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The glass ceiling: what have we learned 20 years on?

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Abstract

Purpose – The purpose of this paper is to consider the current status of women in management and explanations offered for this status in light of a rare empirical field study of the "glass ceiling" phenomenon the authors conducted about 20 years ago.

Design/methodology/approach – The authors review the study's key arguments, unexpected results, and implications for organizational effectiveness (which have been largely ignored). The authors then review what has transpired and what has been learned about the glass ceiling phenomenon since.

Findings – The nature of glass ceilings has remained essentially stable over a 20-year period, although further explanations for them have flourished.

Research limitations/implications – More scholarly examinations of ways to shatter glass ceilings and thereby enhance organizational effectiveness are recommended.

Practical implications – Organizations, human resources directors, and internal decision makers need to adopt practices that foster "debiasing" of decisions about promotions to top management.

Social implications – Societies need to encourage organizations to adopt ways to shatter glass ceilings that continue to disadvantage women.

Originality/value – A systematic review and analysis of the present-day implications of an early study of the glass ceiling phenomenon has not previously been conducted.

Keywords Organizational effectiveness, Glass ceiling, Women in management, Human resources practices, Promotions to top management

Paper type General review

Introduction

The "glass ceiling" is a metaphor that is used to characterize what women encounter when they attempt to advance in managerial hierarchies. The term originated in the popular media (Hymowitz and Schellhardt, 1986) and quickly spread to the gender in management literature. In an early book on the topic entitled *Breaking the Glass Ceiling: Can Women Reach the Top of America's Largest Corporations?* Morrison *et al.* (1987, p. 13) defined the glass ceiling as "a transparent barrier that (keeps) women from rising above a certain level in corporations." Although glass ceilings can exist at any managerial level, the term was first coined to refer to women's restricted access to top management levels. Since then, several scholarly books with titles such as *Shattering the Glass Ceiling* (Davidson and Cooper, 1992), *Breaking Through the Glass Ceiling* (Wirth, 2001), and *The Glass Ceiling in the 21st Century* (Barretto *et al.*, 2009) have complemented numerous theoretical and empirical studies of glass ceilings as well as scholarly reviews of such research

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(e.g. Powell, 1999). Accounts of individual female managers who have risen to the top of their organizations have also used the term, e.g. *Road to Power: How GM's Mary Barra Shattered the Glass Ceiling* (Colby, 2015). Indeed, Calás and Smircich (1996, p. 226) concluded that "we can conceive almost all of women-in management research as *glass ceiling* research, since assuring women fair access to managerial positions has been its overriding objective." Thus, the notion of a glass ceiling has become central to discussion over the status of women in management (Zimmer, 2015). However, its possible impact on organizational effectiveness has been less explored.

In this paper, we revisit an empirical field study of the glass ceiling phenomenon that we published about 20 years ago (Powell and Butterfield, 1994). We review its key arguments about the glass ceiling made from a 1990s lens, its unexpected results, and the implications for organizational effectiveness it drew from these results. Next, we consider how the status of women in management has changed and what has been learned about glass ceilings since then. Finally, we reconsider the applicability of our original implications for organizational effectiveness to the present day and offer new implications for human resources directors, internal decision makers, and scholars of the glass ceiling phenomenon.

Glass ceilings warrant close examination by scholars for several reasons. First, glass ceilings are problematic from an organizational effectiveness perspective. It is an unwise human resources practice for organizations to limit the pool of talent that they consider for promotions into and within managerial ranks on the basis of a job-irrelevant personal characteristic such as candidate sex. Organizations that artificially restrict their candidate pool when making promotion decisions for top management positions in this manner would seem likely to exhibit worse performance and be less effective at attracting and retaining managerial talent than organizations that take fuller advantage, and better care, of all of their human resources (Powell, 1999).

Second, glass ceilings are problematic from an organizational justice perspective. Organizational justice theories (Greenberg, 1990b, 1996) suggest that employees are concerned with both procedural justice (i.e. whether the means by which personnel decisions are made about them are fair) and distributive justice (i.e. whether the outcomes of personnel decisions made about them are fair). Regarding procedural justice, it is unjust for women as a group to have their membership in this group taken into account to their disadvantage, whether consciously or unconsciously, in decision-making procedures involving promotions to top management positions. Regarding distributive justice, it is unjust for women as a group to have their managerial advancement restricted simply because of their membership in this group.

