Social Science Research 53 (2015) 137–147

Contents lists available at ScienceDirect

Social Science Research

journal homepage: www.elsevier.com/locate/ssresearch

Diversity begets diversity? The effects of board composition on the appointment and success of women CEOs

Alison Cook [a,1], Christy Glass [b,*,1]

[a] Jon M. Huntsman School of Business, Utah State University, 3555 Old Main Hill, Logan, UT 84322-3555, United States
[b] Department of Sociology, Social Work & Anthropology, Utah State University, 0730 Old Main Hill, Logan, UT 84322-0730, United States

ARTICLE INFO

Article history:
Received 9 October 2014
Revised 7 May 2015
Accepted 21 May 2015
Available online 27 May 2015

Keywords:
Diversity
Leadership
Gender
Performance
Work organizations

ABSTRACT

Previous research on the effects of leadership diversity on firm outcomes has produced inconsistent and inconclusive findings. While some scholars argue that diversity increases organizational equity and enhances performance, others argue that diversity increases conflict, reduces cooperation and harms performance. This study tests the impact of a variety of compositional factors on firm outcomes. Specifically, we analyze whether and how board composition affects the advancement and mobility of women CEOs and firm performance. Our analysis relies on a unique data set of all Chief Executive Officers (CEOs) and Board of Directors (BODs) in Fortune 500 companies over a ten-year period. We find a marginally significant positive relationship between board diversity and the likelihood of a woman being appointed CEO. We further find that board diversity significantly and positively influences the post-promotion success of women CEOs. Our findings suggest that board composition is critical for the appointment and success of women CEOs, and increasing board diversity should be central to any organizational diversity efforts.

1. Introduction

In the face of internal and external pressure to increase demographic diversity in work organizations, firms have introduced a variety of pro-diversity employment measures including diversity training, mentoring and networking programs and targeting measures (Dobbin, 2009; Kalev et al., 2006). Scholars have followed these trends in an effort to analyze the impacts of demographic diversity on organizational composition and performance, leading to substantial growth of this field. However, findings on the effect of diversity on organizational outcomes remain inconsistent and inconclusive.

Some studies conclude that demographic diversity among leadership ranks reduces segregation and increases pay equity and mobility opportunities for women and minorities (Bilimoria, 2006; Carter et al., 2003, 2010; Cohen and Huffman, 2007; Skaggs et al., 2012; Stainback and Kwon, 2012; Terjesen and Singh, 2008). Scholarship specific to board diversity also finds that diverse boards are more transparent and accountable, communicate more effectively, implement innovation more successfully and enjoy better reputations compared to firms without diverse boards (Bear et al., 2010; Brown et al., 2002; Fondas and Sassalos, 2000; Miller and Triana, 2009; Torchia et al., 2011). Others, however, conclude that diversity increases conflict, intragroup competition and turnover, and reduces cooperation, morale and communication and ultimately weakens performance (Amason, 1996; Eisenhardt et al., 1997; Hogg et al., 2012; Pelled et al., 1999; Williams and O'Reilly, 1998).

* Corresponding author.
E-mail addresses: alison.cook@usu.edu (A. Cook), christy.glass@usu.edu (C. Glass).
[1] The authors contributed equally to this manuscript. For convenience they alternate author order.

http://dx.doi.org/10.1016/j.ssresearch.2015.05.009
0049-089X/

The degree of disagreement and debate in this field led the authors of a recent paper to conclude that "any dimension of diversity that has been investigated. . . .has been associated with inconsistent results" (van Dijk et al., 2012, 39). Difficulties reaching consensus are due in large part to the under emphasis on identifying the compositional factors that mediate the relationship between diversity and firm outcomes (*see* van Dijk et al., 2012). Generally speaking, research in this field has failed to sufficiently theorize the compositional mechanisms that mediate the effect of diversity on firm performance and the appointment of women to top leadership positions.

In this study we develop and test compositional mechanisms that we predict will determine the likelihood women are appointed to CEO and the likelihood that firm performance will improve under their leadership. Specifically, this study asks *under what conditions does board diversity support the appointment and success of women CEOs*? We predict that the appointment and success of women CEOs will be dependent on the particular demographic composition of the board of directors *and* the relative influence of women board members. The primary function of a company's board of directors is to appoint company leaders and oversee their leadership progress. There is even growing evidence that boards can also influence corporate strategy and long-term corporate planning (Demb and Neubauer, 1992; Matsa and Miller, 2013; Westphal and Zajac, 1995). Given the function of boards, it is likely that board composition significantly impacts CEO appointment and success.

Our analysis relies on a unique data set of all Chief Executive Officers (CEOs) and Board of Directors (BODs) in Fortune 500 companies over a ten-year period. Our research responds to calls to better theorize the mechanisms that determine the effect of leadership diversity on firm outcomes, including performance. Though profitability is not the only measure of leaders' impact on firms (e.g., Cook and Glass, 2015a,b), scholars routinely use firm performance as a proxy for leadership effectiveness and success (*see* Hambrick and Quigley (2014) for a review of this literature). This work contributes to and advances the field by testing the effect of specific mechanisms on appointment and performance of CEOs who are numerical minorities. Our data set includes detailed information on the gender and age composition of the CEOs as well as all board members, the relative influence of women board members as measured by the interlinks they have with other Fortune 500 boards, and firm performance outcomes over the short, medium, and long term. Overall, we find that board composition affects the likelihood of a woman being appointed CEO. We also find that the proportion of women on the board helps to enhance firm performance for women CEOs. These findings provide important new insights concerning the role of diverse boards in the support of and the performance of non-traditional leaders at the highest organizational levels. We conclude that board diversity is critical for the success of women CEOs, and increasing board diversity should be central to any organizational diversity efforts.

2. Barriers to women leaders' appointment and success

Previous research suggests that promoting women to leadership positions can be an effective means of increasing diversity throughout an organization (Skaggs, 2008; Stainback and Tomaskovic-Devey, 2009). For instance, scholarship on organizational mobility has long emphasized the importance of strong female or minority mentors in promoting the careers of junior colleagues from underrepresented groups (e.g., Bell and Nkomo, 2001; McGuire, 1999; Vallian, 1999). Research in organizational demography further suggests that diversity among top leadership ranks is associated with greater diversity at lower levels of an organization (Skaggs et al., 2012), a phenomenon termed 'bottom-up' ascription (Elliott and Smith, 2001). This research implies that leaders who represent a demographic minority will increase the representation of other demographic minorities by advocating for more diverse hires, serving as role models and mentors to those hires and/or moderating the influence of bias in recruitment, hiring and promotion (Duguid et al., 2012; Ibarra, 1995). Thus, women leaders are assumed to possess the ability as well as the desire to assist other women into leadership ranks.

