativity fits in the established identity and cognition theories, for example. Additional research may also further explore the role of the media on investor perceptions of group entitativity. For example, African-American CEOs of *Fortune* 500 firms are also frequently reported on as a group (e.g., Daniels and Sutro, 2002; Jones, 2005c), as are foreign-born CEOs leading U.S. firms (e.g., Story, 2007). We concur with Lee and James (2007) in that as more women are appointed to CEO positions, longitudinal research is needed to determine whether negative contagion effects become weaker over time as female CEO appointments become viewed as less novel occurrences.

While the number of firms led by female CEOs has grown in recent years, women are still distinctly underrepresented in corporate executive offices (Daily *et al.*, 1999; Helfat *et al.*, 2006). As a result, appointments and dismissals of female chief executives attract an inordinate amount of media attention. These press accounts emphasize similarities among these executives by focusing on issues related to gender (Lee and James, 2007). This leads to the perception that female CEOs are members of a homogeneous or highly entitative group in which individuals lose their uniqueness and take on general characteristics of the group. This phenomenon was found to have market implications. It is possible that some reporters may be focusing too much attention on women executives as a part of an overall trend to promote female CEOs, while, paradoxically, harming the enterprise. We suspect that as the number of female CEOs continues to grow, this group of executives will gradually be perceived as increasingly heterogeneous and the guilt by association that characterizes firms employing female CEOs will diminish, allowing these executives to ultimately be judged by their individual accomplishments, rather than those of the entire group.

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