Third, glass ceilings are problematic from an organizational impression management perspective. It is important for organizations to be seen as fair in their personnel procedures and outcomes (Greenberg, 1990a). Fairness perceptions influence employer branding (a marketing concept that has been extended to HR), which in turn influences the attraction and retention of talent (Ambler and Barrow, 1996). Martin and Cerdin (2014, p. 151) described employer branding as "the process by which branding, marketing, communications, and HR concepts and techniques (are) applied externally and internally to attract, engage, and retain potential and existing employees." Regarding promotions to top management positions, women perceive the existence of a glass ceiling that restricts their advancement to a greater extent than men do, with such perceptions contributing to lower perceptions of distributive justice and greater intentions to leave their job (Foley *et al.*, 2002). Thus, perceptions of a glass ceiling to women's disadvantage may have a substantial negative impact on an organization's success in attracting, engaging, and retaining female managerial talent, which in turn restricts its effectiveness.

Our 1994 study

Background

Powell and Butterfield (1994) was inspired by the then growing literature on the status of women in top management, which was an outgrowth of earlier research on the status of women in management in general. As Powell (1999) noted, the first generation of scholarly reviews that summarized extant theory and research on the topic (e.g. Bartol, 1978; Kanter, 1977; Riger and Galligan, 1980) primarily addressed the question, "Why are there so few women in management?" Such reviews typically reported current statistics regarding the low proportion of women in management and then suggested possible explanations for these statistics. For example, Riger and Galligan (1980) distinguished between person-centered explanations, which suggested that women's traits and behaviors were inappropriate for the managerial role, and situation-centered explanations, which suggested that organizational work environments suppressed women's attainment of managerial positions. Characteristics of work environments that constrained women's advancement included attitudes toward female managers, group dynamics directed toward "token" female members, and processes of "homosocial reproduction" in managerial promotion decisions (Kanter, 1977). Person-centered explanations had received the greater attention in prior research, but were viewed as inadequate in their ability to account for women's low status in management (Riger and Galligan, 1980).

The proportion of women in managerial positions overall increased dramatically in the USA during the 1970s and 1980s (US Department of Labor, 1983, 1990), and the proportion of women in management positions increased between 1986 and 1991 in 39 of 41 countries (International Labour Office, 1993). However, the proportion of women in top management positions remained low throughout the world. Accordingly, as noted by Powell (1999), the second generation of reviews of the status of women in management (e.g. Burke and McKeen, 1992; Dipboye, 1987; Morrison and Von Glinow, 1990), primarily addressed the question, "Why are there so few women in top management?" Such reviews typically reported both good news (e.g. "there are clearly more women in management today than there were 10 or 20 years ago"; Dipboye, 1987, p. 118) and bad news for women (e.g. "women are still a distinct minority in management, particularly at the higher levels"; Dipboye, 1987, p. 119). Person-centered explanations, situation-centered explanations, and social-system-centered explanations (e.g. gender stereotypes, gender roles, gender socialization processes, gendered organizational structures and processes; Acker, 1990; Deaux and Major, 1987; Eagly, 1987; Marshall, 1984), were invoked for the low proportion of women in top management positions. Further, the "glass ceiling" metaphor was beginning to play a central role in suggested answers to this question (Calás and Smircich, 1996; Morrison *et al.*, 1987).

As gender in management researchers ourselves (e.g. Butterfield and Powell, 1981; Powell and Butterfield, 1979), we were inspired in the late 1980s by the intellectual ferment on the topic to attempt to contribute to the growing glass ceiling literature. We observed that no empirical field study had been conducted to date of the glass ceiling phenomenon. A fortuitous set of circumstances enabled us to fill this void.

Butterfield had served as a "Federal Faculty Fellow" in a program in which faculty on sabbatical or leave assumed positions in the federal government for a year; his job was in the human resources office of a cabinet-level federal department. This office is responsible for keeping records of the decision-making process for all promotions in the department to and within the Senior Executive Service (SES), which consists of all nonmilitary top management positions in the US federal government except those reserved for political appointees; the top 1 percent of nonpolitical government positions are SES positions. By federal law, promotions to SES positions must be made systematically based on the same types of information across positions, and records of the decision process must be kept for at least two years. Butterfield's former Federal Faculty Fellow boss was interested in exploring the notion of a glass ceiling within the federal government, which was conducting a study of glass ceilings in the corporate world of its own (US Department of Labor, 1991, 1992). Using the boss as an initial contact, we received permission in 1989 to obtain access to files on the department's promotion decisions since 1987 and to be sent files on new SES promotion decisions as they were made. Eventually, we obtained copies of files for SES promotion decisions from January 1987 to February 1992 with identifying information removed. Data from these files were coded and analyzed.