That being said, women in high status leadership positions are numeric minorities. Numeric minority leaders, or tokens, experience high visibility, performance pressures and intense scrutiny (Kanter, 1977). They may also experience hostility, resistance, and challenges to their authority by firm insiders (Heilman et al., 2004; Kanter, 1977). The penalties associated with token status are enhanced when negative gender stereotypes are relevant to performance expectations, as with high status leadership roles (Thompson and Sekaquaptewa, 2002). These pressures tend to negatively impact the job performance of incumbents, leading to reduced performance success (Inzlicht and Ben-Zeev, 2003; Karakowsky and Siegal, 1999; Sackett et al., 1991; Spencer et al., 1999; Thompson and Sekaquaptewa, 2002).

Particularly in high prestige leadership positions, tokens tend to have low status within work groups and occupy relatively weak structural positions within organizations (Collins, 1997; Kanter, 1977; Ridgeway, 1997). As a result, tokens are less capable than other leaders of influencing or altering organizational practices or influencing organizational outcomes (Ashfrod et al., 1998; Maume, 2011; Penner et al., 2012). Tokens who express controversial or dissenting viewpoints may risk amplifying the salience of group differences, increasing bias and provoking social disapproval from the majority (Phillips and Loyd, 2006). As a result, tokens face pressures to assimilate to traditional attitudes and behaviors and are reluctant to 'rock the boat' with regard to controversial or innovative decisions (Bradshaw and Wicks, 2000; Kanter, 1977). Several studies have even revealed that minority group members are less assertive in their speech and gestures and less likely to challenge the perspectives of majority members. As a result, lower status tokens tend to be less influential over decision outcomes than higher status majority group members (Dovidio et al., 1988; Carli, 2001). When tokens do assert their authority, they risk eliciting resistance from higher status peers and subordinates (Carli, 2001), which in turn undermines the legitimacy of their leadership and reduces their ability to lead effectively (Ridgeway, 2001).

3. Support for women leaders' appointment and success

Given the barriers women leaders face, contextual factors engendering support are critical in both their appointment to CEO and to their post-promotion success as CEO. The ability of numerical minority leaders to enact positive organizational change depends on two compositional factors: (1) the presence of *multiple* numerical minority members occupying positions of authority; and (2) the relative *influence* of numerical minority leaders (Cohen and Huffman, 2007; Cotter et al., 1997; Nelson and Bridges, 1999; Skaggs et al., 2012).

Several studies find that demographic integration of leadership ranks is associated with increased mobility opportunities for women throughout the organization (Ely, 1995; McGinn and Milkman, 2013; Skaggs et al., 2012; Stainback and Tomaskovic-Devey, 2009). For instance, board integration is correlated with reduced segregation of senior management and more equal pay ratios (Matsa and Miller, 2011; Terjesen and Singh, 2008). Similarly, a critical mass of women directors also enables those directors to have a greater influence on corporate strategy (Matsa and Miller, 2013).

Integration of leadership ranks beyond the promotion of token females increases diversity at other levels in three ways. First, when women comprise a critical minority (or majority), group stereotypes and bias are reduced, enabling women leaders to exercise greater authority and influence over group processes and outcomes, including recruitment and promotion (Ely, 1995; Karpowitz et al., 2012; Skaggs et al., 2012). Second, integration beyond a superficial level reduces the salience of gender to group processes, thereby expanding the range of acceptable leadership styles and the range of qualified and acceptable candidates for leadership positions (Konrad et al., 2008; Sealy and Singh, 2009; Singh, 2008). Finally, a critical numerical representation of women leaders provides a requisite degree of mentorship, network support and other forms of professional, social and organizational support to other women leaders (Bell and Nkomo, 2001; McGuire, 1999; Skaggs et al., 2012). Such support available to similar others within the organization can provide a critical resource of influence and organizational capital.

Drawing on this body of work, we predict that gender diverse boards will positively impact the likelihood of women leaders being appointed CEO and their corresponding performance success. Specifically, the professional networks of women leaders, including board members, are more likely to include other women leaders, including highly competitive candidates for CEO positions (Ibarra, 1995; DiTomaso, 2012). Thus, in addition to reducing bias against hiring women leaders, firms with gender diverse boards are more likely to consider and appoint women CEOs due to the heavy reliance on peer networks when making CEO appointment decisions (Liu, 2010; Savitz, 2011). Hence, the probability of a woman to be appointed CEO is likely impacted in that the decision makers are more likely to provide opportunities to women, and highly competitive women CEO candidates are more likely to view diverse firms as attractive, fair and welcoming (Ng and Burke, 2007).

Scholars have also found that integrated boards are more likely than homogeneous boards to moderate masculine firm cultures, expand the range of acceptable communication styles and increase the engagement of non-traditional leaders (Konrad et al., 2008; Sealy and Singh, 2009; Singh, 2008). Board composition will likely influence the success of numerical minority leaders post-appointment by increasing the quality and volume of information, mentorship and support available to these leaders. Compared to white men in high status leadership positions, numerical minority leaders are less likely to benefit from quality mentors and access to formal and informal professional networks (Baron and Bielby, 1986; Bell and Nkomo, 2001; Blake-Beard, 2001; DiTomaso, 2012; Tomaskovic-Devey, 1993). In the absence of such supports, women leaders are less capable of developing a positive work identity and less likely to be able or willing to raise controversial issues or propose innovative solutions (Bilimoria, 2006; Konrad et al., 2008).

The presence of a critical mass of female directors, however, will provide women leaders with greater organizational support, thereby improving the leader's ability to pursue positive performance goals. Organizational support in the form of peer and mentorship relations and access to professional networks will facilitate the flow of information, encourage decision makers to pursue novel and innovative changes and increase leadership creativity (Ashfrod et al., 1998; DiTomaso et al., 2007; Herring, 2009). In fact, Loyd et al. (2007) suggest that even the presence of two numerical minority members of a group can increase the range and quality of social supports available to each. Board diversity may also increase communication among CEOs and boards, facilitating a greater flow of information and creating stronger collaborative relationships among executives and directors (Brown et al., 2002; Fondas and Sassalos, 2000; Torchia et al., 2011). Importantly, however, such benefits are only likely to be obtained when board diversity is not limited to token numerical minority members (Konrad and Kramer, 2006). Taken together these findings suggest that the presence of women on corporate boards will have a positive effect not only on the promotion probability *but also* the post-promotion leadership success of women CEOs.

While compositional diversity is an important factor in increasing the appointment chances and support available to women CEOs, the relative *influence* of female directors will also impact appointment and leadership success of women leaders. Status hierarchies shape both the behavior and perception of leaders within an organization (Ridgeway and Walker, 1995). According to Ridgeway (2001), status hierarchies are "central to the process by which people gain access to positions of leadership and exercise that leadership in the workplace" (642). Influential leaders are more likely than less influential incumbents to enjoy respect from group members, provide input into decision making processes, and defend controversial or dissenting views (Wagner and Berger, 1997). Compared to lower ranking or less influential leaders, influential leaders display more proactive behaviors and are less likely to defer to the opinions or concerns of others (Wagner and Berger, 1997; Ridgeway, 2001).