Before we proceed, it should be noted that the US government is a highly unusual organization in: first, its open posting of top management positions; second, its concern for keeping records on promotions to these positions; and third, its willingness to grant researchers access to these records. At the time, we could not imagine our approaching any business organization and receiving a favorable response to the question, "Would you be willing to give us access to your records for promotions to top management positions so we can analyze whether you have a glass ceiling?" The existence of such records in corporate contexts seemed unlikely. Further, the risks of corporate exposure about what these records might say would seem too high for them to be turned over to researchers for analysis; corporate lawyers would rule out that notion rather quickly. Thus, whatever results we would find were likely to be specific to the unique type of organization that provided us data and difficult to generalize to other types of organizations. However, since empirical field research on the glass ceiling phenomenon in any kind of organization was essentially impossible without the existence of the kinds of records that were made available to us, we felt that a study based on such records might still contribute to understanding of the underlying nature of glass ceilings and how they may be shattered.

Theory

Powell and Butterfield (1994) invoked several existing theories of sex discrimination to hypothesize a direct effect of applicant sex[1] on promotion decisions for top management positions. Theories of patriarchy (e.g. Marshall, 1984; Strober, 1984) suggested that women's access to top management positions would be restricted because of male decision makers' preference to maintain power and authority over women. Kanter's (1977) theory of sex discrimination suggested that subjective appraisals as to whether a given applicant will "fit in" would drive promotion decisions for top management positions, such that applicants who were similar to job incumbents and decision makers (an overwhelmingly male population) on the basis of sex (i.e. male applicants) would be seen as fitting in better in the ranks of top management and thereby preferred over dissimilar applicants on this basis (i.e. female applicants). Rational bias theory (Larwood *et al.*, 1988) suggested that sex discrimination in promotion decisions for top management positions would result from intentional bias by decision makers who saw personal advantage in perpetuating sex discrimination if they perceived their organizations as having no interest in eliminating such discrimination or alleviating its effects. Theories of decision makers' unconscious biases (Motowidlo, 1986; Perry *et al.*, 1994), such as their possessing a prototype of the ideal candidate for a top management position as male, suggested that their judgments would be distorted such that they unintentionally preferred male applicants over female applicants.

Although these theories differed in their explanations for sex discrimination, they were consistent in suggesting that women would be discriminated against when decisions were made for promotions to top management positions. Accordingly, *H1* in the study proposed:

H1. Applicant sex influenced promotion decisions for top management positions directly, such that female applicants received less favorable decision outcomes than male applicants.

Powell and Butterfield (1994) invoked human capital theory as well as sex discrimination theories to hypothesize an indirect effect of applicant sex on promotion decisions for top management positions through its relationship with human capital variables. Stumpf and London (1981) had identified criteria that are typically used in decisions about management promotions, including both job-irrelevant criteria such as sex, race, and appearance; and job-relevant human capital criteria such as relevant work experience, education, seniority, past performance, and being a current member of the promoting organization. According to human capital theory (Becker, 1971), individuals make choices regarding investment in their human capital profile. Organizations also make choices regarding investments in their employees' human capital that may be subject to sex discrimination. If female applicants had accumulated less human capital over time than male applicants for whatever reason, their ascension to top management positions would be more restricted (Stroh *et al.*, 1992).

Further, sex discrimination, as explained by the theories cited above (Kanter, 1977; Larwood *et al.*, 1988; Marshall, 1984; Motowidlo, 1986; Perry *et al.*, 1994; Strober, 1984), may have influenced evaluations of human capital such that women were not given as much credit as men for the experience, education, and so on that they had accumulated. Female applicants whose human capital profiles were judged to be weaker than equivalent profiles of male applicants would have been at a disadvantage, even if they were not directly discriminated against when such decisions were made. Accordingly, *H2* in the study proposed:

H2. Applicant sex influenced promotion decisions for top management positions indirectly, such that female applicants would be rated less favorably than male applicants on human capital variables that influenced decision outcomes.

Powell and Butterfield (1994) also offered a research question about the moderating effect of decision maker sex on the relationship between applicant sex and promotions to top management. It did not yield significant results and is not discussed further in this paper.

Methods

Powell and Butterfield (1994) fully describes the study methods. Briefly, when a SES position becomes open in the US government, a position announcement is circulated that specifies the criteria by which applicants will be judged. Interested individuals submit formal applications that provide background and career history data. The human resources office in the promoting department then screens out applicants that are considered obviously unqualified because they do not meet minimum eligibility criteria.

The person who makes the final decision ("selecting official") typically is the future manager of the person to be selected for the position. The selecting official asks a panel of senior individuals who are familiar with the demands of the position to review the credentials of remaining applicants. The review panel evaluates each applicant on each of the specified criteria on a three-point scale. It also decides which applicants to "refer" to the selecting official, who then decides which of the referred applicants will be selected for the job.

From January 1987 to February 1992, 32 open SES positions were filled within the department. In total, 438 applicants were regarded as meeting minimum eligibility criteria for the position applied for. For our study, review panel and application data were obtained for these applicants, with identifying information such as name and social security number removed but with applicant sex included; 88 percent of the 438 applicants were male. In total, 258 of the 438 applicants (59 percent) were referred by the review panel to the selecting official. Of the 258 referred applicants, 32 (12 percent) were selected to fill the 32 open positions.

Three variables served as measures of outcomes of promotion decisions. The review panel's evaluation of the applicant's qualifications for the position was measured by the average of its ratings of the applicant on the specified criteria for the position. Whether the applicant was referred for the position by the review panel and, if referred, whether the applicant was selected for the position by the selecting official were the other two outcome measures.

The job-irrelevant variable of applicant sex and six human capital variables were included in analyses as potential predictors of the outcome measures. The human capital variables consisted of whether the applicant was currently employed in the hiring department, the highest grade held in the federal government, years at the highest grade, years of full-time work experience, the highest degree obtained, and the most recent performance appraisal rating on a five-point scale. All of these human capital variables represented criteria commonly used by organizations for management promotions (Stumpf and London, 1981).

Results

Complete results are presented in Powell and Butterfield (1994) with supporting tables. Here, we provide a brief description of the results for each of the three outcome measures.

First, the review panel's evaluation for all of the 438 applicants in the sample was regressed on the six human capital measures and applicant sex using ordinary least squares regression analysis. Applicant sex had a significant effect on panel evaluations. However, contrary to *H1*, the direction of the effect favored female applicants. Four of the six human capital measures – employment in the hiring department, highest grade, years at highest grade, and years of full-time work experience (a negative effect) – significantly influenced panel evaluations. Women differed from men on two of the four significant human capital predictors of panel evaluations, employment in the hiring department and work experience. However, contrary to *H2*, the indirect effect of sex on panel evaluations through these predictors favored women rather than men. Women scored significantly higher than men on employment in the hiring department (which was positively related to panel evaluations) and significantly lower than men in work experience (which was negatively related to panel evaluations).

Second, the review panel's dichotomous (yes/no) referral decision for all applicants was regressed on the six human capital measures and applicant sex using logistic regression analysis. Applicant sex had a significant effect on referral decisions.

However, contrary to *H1* as for panel evaluations, the direction of the effect favored female applicants. Four of the six human capital measures – employment in the hiring department, highest grade, years at highest grade, and years of full-time work experience (a negative effect) – significantly influenced referral decisions. Contrary to *H2*, as for panel evaluations, these effects favored women rather than men.

Third, the selecting official's dichotomous selection decision was regressed on the six human capital measures and applicant sex using logistic regression analysis, which was performed only for the 258 applicants who were referred to the selecting official by the review panel. Contrary to *H1*, applicant sex did not predict selection decisions. However, three of the six human capital measures – employment in the hiring department, years at highest grade (a negative effect), and performance appraisal rating – significantly influenced selection decisions. Although there was no sex difference in the first two of these measures, women received significantly higher performance appraisal ratings than men. Thus, contrary to *H2*, the only indirect effect of sex on selection decisions that was found favored women rather than men.