Scholarship on intragroup status hierarchies suggests that influential token women board members will be less affected by the challenges associated with token status and will be able to shape organizational practices and processes because they are able to draw on external sources of power and influence. And, importantly, firm strategy outcomes are more likely to reflect the preferences and vision of influential directors—irrespective of gender—than the preferences of less influential directors (Westphal and Zajac, 1995). Thus, the presence of an influential woman may provide the necessary backing and influence to promote and support women leaders (Cohen and Huffman, 2007).

Taken together, previous scholarship suggests that the power of women within the decision making body will positively influence the promotion and performance of women leaders. We define board power and influence in two ways—numerical representation and influence of individual members—to predict the following:

H_1. The greater the influence of women on the Board of Directors, the greater the likelihood a woman will be appointed CEO.

H_2. The greater the influence of women on the Board of Directors, the greater post-promotion success of women CEOs.

4. Data and methods

4.1. Procedure

To examine our research questions, we constructed a dataset of the CEO and the corresponding Board of Directors for all firms within the Fortune 500 for the period from 2001 to 2010. The money website from CNN (money.cnn.com/magazines/fortune/fortune500) was used to compile the complete list of companies appearing on the Fortune 500 during the examined years. CEO and Board of Directors' names, gender, and age information were collected using several reference websites such as edgar.sec.gov, investing.businessweek.com, people.forbes.com, businessweek.com, nndb.com, referenceforbusiness.com, along with company websites. SIC codes, firm headquarter location, number of employees, and financial measures were obtained through Compustat database searches. The Compustat database is available within the Wharton Research Data Services (WRDS).

We collected and reported CEO and BOD data for each year in the sample. By doing so, we account for changes within the BOD during a CEOs tenure and can better capture the interaction that may be occurring between the CEO and the BOD composition with regard to firm performance. This full dataset allows us to examine the relationship between board diversity and the corresponding CEOs financial success within the firm, but it does not allow for the test of causality with regard to the appointment of the CEO. In order to examine the causal nature of the relationship between board composition and the appointment of a CEO, we created a smaller dataset that was examined with a Cox hazard model that only included the timeframe when there was a CEO transition. Our analysis examines the likelihood of a woman being appointed CEO as a function of the BOD composition and firm characteristics for the firm from the year *prior* to the CEO appointment. As demonstrated in other research (Rose and Bielby, 2011), using a one-year lag allows the analysis to addresses causality between the predictor and outcome variables. For the smaller dataset, all variables were collected for year 2000 to be used with appointments occurring in 2001. Within all analyses, the CEO under examination was excluded from the board of director composition tabulation. By doing so, the concern of inflating female representation on a board when a female serves as CEO is eliminated. It also aligns our analyses with the goal of our study; specifically, to better understand mechanisms outside the individual that lead to either facilitate or hinder career success.

To test our research question regarding firm financial success for female CEOs, we conducted panel data analysis. This resulted in 500 firm units with 3748 observations. For our research question regarding the appointment of women leaders to CEO, our collected sample resulted in 17 appointments of women compared to 446 appointments of males. The remaining entries were missing data with regard to either gender or firm information.

4.2. Measures

4.2.1. Dependent variables

Female CEO: Whether or not a woman was appointed CEO is the dependent variable for our Cox hazard model. If the CEO appointed was a woman, it was coded as 1, all male appointments were coded as 0.

Firm performance: Firm performance was measured as return on assets (ROA). As demonstrated in prior research, ROA is the most widely-used and appropriate measure to assess firm financial health (Dalton and Kesner, 1985; Waddock and Graves, 1997). Compared to other measures of firm performance, ROA is less subject to forces beyond the control of firm leaders. Thus, ROA is the most appropriate measure for analyzing the effect of the leadership team generally or the CEO specifically on firm profitability (Chung and Luo, 2013; *see also* Hambrick and Quigley, 2014). It was collected through the Compustat database, and was calculated by dividing net income by total assets (Lu and Beamish, 2004). We examined ROA for the current year of the CEO, the two-year average including the current year and the following year, and the three-year average including the current year and the following two years. ROA was calculated for each year in our panel dataset so that we could align the CEO with the firm's performance over a one-, two-, and three-year timeframe from when

they were CEO. Since ROA was collected through 2010, the analyses on the two- and three-year averages conclude in 2009 and 2008, respectively. In other words, our sample covers years 2001–2010, but entries in 2010 will only have the current year's financial numbers, and entries in 2009 will only have the current year's and the two-year financial averages.

4.2.2. Predictor variables

Our predictor variables consisted of the percent women on the BOD, the percent of board interlinks for women on the firm's board relative to other women directors, and the gender of the CEO. For the percent women on the BOD, this was calculated as the number of women on the board divided by the total number of board members. And gender of the CEO was coded as one for female and zero for male.

The predictor variable of influence was determined by the percent of interlinks for women on the firm's board relative to other female directors. Interlinks are when a director from one firm belongs to the board of at least one other firm (Burt, 1980; Mizruchi, 1996). We calculated the total number of other Fortune 500 board connections (other boards served on at the same time as the current board) for each woman, and then compared this number to other female directors to determine a relative percent of influence.

We use interlinks as a measure of influence for several reasons. As suggested by Bilimoria (2005), for boards of directors to consider actions outside of the norm (such as appointing a female leader CEO), they have to be given the reasoning and rationale to do it. Several scholars have noted that interlinks provide firms with valuable information about innovations at outside firms—including efforts aimed at diversification—that can be used to initiate strategy and innovation in the receiving firm (Chen et al., 2009; Haunschild, 1993). In this way, interlinks operate as "conduits of practices" between and among firms (Shropshire, 2010, 246). Interlinked board members, therefore, are well-positioned to contribute unique insights about actions in other firms and can help to legitimize innovations among board members. And because this insight is gained through directors' board membership—which grants them detailed information about firm practices, innovation and implementation—this knowledge is more influential than information gained from other sources (Haunschild and Beckman, 1998). As a result, "directors with experience across multiple firms are legitimized in the boardroom and better positioned to influence board outcomes" (Shropshire, 2010, 253).

The heightened influence of interlinked directors is also supported by the work of Ancona and Bresman (2007) with regard to X-Teams. Although internal processes are important to a team, external networks that are formed and used to further the team's goals are increasingly important in today's dynamic environment. These external connections, by their very nature, increase the status and influence of networked team members. Further, there is evidence that interlinked directors who are in the numeric minority (i.e., women) are particularly influential as these directors are likely to have experience successfully articulating minority viewpoints in ways that increase the receptivity of other board members thereby granting them greater influence over firm strategy (Carpenter and Westphal, 2001; Kaczmarek et al., 2014; Shropshire, 2010; Westphal and Milton, 2000).

Thus, we selected this measure of external connections as a proxy for influence on the board. Committee assignments are a logical proxy for internal influence within the board; however, our data collection efforts as well as prior research (Bilimoria, 2012) have confirmed that women rarely are appointed to the key committees. Given this lack of variance, we dismissed committee assignments as a measure of influence.

4.2.3. Control variables

The control variables included in the analyses are the size of the firm as measured by the number of employees, firm leverage as measured by the debt ratio, the industry of the firm as specified by 4-digit SIC codes (follows the grouping suggested by Waddock and Graves (1997)), the year being examined, the headquarter location of the firm, the average age on the BOD, if the CEO also serves as Chair of the BOD, and the age of the CEO. Additionally, for our hypothesis examining the appointments of women to CEO, we also included firm performance for the year *prior* to appointment as a control variable. The number of employees was reported in 1000s, the debt ratio was reported as a percentage, if the CEO also served as Chair it was coded as 1, age of the CEO and average age on the BOD were reported as actual age, and dummy codes were used to account for both the industry and the year under examination. For the firm's headquarter location, we coded the location on a 1–3 scale with 3 being the most progressive and accepting of women leaders. The scale was determined as follows: if the state voted Republican in all three presidential elections (2000, 2004, 2008) it was coded as 1, if the state split votes between Republican and Democrat candidates it was coded as 2, and if it consistently voted Democrat it was coded as 3. Using financial measures as outcome variables, it is important to control for aspects of the firm such as size, leverage, and industry of operation. Furthermore, the year of the examination is important given the disparity of female leaders serving as CEOs over time and the potential economic influences that are outside the control of the firm.

4.3. Analyses

We tested our research questions with a Cox hazard model and a repeated measures linear model with time and firm fixed effects. The Cox model models the effect of covariates on the hazard rate, or in this analysis, it allows us to assess the effects of several variables on the event of a woman being appointed CEO. Specifically, it regresses the "hazard function" or "event" on the explanatory variables. The appointment of women to CEO was the outcome or event variable. The repeated measures fixed effects linear model allowed us to test the interaction effects between a female CEO and the predictor

variables of percent female and the relative percent of female interlinks with other boards, and how those interactions affect firm performance. By using a fixed effects model, we were able to take into account the dependency of the observations within each firm. Specifically, we controlled the unobservable characteristics for each firm that are likely constant over time and avoided overestimation within our model. By doing this, the fixed effects model provides a more accurate representation of our predictor variables net effect (Allison, 2009). And in plotting our interaction graphs, we adhered to the guidelines suggested by Dawson (2014).

5. Results

Our research examines two hypotheses with women leaders. First, whether a gender diverse board represented numerically or by means of influence will impact the likelihood of a woman being appointed CEO. And second, after that appointment, if that gender diverse composition will facilitate the leadership success of the female CEO. Correlations and descriptive statistics of the investigated variables are presented in Table 1.

Hypothesis 1 predicts that the board composition, measured by both the proportion of women on the board and the relative percent of interlinks of female board members, will be positively related to women being appointed CEO. For this hypothesis, we conducted a Cox hazard analysis. We regressed the event of a woman being appointed CEO on the explanatory variables of the percent women on the board and the relative percent of board interlinks for women directors. We controlled for the year of the appointment, the industry of the organization, the headquarter location of the firm, the average age of the BOD, the size and leverage of the firm, and firm performance. As noted earlier, to assess a causal relationship, all predictor and control variables were for the year *prior* to the leader being appointed CEO. Findings were not significant for any of the explanatory variables. A marginally significant positive relationship ($p < .10$) between a woman being appointed CEO and influential women serving on the BOD, though, was suggested. Given the lack of statistical significance, the results are not reported in a table.

As an additional analysis of the marginally significant finding, we conducted an ANOVA between men being appointed CEO and women being appointed CEO to determine if there was a significant difference with regard to the relative percent of interlinks for women board members. The ANOVA suggests a significant difference ($F = 2.42$, $p < .01$) with the relative percent of interlinks when appointing women or men as CEO. Findings suggest that the relative percent of interlinks is nine percent when a man is appointed CEO as compared to fifteen percent when a woman is appointed CEO. Thus, we suggest very limited support for Hypothesis 1.

The second hypothesis, Hypothesis 2, suggests that the leadership success of women CEOs will be greater with a larger proportion of women on the board or the presence of influential women board members. For this hypothesis, we conducted a repeated measures time and firm fixed effects analysis. This allowed us to appropriately examine our panel data. In addition to the fixed effects controlled, we also took into account the size and leverage of the firm, the year and the industry of operation, the location of the firm's headquarters, the average age of the BOD, the CEO age, and if the CEO also served as BOD Chair. We then tested our interaction effects of CEO gender with the percent women on the BOD, and the interaction between CEO gender and the relative percent of board interlinks for the women directors. Findings suggest support for Hypothesis 2 in that the interaction effects between CEO gender and the percent women on the board are significant in all three examined models (refer to the interaction effects column in Tables 2–4). Specifically, looking at the one-, two-, and three-year averages for return on assets, the findings are all significant at $p < .01$ (refer to the interaction effects column in Tables 2–4). The relative percent of interlinks on the board, when controlling for the percent women on the board though, is not a significant predictor. Furthermore, when examining the main effects of the predictor variables, none are significantly related on their own (refer to the direct effects column in Tables 2–4). It is only an interactive effect between CEO gender and the percent women on the board that is significantly related to firm performance.

In examining the interaction graphs (refer to Figs. 1–3), it is clear that as the percent of women on the board increases, women CEOs success increases. As illustrated in all three figures representing three different time periods, firm performance with a female CEO increases significantly as more women serve on the board. These findings suggest that for women, different mechanisms are important at different times. For appointment to CEO, it may be that influential and connected board members are key (again, only very limited support). For success post promotion, though, having the numbers on the board to offer support is critical.

6. Discussion

The goal of our analysis was to analyze the effect of board-level compositional factors on the appointment and leadership success of women leaders. Specifically, we analyzed the conditions under which board gender diversity supports the appointment and success of women CEOs. We predicted that as the power of women directors increased, the appointment opportunities and the leadership success of women CEOs would also increase. We tested these predictions using a unique data set of all Chief Executive Officers (CEOs) and Board of Directors (BODs) in Fortune 500 companies over a ten-year period.

Our hypotheses predicted that the power of women on the board would have a significant impact on the appointment and success of women CEOs. Our findings offer support, to varying degrees, for both hypotheses. However, our two assessed measures of board power (numerical representation and influence of individual members) affect our outcomes differently.

Table 1
Descriptives and correlations.