Discussion

These results were much to our surprise. The two hypotheses of our study, that applicant sex would directly and indirectly influence promotion decisions for top management positions to the disadvantage of women, were resoundingly rejected. Instead, all of the significant direct and indirect effects that were found favored female applicants over male applicants. We were left with the challenge of how to interpret these unexpected findings. We did not view the results as refuting the existence of glass ceilings, as there was already a growing body of theory and evidence that glass ceilings existed to the disadvantage of women (Burke and McKeen, 1992; Dipboye, 1987; Morrison and Von Glinow, 1990). Instead, we offered a situation-centered explanation (Riger and Galligan, 1980) for the results (Powell and Butterfield, 1994, pp. 81-82):

> Why were all of the significant direct and indirect effects of sex in this study favorable to women? To address this question, we need to consider the unique nature of the organization studied. The very fact that the federal government is unlike most organizations may have accounted for the absence of decision making that favored men. The federal government places a high degree of emphasis on procedural fairness in making promotion decisions for SES positions. First, it requires that all open positions be made known through a public announcement. Second, it requires that all promotion decisions be made using the same basic procedure. Third, it requires that records be kept of the entire decision-making process. By providing structure to the decision-making process and enabling identification of decisions that are not properly made, these requirements make decision makers accountable for how their promotion decisions are made [. . .].
>
> In addition, the federal government is particularly concerned with issues regarding equal employment opportunity. This concern is evident in the Department of Labor's (1991) "glass ceiling initiative" for private corporations as well as in established federal policies and practices. It may lead to women in the federal government benefitting more from promotion decisions than men rather than being victimized by the glass ceiling phenomenon [. . .].
>
> These results suggest that when decision making is open and a systematic procedure is used, decisions that foster the glass ceiling phenomenon may be averted. When procedures for promotion decisions are standardized and criteria for decisions are well established, qualified women may fare at least as well as qualified men. When procedures are not standardized, or when criteria for promotion decisions are unspecified or vague, there may be more occasion for gender-related biases favoring men to affect the outcomes of the promotion process.

> To what extent are the decision-making conditions found in this study present in the private sector and other public agencies? Additional research in differing organizational contexts is necessary to answer this question.

Next, we consider what has changed or evolved with respect to glass ceilings since our study, first in the status of women in management and then in explanations for it.

How has the status of women in management changed?

About the time our 1994 study was published, the proportion of women in top management positions was very small by any measure. For example, in 1992, one (i.e. 0.1 percent) of the chief executive officers (CEOs) of the Business Week Top 1,000 corporations was female (Segal, 1992). In 1996, one (i.e. 0.2 percent) of the CEOs of Fortune 500 corporations was female, an increase of one from 1995 and earlier (Catalyst, 2014). It would have been difficult for such proportions to be any smaller.

Since then, the trend has been for the proportion of women in Fortune 500 CEO positions to rise slowly and slightly; although Fortune 500 companies are not necessarily representative of organizations of all sizes, this proportion is a commonly used measure of women in top management. Currently, 25 (5.0 percent) of the Fortune 500 CEOs are female (Fairchild, 2015). What should be made of this trend? It depends on what statistic is used to describe it. On the one hand, the increase in the proportion of female CEOs of Fortune 500 corporations over a 20-year period since 1996 has been 2,400.0 percent (from one to 25), certainly a large proportion. On the other hand, the decrease in the proportion of male CEOs of such corporations over the same period has been only 4.8 percent (from 499 to 475). The various ways this trend has been characterized by observers reflect disagreement over what it actually means. When the proportion reached 4.0 percent for the first time (Catalyst, 2014), an observer declared "the dawn of the age of female CEOs" (Parker, 2013); in the same vein, General Motors' promotion of Mary Barra to its CEO was heralded as "a breakthrough for women" (Murray, 2013). However, others have argued that views of gender parity in the managerial ranks represent "delusions of progress" (Carter and Silva, 2010) and the "real story" is that there are still not enough female CEOs (Brooke-Marciniak, 2015).

Further, as has been the case ever since the glass ceiling concept entered our vocabulary (Hymowitz and Schellhardt, 1986), the higher you look in managerial hierarchies, the lower the proportion of women you see (Hymowitz, 2006). For example, in S&P 500 companies in 2014, women represented 4.6 percent of CEOs, 25.1 percent of senior-level officials and managers, 36.8 percent of mid-level and first-level officials and managers, and 45.0 percent of all employees (Catalyst, 2015).