Variable	*N*	Mean	*SD*	1	2	3	4	5	6	7	8	9
1. CEO Gender	4549	.02	.13	–								
2. % Women BOD	4727	.14	.10	.10**	–							
3. % Women Interlinks	4425	.08	.11	.14**	.48**	–						
4. Firm Size (#employees)	4333	56.5	112	.00	.10**	.11**	–					
5. Firm Leverage	4374	.66	.21	.04**	.03*	.07**	−.03	–				
6. Average Age BOD	4542	60	3.62	−.05**	.02	.08**	.00	−.02	–			
7. Progressive HQ Location	4727	2.32	.85	.07**	.14**	.06**	−.01	.05**	−.06**	–		
8. CEO/Chair Duality	4147	.73	.45	−.02	.04*	.11**	−.02	.05**	.05**	.01	–	
9. CEO Age	4626	56.3	7.24	−.08**	−.02	−.03	.06**	−.01	.29**	.03*	.24**	–
10. ROA	4421	.04	.09	.00	.05**	.01	.05**	−.39**	.06**	.00	.01	−.01

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 2
Repeated measures linear model with time and firm fixed effects.

	ROA 1-year performance					
	Direct effects			Interaction effects		
IVs	*B*	*SE*	IRR	*B*	*SE*	IRR
Control variables						
Firm Size	.00	(.00)	1.00	.00	(.00)	1.00
Firm Leverage	−.17***	(.02)	.85	−.17***	(.02)	.85
BOD Average Age	.00	(.00)	1.00	.00	(.00)	1.00
Progressive HQ Location	.00	(.00)	1.00	.00	(.00)	1.00
CEO also Chair of BOD	.01	(.00)	1.01	.01	(.00)	1.01
CEO Age	.00	(.00)	1.00	.00	(.00)	1.00
CEO Gender	.01	(.02)	1.01	−.06**	(.02)	.94
Percent Women on BOD	.00	(.02)	1.00	−.02	(.02)	.99
BOD Percent Women Interlinks	.01	(.02)	1.01	.01	(.02)	1.01
Predictor—interaction effects						
CEO Gender × BOD Percent	–	–	–	.31**	(.11)	1.37
CEO Gender × BOD Percent Links	–	–	–	−.01	(.07)	.99
Constant	.14**	(.04)	1.15	.14**	(.04)	1.15

Industry and year are dummy coded. For space purposes, the values are not reported (there are 10 years and 13 different industries represented).
N = 500 firm units with 3748 observations.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

While we find that the presence of influential women increases, at a marginally significant rate, the likelihood that a woman will be appointed CEO, we find no evidence that numerical representation of women increases diversity at the CEO level. This finding suggests that the most important factor for increasing the appointment opportunities of women leaders is the presence of at least a single influential woman on the board. In other words, influence matters more than numbers. An increase in the numerical representation of women directors has no impact on women's chances of appointment.

We also analyzed the role of board composition on post-appointment leadership success of women CEOs. Once again we find our board power measures affect our outcomes differently. Firms with a woman CEO and multiple women board members tend to perform better than firms with a woman CEO and few or no women on the board. Thus, while influential women board members are critical for women's ascension to CEO, their post-appointment success is more strongly influenced by women's numerical representation on the board. This suggests that the mechanisms for increasing women's upward mobility and supporting their leadership are not the same. While influential woman board members may be critical for supporting the appointment of women CEOs, post-appointment, women CEOs benefit from a greater representation of women on the board.

7. Conclusion

Our findings suggest that board composition is critical for improving the likelihood that women will be appointed CEO and for the leadership success of those leaders post-appointment. The reverse conclusion is also supported: a lack of diversity on corporate boards limits women's access to top leadership positions *and* limits the post-appointment success of these leaders. In the absence of genuine board diversity and/or the presence of influential women board members, women leaders

Table 3
Repeated measures linear model with time and firm fixed effects.

	ROA 2-year average performance					
	Direct effects			Interaction effects		
IVs	*B*	*SE*	IRR	*B*	*SE*	IRR
Control variables						
Firm Size	.00	(.00)	1.00	.00	(.00)	1.00
Firm Leverage	−.11***	(.01)	.90	−.11***	(.01)	.90
BOD Average Age	.00	(.00)	1.00	.00	(.00)	1.00
Progressive HQ Location	.00	(.00)	1.00	.00	(.00)	1.00
CEO also Chair of BOD	.01	(.00)	1.01	.01	(.00)	1.01
CEO Age	.00	(.00)	1.00	.00	(.00)	1.00
CEO Gender	.01	(.02)	1.01	−.06**	(.02)	.94
Percent Women on BOD	.01	(.02)	1.01	.00	(.02)	1.00
BOD Percent Women Interlinks	−.01	(.02)	.99	−.01	(.02)	.99
Predictor—interaction effects						
CEO Gender × BOD Percent	–	–	–	.27**	(.10)	1.31
CEO Gender × BOD Percent Links	–	–	–	.02	(.06)	1.02
Constant	.08	(.04)	1.09	.08	(.04)	1.09

Industry and year are dummy coded. For space purposes, the values are not reported (there are 10 years and 13 different industries represented).
N = 498 firm units with 3198 observations.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

Table 4
Repeated measures linear model with time and firm fixed effects.

	ROA 3-year average performance					
	Direct effects			Interaction effects		
IVs	*B*	*SE*	IRR	*B*	*SE*	IRR
Control variables						
Firm Size	.00	(.00)	1.00	.00	(.00)	1.00
Firm Leverage	−.10***	(.01)	.90	−.10***	(.01)	.90
BOD Average Age	.00	(.00)	1.00	.00	(.00)	1.00
Progressive HQ Location	.00	(.00)	1.00	.00	(.00)	1.00
CEO also Chair of BOD	.00	(.00)	1.00	.01	(.00)	1.00
CEO Age	.00	(.00)	1.00	.00	(.00)	1.00
CEO Gender	.00	(.02)	1.00	−.06*	(.03)	.94
Percent Women on BOD	.01	(.02)	1.01	.00	(.02)	1.00
BOD Percent Women Interlinks	−.01	(.02)	.99	−.02	(.02)	.98
Predictor—interaction effects						
CEO Gender × BOD Percent	–	–	–	.22**	(.08)	1.24
CEO Gender × BOD Percent Links	–	–	–	.07	(.07)	1.08
Constant	.09*	(.04)	1.10	.09	(.04)	1.09

Industry and year are dummy coded. For space purposes, the values are not reported (there are 10 years and 13 different industries represented).
N = 479 firm units with 2726 observations.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

are less likely to be appointed CEO. Once appointed CEO, without a supportive board, the performance of women CEOs suffer, a process that risks confirming biases that women are less capable leaders as compared to white men (Carton and Rosette, 2011; Rosette et al., 2008). We conclude that board diversity—defined as diversity beyond the presence of a solo woman director—is critical for supporting women leaders pre- and post-appointment.

This underscores the importance of a phenomenon we term *diversity matching*. The presence of women on the board matters for gender integration of top leadership positions. To the extent that companies are committed to integrating top leadership positions, it is clear that board diversity is critical. Without it, women CEOs suffer performance declines; with it, performance improves.

While our findings provide important insights into the processes that shape organizational mobility for women leaders, the limitations of the current research suggests important areas for future research. The current study is limited by the small number of observations in the population under study. Due to the small number of women CEOs, we are unable to analyze

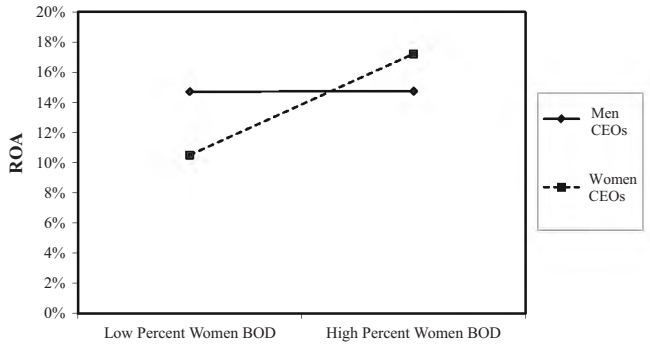

Fig. 1. ROA 1-year performance under women and men CEOs as the percentage of women on the board increases.

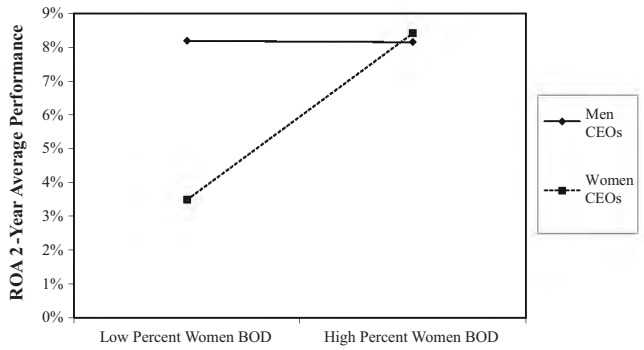

Fig. 2. ROA 2-year average performance under women and men CEOs as the percentage of women on the board increases.

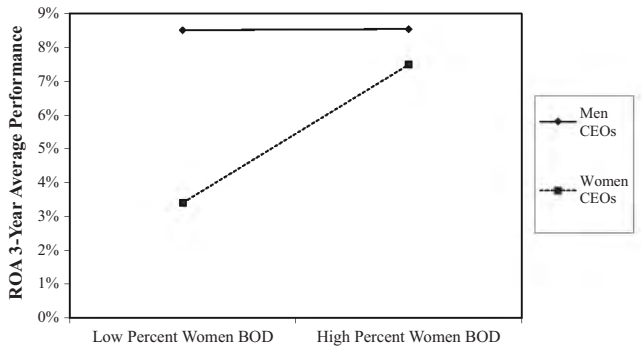

Fig. 3. ROA 3-year average performance under women and men CEOs as the percentage of women on the board increases.

women of color separately from white women. Previous scholarship suggests that the mobility pathways and post-appointment experiences vary between white women and women of color (Bell and Nkomo, 2001; Chung-Herrera and Lankau, 2005; Collins, 1997; Livingston et al., 2012). Thus, researchers can build upon the current study by identifying contexts that would allow for disaggregation and separate analysis of various demographic groups. The limitations of our population also prohibit an analysis of distinct categories of CEO transitions separately (i.e., men to women, men to men and women to women). Indeed, within our examined timeframe, there was only one instance where a woman CEO replaced a woman CEO in the Fortune 500. Analysis of contexts beyond the Fortune 500, therefore, may be more likely to allow separate analyses of these transition events to determine the organizational context for each type of appointment.

Our study is also focused on the Fortune 500, which includes a small set of highly visible American firms. As the most highly visible and arguably influential category of work organizations in the U.S., the Fortune 500 provides important insights into the dynamics of leadership in work organizations. To expand the insights of our study, scholars might consider a range of factors that shape the appointment of women CEOs beyond board composition. For instance, prior experience, social capital and family/parental status, while beyond the scope of the current study might reveal important additional

factors that limit or expand the opportunities for women to lead major firms. Though our focus is on the Fortune 500 we also recognize that this population is not necessarily representative of all work organizations. Thus, future research can build upon our study by testing similar mechanisms in a group of smaller, less visible firms that may not face the same pressures to pursue diversity initiatives, including diversity among top leaders and decision-makers.

References

Allison, P., 2009. Fixed Effects Regression Models. Sage Publications, Thousand Oaks, CA.

Amason, A., 1996. Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: resolving a paradox for top management teams. Acad. Manag. J. 39, 123–148.

Ancona, D., Bresman, H., 2007. How to Build Teams that Lead, Innovate, and Succeed. Harvard Business Press Books.

Ashfrod, S., Rothbard, N., Piderit, S.K., Dutton, J., 1998. Out on a limb: the role of context and impression management in selling gender-equity issues. Adm. Sci. Q. 43 (1), 23–57.

Baron, J.N., Bielby, W.T., 1986. Men and women at work: sex segregation and statistical discrimination. Am. J. Sociol. 91, 759–799.

Bear, S., Rahman, N., Post, C., 2010. The impact of board diversity and gender composition on corporate social responsibility and firm reputation". J. Bus. Ethics 97, 207–221.

Bell, E., Nkomo, S., 2001. Our Separate Ways: Black and White Women and the Struggle for Professional Identity. Harvard Business School Press, Boston.

Bilimoria, D., 2005. Thought Leaders: Boards and Women on Boards. Interview conducted by David Creelman at HR.Com.

Bilimoria, D., 2006. The relationship between women corporate directors and women corporate officers. J. Manage. Issues 18 (1), 47–61.

Bilimoria, D., 2012. Women on boards and professional networks. In: Conference Presentation at the National Academy of Management, Boston, MA.

Blake-Beard, S., 2001. Taking a hard look at formal mentoring programs: a consideration of potential challenges facing women. J. Manage. Dev. 20, 331–345.

Bradshaw, P., Wicks, D., 2000. Experiences of white women on corporate boards in Canada: compliance and non-compliance to hegemonic masculinity. Issues Bus. Ethics 14, 197–212.

Brown, D.H., Brown, D.L., Anastasopoulos, V., 2002. Women on Boards: Not Just the Right Thing. . .But the 'Bright' Thing. The Conference Board of Canada, Ottawa.

Burt, R.S., 1980. Cooperative corporate actor networks: a reconsideration of interlocking directorates involving American manufacturing. Adm. Sci. Q. 25, 557–582.

Carli, L.L., 2001. Gender and social influence. J. Soc. Issues 57, 725–741.

Carpenter, M.A., Westphal, J.D., 2001. The strategic context of external network ties: examining the impact of director appointments on board involvement in strategic decision making. Acad. Manage. J. 44, 639–660.