Our interpretation of these trends is that, about 20 years after Powell and Butterfield (1994), the proportion of women in top management positions continues to be very small, much smaller than that at progressively lower managerial levels. We believe that the challenge faced by scholars is to explain why these trends prevail and what can be done to alleviate them. Glass ceilings remain problematic from the perspectives of organizational effectiveness, justice, and impression management.

What (else) has been learned about glass ceilings?

Although growth in the proportion of women in top management has been very small, there has been considerable growth in metaphors for the phenomenon that keeps this proportion small (Smith *et al.*, 2012). The metaphor of a glass ceiling characterizes: first, success as climbing to the peak of a mountain; and second, impediments to success as transparent ceilings that block or limit access to the peak for women as a group (Sleek, 2015). Variations of the glass ceiling metaphor include labyrinth, firewall, glass slipper, gossamer ceiling, grass ceiling (which has alternatively been used to refer to antecedents of the low status of women in cannabis production, in agriculture, and on the golf course), bamboo ceiling, celluloid ceiling, and marble ceiling (Ashcraft, 2013; Smith *et al.*, 2012; Zimmer, 2015). Some metaphors have been used to blame sex discrimination and prejudice against women (e.g. glass cliff, glass wall, token, chilly workplace climate, backlash effects, sticky floor) and other metaphors to blame women themselves (e.g. queen bee, bully broad) for the low proportion of women in top management. Metaphors related to working women with families include second shift, maternal wall, women are wonderful effect, mommy track, opt-out revolution, child penalty, off- and on-ramps, kaleidoscope career, and family-friendly organizational policies (see Ashcraft, 2013; Smith *et al.*, 2012; Zimmer, 2015 for the definition and source of these metaphors). The existence of so many metaphors to characterize glass ceilings and their antecedents is indicative of the voluminous glass ceiling literature that has emerged since it was first introduced as a metaphor (Hymowitz and Schellhardt, 1986).

In this section, we review explanations that have been proposed since Powell and Butterfield (1994) for the small proportion of women in top management. First, we consider extensions of early explanations for glass ceilings that have been offered since our study. Next, we consider particular areas of inquiry that have emerged since our study, including the notions of glass cliffs and glass walls, the consequences of women's breaking through glass ceilings for other women and for organizations, and the debate over whether there is actually a female disadvantage or a female advantage in decisions about promotions to top management.

Extensions of early explanations

Powell and Butterfield (1994) primarily relied on theories of sex discrimination in arguing their hypotheses. Since then, much scholarly work has been conducted on discrimination in general and its intellectual cousins, stereotyping and prejudice. For example, in Fiske's (1998) major review of theory and research, discrimination was regarded as the behavioral component of category-based reaction to others (i.e. reactions to members of a group perceived to be different from one's own group), stereotyping as the cognitive component, and prejudice as the affective component. Discrimination, stereotyping, and prejudice were depicted as distinct but related phenomena, and as partly automatic and responsive to social structures but also as partly controllable (Fiske, 1998). Dovidio *et al.* (2010) systematically examined basic processes, causes, expressions, and social impacts, as well as ways to combat discrimination, stereotyping, and prejudice. Further, discrimination against members of groups categorized on the basis of factors other than sex such as race, sexual orientation, age, disability, personality, and attractiveness has been examined (e.g. Dipboye and Colella, 2005).

Regarding explanations of sex discrimination in particular, the distinction was made in scholarly work that preceded Powell and Butterfield (1994) between person-centered, situation-centered, and social-system-centered explanations (Acker, 1990; Deaux and Major, 1987; Eagly, 1987; Marshall, 1984; Morrison and Von Glinow, 1990; Riger and Galligan, 1980). Since then, much more scholarly work has been conducted on social-system-centered explanations (e.g. Acker, 2006; Alvesson and Due Billing, 2009; Broadbridge and Hearn, 2008; Broadbridge and Simpson, 2011; Calás *et al.*, 2014; Fletcher, 1999; Risman, 2004; Swan, 2010) than on situation-centered explanations (e.g. Goodman *et al.*, 2003; Reskin and McBrier, 2000) or person-centered explanations (e.g. Powell and Butterfield, 2013). Indeed, person-centered explanations have been largely discredited since Riger and Galligan (1980) first classified them as such. Overall, the emphasis of explanations for glass ceilings since Powell and Butterfield (1994) has been on viewing relevant social systems as gendered in and of themselves.