Carter, D., Simkins, B., Simpson, W.G., 2003. Corporate governance, board diversity and firm value. Financ. Rev. 38, 33–53.

Carter, D., D'Souza, F., Simkins, B., Simpson, W.G., 2010. The gender and ethnic diversity of US boards and board committees and firm financial performance. Corp. Gov. 18 (5), 396–414.

Carton, A., Rosette, A., 2011. Explaining bias against black leaders: integrating theory on information processing and goal-based stereotyping. Acad. Manage. J. 54, 1141–1158.

Chen, R., Dyball, M., Wright, S., 2009. The link between board composition and corporate diversification in Australian corporations. Corp. Gov. Int. Rev. 17, 208–223.

Chung-Herrera, B., Lankau, M., 2005. Are we there yet? An assessment of fit between stereotypes of minority managers and the successful-manager prototype. J. Appl. Soc. Psychol. 35, 2029–2056.

Chung, C., Luo, X.R., 2013. Leadership succession and firm performance in an emerging economy: successor origin, relational embeddedness and legitimacy. Strateg. Manage. J. 34 (3), 338–357.

Cohen, P., Huffman, M., 2007. Working for the woman? Female managers and the gender wage gap. Am. Sociol. Rev. 72, 681–704.

Collins, S., 1997. Black mobility in white corporations: up the corporate ladder but out on a limb. Soc. Probl. 44 (1), 55–68.

Cook, A., Glass, C., 2015a. Do minority leaders affect corporate practice? Analyzing the effect of leadership composition on governance and product development. Strateg. Organ. 13, 117–140.

Cook, A., Glass, C., 2015b. The power of one or power in numbers? Analyzing the effect of minority leaders on organizational policy and practice. Work Occupation. 42, 183–215.

Cotter, D., DeFiore, J., Hermsen, J., Kowalewski, B.M., Vanneman, R., 1997. All women benefit: the macro-level effect of occupational integration on gender earnings inequality. Am. Sociol. Rev. 62 (5), 714–734.

Dalton, D.R., Kesner, I.F., 1985. Organizational performance as an antecedent of inside/outside chief executive succession: an empirical assessment. Acad. Manage. J. 28 (4), 749–762.

Dawson, J., 2014. Moderation in management research: what, why, when, and how. J. Bus. Psychol. 29, 1–19.

Demb, A., Neubauer, F., 1992. The Corporate Board. Oxford University Press, Oxford.

DiTomaso, N., 2012. The American Non-dilemma: Racial Inequality without Racism. Russell Sage Foundation, New York, NY.

DiTomaso, N., Post, C., Parks-Yancy, R., 2007. Workforce diversity and inequality: power, status and numbers. Annu. Rev. Sociol. 33, 473.

Dobbin, Frank, 2009. Inventing Equal Opportunity. Princeton University Press, Princeton.

Dovidio, J.F., Brown, C.E., Heltman, K., Ellyson, S.L., Keating, C.F., 1988. Power displays between women and men in discussions of gender linked tasks: a multichannel study. J. Pers. Soc. Psychol. 55, 580–587.

Duguid, M.M., Loyd, D.L., Tolbert, P.S., 2012. The impact of categorical status, numeric representation and work group prestige on preference for demographically similar others: a value threat approach. Organ. Sci. 23 (2), 386–401.

Eisenhardt, K.M., Kahwajy, J.L., Bourgeois, L.J., 1997. How management teams can have a good fight. Harvard Bus. Rev. 75 (4), 77–85.

Elliott, J., Smith, R., 2001. Ethnic matching of supervisors to subordinate work groups: findings on bottom-up ascription and social closure. Soc. Probl. 48, 258–276.

Ely, R., 1995. Power in demography: women's social constructions of gender identity at work. Acad. Manage. J. 38, 589–634.

Fondas, N., Sassalos, S., 2000. A different voice in the boardroom: how the presence of women directors affects board influence over management. Global Focus 12, 13–22.

Hambrick, D.C., Quigley, T.J., 2014. Toward more accurate contextualization of the CEO effect on firm performance. Strateg. Manage. J. 35, 473–491.

Haunschild, P.R., 1993. Interorganizational imitation: the impact of interlocks on corporate acquisition activity. Adm. Sci. Q. 38, 564–592.

Haunschild, P.R., Beckman, C., 1998. When do interlocks matter? Alternative sources of information and interlock influence. Adm. Sci. Q. 43, 815–844.

Heilman, M., Wallen, A., Fuchs, D., Tamkins, M., 2004. Penalties for success: reactions to women who succeed at male gender-typed tasks. J. Appl. Psychol. 89, 416–427.

Herring, C., 2009. Does diversity pay? Race, gender and the business case for diversity. Am. Sociol. Rev. 74, 208.

Hogg, M., van Knippenberg, D., Rast, D., 2012. Intergroup leadership in organizations: leading across group and organizational boundaries. Acad. Manage. Rev. 37 (2), 32–255.

Ibarra, H., 1995. Race, opportunity and diversity of social circles in managerial networks. Acad. Manage. Rev. 38 (3), 673–703.

Inzlicht, M., Ben-Zeev, T., 2003. Do high-achieving female students underperform in private? The implications of threatening environments on intellectual processing. J. Educ. Psychol. 95 (4), 796–805.

Kalev, A., Kelly, E., Dobbin, F., 2006. Best practices or best guesses? Assessing the efficacy of corporate affirmative action and diversity policies. Am. Sociol. Rev. 71 (4), 589–617.
Kanter, R.M., 1977. Men and Women of the Corporation. Basic Books, New York.
Karakowsky, L., Siegal, J.P., 1999. The effects of proportional representation and gender orientation of the task on emergent leadership behavior in mixed-gender work groups. J. Appl. Psychol. 84 (4), 620–631.
Karpowitz, C., Mendelberg, T., Shaker, L., 2012. Gender inequality in deliberative participation. Am. Polit. Sci. Rev. 106 (3), 533–547.
Kaczmarek, S., Kimino, S., Pye, A., 2014. Interlocking directorships and firm performance in highly regulated sectors. J. Manage. Gov. 1, 1–26.
Konrad, A.M., Kramer, V.W., 2006. How many women do boards need? Harvard Bus. Rev. 84 (12), 22.
Konrad, A.M., Kramer, V., Erkut, S., 2008. Critical mass: the impact of three or more women on corporate boards. Organ. Dyn. 37 (2), 145–164.
Liu, Y., 2010. The Role of Networks in the CEO and Director Labor Market. Dissertation. The University of Maryland, Department of Finance. Available at: <http://drum.lib.umd.edu/bitstream/1903/10410/1/Liu_umd_0117E_11255.pdf>.
Livingston, R., Rosette, A., Washington, E., 2012. Can an agentic black woman get ahead? The impact of race and interpersonal dominance on perceptions of female leaders. Psychol. Sci. 24, 354–358.
Loyd, D.L., White, J.B., Kern, M., 2007. Duo status: disentangling the complex interactions within a minority of two. In: Phillips, K.W., Mannix, E., Neale, M.A. (Eds.), Research on Managing Groups. Emerald Group, pp. 75–92.
Lu, J.W., Beamish, P.W., 2004. International diversification and firm performance. The s-curve hypothesis. Acad. Manage. J. 47 (4), 598–609.
Matsa, D.A., Miller, A.R., 2011. Chipping away at the glass ceiling: gender spillovers in corporate leadership. Am. Econ. Rev. 101 (3), 635–639.
Matsa, D.A., Miller, A.R., 2013. A female style in corporate leadership? Evidence from quotas. Am. Econ. J. 5 (3), 136–169.
Maume, D., 2011. Meet the new boss. . .same as the old boss? Female supervisors and subordinate career prospects. Soc. Sci. Res. 40 (1), 287–298.
McGinn, K.L., Milkman, K.L., 2013. Looking up and looking out: career mobility effects of demographic similarity among professionals. Organ. Sci. 24, 1041–1060.
McGuire, G., 1999. Do race and sex affect employees' access to help from mentors? Insights from the study of a large corporation. In: Crosby, F., Ely, R., Murrell, A. (Eds.), Mentoring Dilemmas: Developmental Relationships within Multicultural Organizations. Lawrence Erlbaum, Mahwah, NJ.
Miller, T., Triana, M.d.C., 2009. Demographic diversity in the boardroom: mediators of the board diversity-firm performance relationship. J. Manage. Stud. 46 (5), 755.
Mizruchi, M.S., 1996. What do interlocks do? An analysis, critique and assessment of research on interlocking directorates. Annu. Rev. Sociol. 22, 271–298.
Nelson, R.L., Bridges, W.P., 1999. Legalizing Gender Inequality: Courts, Markets and Unequal Pay for Women in America. Cambridge University Press, New York, NY.
Ng, E., Burke, R., 2007. Person-organization fit and the war for talent: does diversity management make a difference? Int. J. Hum. Resour. Man. 16, 1195–1210.
Pelled, L.H., Eisenhardt, K.M., Xin, K.R., 1999. Exploring the black box: an analysis of work group diversity, conflict and performance. Adm. Sci. Q. 44, 1–28.
Penner, A.M., Toro-Tulla, H.J., Huffman, M., 2012. Do women managers ameliorate gender differences in wages? Evidence from a large grocery retailer. Sociol. Perspect. 55 (2), 365–381.
Phillips, K.W., Loyd, D.L., 2006. When surface and deep-level diversity collide: the effects on dissenting group members. Organ. Behav. Hum. Decis. Process. 99, 143–160.
Ridgeway, C., 1997. Interaction and the conservation of gender inequality. Am. Sociol. Rev. 62 (2), 218–235.
Ridgeway, C.L., 2001. Gender, status and leadership. J. Soc. Issues 57 (4), 637–655.
Ridgeway, C.L., Walker, H., 1995. Status structures. In: Cook, K., Fine, G., House, J. (Eds.), Sociological Perspectives on Social Psychology. Allyn and Bacon, New York, pp. 281–310.
Rosette, A., Leonardelli, G., Phillips, K., 2008. The white standard: racial bias in leader categorization. J. Appl. Psychol. 93, 758–777.
Rose, C., Bielby, W., 2011. Race at the top: how companies shape the inclusion of African Americans on the boards in response to institutional pressures. Soc. Sci. Res. 40, 841–859.
Sackett, P.R., DuBois, C.L.Z., Noe, A.W., 1991. Tokenism in performance evaluation: the effects of work group representation on male-female and white-black differences in performance ratings. J. Appl. Psychol. 76, 263–267.
Savitz, E., 2011. The Path to Becoming a Fortune 500 CEO. Forbes Magazine.
Sealy, R., Singh, V., 2009. The importance of role models and demographic context for senior women's work identity development. Int. J. Manage. Rev. 12 (3), 284–300.
Shropshire, C., 2010. The role of interlocking director and board receptivity in the diffusion of practices. Acad. Manage. Rev. 35, 246–264.
Singh, V., 2008. Transforming Boardroom Cultures in Science, Engineering and Technology Organizations. Report for UK Resource Centre for Women in STEM, Cranfield.
Skaggs, S., 2008. Producing change or bagging opportunity? The effects of discrimination litigation on women in supermarket management. Am. J. Sociol. 113 (4), 1148–1183.
Skaggs, S., Stainback, K., Duncan, P., 2012. Shaking things up or business as usual? The influence of female corporate executives and board of directors on women's managerial representation. Soc. Sci. Res. 41, 936–948.
Spencer, S., Steele, C., Quinn, D., 1999. Stereotype threat and women's math performance. J. Exp. Soc. Psychol. 35, 4–28.
Stainback, K., Kwon, S., 2012. Female leaders, organizational power and sex segregation. Ann. Am. Acad. Polit. Soc. Sci. 639, 217.
Stainback, K., Tomaskovic-Devey, D., 2009. Intersections of power and privilege: long-term trends in managerial representation. Am. Sociol. Rev. 74 (5), 800–820.
Terjesen, S., Singh, V., 2008. Female presence on corporate boards: a multi-country study of environmental context. J. Bus. Ethics 83 (1), 55–63.
Thompson, M., Sekaquaptewa, D., 2002. When being different is detrimental: solo status and the performance of women and racial minorities. Anal. Soc. Issues Public Policy 2 (1), 183–203.
Tomaskovic-Devey, D., 1993. Gender and Racial Inequality at Work. ILR Press.
Torchia, M., Calabro, A., Huse, M., 2011. Women directors on corporate boards: from tokenism to critical mass. J. Bus. Ethics 102, 299–317.
Vallian, Virginia., 1999. Why So Slow? The Advancement of Women. MIT Press, Boston, MA.
van Dijk, H., van Engen, M.L., van Knippenberg, D., 2012. Defying conventional wisdom: a meta-analytical examination of the differences between demographic and job-related diversity relationship with performance. Organ. Behav. Hum. Decis. Process. 119, 38–53.
Waddock, S.A., Graves, S.B., 1997. The corporate social performance-financial performance link. Strateg. Manage. J. 18 (4), 303–319.
Wagner, D.G., Berger, J., 1997. Gender and interpersonal task behaviors: status expectation accounts. Sociol. Perspect. 40, 1–32.
Westphal, J.D., Milton, L.P., 2000. How experience and network ties affect the influence of demographic minorities on corporate boards. Adm. Sci. Q. 45, 366–398.
Westphal, J., Zajac, E., 1995. Who shall govern? CEO/board power, demographic similarity and new director selection. Adm. Sci. Q. 40 (1), 60–83.
Williams, K., O'Reilly, C., 1998. Demography and diversity in organizations: a review of 40 years of research. Res. Organ. Behav. 20, 77–140.