Glass cliffs

Research on glass cliffs has primarily addressed the question, "When women attain top management positions, where do they find themselves?" The answer to this question suggested by a body of work over the last decade (e.g. Mulcahy and Linehan, 2014; Ryan and Haslam, 2005, 2007) is, "They find themselves in precarious leader positions." That is, the traditional "think manager – think male" association (Koenig *et al.*, 2011; Schein, 1973; Schein *et al.*, 1996) is weakened during times of poor organizational performance and replaced by a "think crisis – think female" association (Gartzia *et al.*, 2012; Ryan *et al.*, 2011). Thus, glass cliffs appear to represent a second wave of sex discrimination that occurs as women break through glass ceilings (Ryan and Haslam, 2005).

Early scholarly work on glass cliffs focussed on explaining and documenting their existence (Ryan and Haslam, 2005, 2007). Follow-up work has focussed on their subtleties and consequences. For example, Rink *et al.* (2012), in examining predispositions to assume glass cliff positions, hypothesized that women and men would not be differentially attracted to precarious leader positions; instead, they found that women's evaluations of such positions were most negative when social resources were lacking, whereas men's evaluations of such positions were most negative when financial resources were lacking. One consequence of glass cliffs is that female CEOs experience greater stress than their male counterparts (Ryan *et al.*, 2009). Another consequence that emphasizes the precariousness of female CEOs' positions is that they are more likely to be forced out of their jobs, rather than having a planned exit or leaving due to a merger or acquisition, than male CEOs (Strategy&, 2014). Overall, glass cliff research has contributed to knowledge of glass ceilings, especially the circumstances that accompany their being shattered.

Glass walls

The sex segregation of occupations refers to the unequal distributions of women and men across occupations (Jacobs, 1999; Powell, 2011). As the proportion of women in management has increased overall, the term has been applied to unequal distributions of women and men within the managerial ranks of organizations. Glass ceilings reflect vertical sex segregation within managerial ranks. In contrast, glass walls represent horizontal sex segregation within managerial ranks (Lyness and Terrazas, 2006). That is, within the same managerial level, female managers tend to be concentrated in some functions and male managers in other functions.

In managerial hierarchies, "line" jobs, which are central to the provision of organizational products and services, tend to be higher in status and opportunities for promotion to top management than "staff" jobs, which are more peripheral to the provision of products and services (Baron *et al.*, 1986). Not coincidentally, male managers are more prevalent than female managers in line functions and less prevalent in staff functions (Lyness and Terrazas, 2006). Further, within staff functions, female managers are less likely than male managers to move into line functions (Lyness and Schrader, 2006). As a result, reflecting the existence of glass walls, female managers are concentrated in staff functions such as human resources, corporate communications, and public relations; in contrast, male managers are concentrated in line functions such as operations, sales, and research and development (International Labour Office, 2015).

Thus, glass walls provide a further explanation for glass ceilings: because middle-level and lower-level female managers are concentrated in staff functions with limited opportunities for advancement, they are less likely than male managers to attain top management positions.

Consequences of women's attaining top management positions

As the proportion of women in top management positions has slowly risen, research has examined the consequences of this development, both for other women and for organizations.

Consequences for other women. The consequences of some women's breaking through glass ceilings for other women have been depicted in both negative and positive terms. On the negative side, Sharon Mavin and her colleagues (e.g. Mavin, 2006a, b; Mavin *et al.*, 2014; Mavin and Williams, 2013) have examined psychological "micro-violence" in women's intra-gender relations. Relevant to this paper, women in top management exhibit intra-gender micro-violence across organizational levels by manipulating relationships with, distancing themselves from, and hindering the advancement of lower-level women (Mavin *et al.*, 2014). Whereas early usage of the metaphor "queen bee" (Staines *et al.*, 1973) blamed top-level women themselves for having negative relations with lower-level women (Ellemers *et al.*, 2012; Smith *et al.*, 2012), Mavin *et al.* (2014, p. 441) blamed gendered social systems in which women in top management feel compelled to "ventriloquize patriarchal attitudes." This body of work suggests that individual women's rising above a glass ceiling, rather than shattering it for other women, may contribute to keeping them below it.

On the positive side, others have provided evidence of senior women's helping other women. For example, greater representation of women on corporate boards of directors has been found to contribute to the promotion of women to top management positions (Elsaid and Ursel, 2011; Matsa and Miller, 2011); in turn, female CEOs may be more likely than male CEOs to seek female board directors (Lublin, 2014). Also, higher proportions of women in top management positions have been found to contribute to less influence of gender stereotypes and roles in organizations (Ely, 1995) and to lower-level women's feeling less competitive with each other (Ely, 1994), which would minimize the kinds of micro-violence in women's intra-gender, cross-level relations that Mavin *et al.* (2014) described. Further, increases of women in top management have been associated with increases of women in lower-level managerial positions (Cohen *et al.*, 1998; Kurtulus and Tomaskovic-Devey, 2012). This body of work suggests that individual women's rising above a glass ceiling may be aided by other women who have already risen above the same ceiling and foster more positive work environments for lower-level women.

Given these mixed arguments and findings, additional research is needed to identify the conditions under which the presence of women in top management positions hinders or helps other women.

Consequences for organizations. Because there are so few female CEOs, any findings about the effect of CEO sex on organizational performance should be considered with caution. After all, the glass cliff phenomenon suggests that women are appointed as

CEOs to more poorly performing firms in the first place than those to which male CEOs are appointed (Mulcahy and Linehan, 2014; Ryan and Haslam, 2005, 2007), and the relatively small number of female-headed firms may differ from the vast number of male-headed firms in ways that significantly influence their performance. Nonetheless, an initial wave of evidence suggests that female-headed firms report higher return on assets (ROA) and return on investment (ROI) than male-headed firms (cf. Kulik and Metz, 2015). Such evidence would seem to contradict the notion of glass cliffs, unless female CEOs in initially precarious positions turned around their organization's performance before the researchers in such studies measured it.

However, there may also be differences on the basis of CEO sex in shareholders' and investors' reactions to organizations' ROA and ROI, which are likely to influence other measures of organizational performance such as share price, market risk, and total market capitalization (cf. Kulik and Metz, 2015). Such reactions may be driven by expectations of sex differences in CEO behaviors that would influence organizational performance that reflect gender stereotypes (Kite *et al.*, 2008; Wood and Eagly, 2010).

Further, there may be actual sex differences in the leadership behaviors of CEOs that influence organizational performance, which brings us to the debate over whether there is now a female advantage or disadvantage in top management positions.

Female advantage or disadvantage?

Pioneers of research on the status of women in management (e.g. Bartol, 1978; Kanter, 1977; Schein, 1973) probably never imagined that the question would arise as whether there is actually a female advantage or disadvantage in the managerial ranks; indeed, the prospect of such a question would have shocked them at the time. Nonetheless, a vigorous debate triggered by this question has emerged in the gender in management literature in recent years (cf. Eagly *et al.*, 2014).

The primary argument for a female advantage has been that women tend to be more effective leaders than men (Eagly *et al.*, 2014). For example, a meta-analysis of sex differences in transformational leadership, which has been the focus of leadership theories in recent years (Bass, 1998; Judge and Piccolo, 2004; Rafferty and Griffin, 2004), found that actual female leaders were more transformational than their male counterparts (Eagly *et al.*, 2003). Another meta-analysis found that transformational leadership was positively associated with leader effectiveness as reflected in individual, group, and organizational performance (Lowe *et al.*, 1996). These results suggest that women rate higher than men in behaviors that contribute to their effectiveness as leaders.

The primary argument for a female disadvantage has been that any advantage women may have in leader behaviors is lost if their abilities as leaders are overtly dismissed or treated with skepticism due to prejudice or stereotyping (Eagly *et al.*, 2014). For example, according to Eagly and Karau's (2002) role congruity theory of prejudice against female leaders, they are placed at a disadvantage by being forced to deal with the perceived incongruity between the leader role and their gender role. On the one hand, if women conform to the female gender role by displaying predominantly feminine traits, they fail to meet the requirements of the leader prototype, which calls for masculine assertiveness and a "command and control" leadership style. On the other hand, if women conform to the leader role by displaying predominantly masculine traits, they fail to meet the requirements of the female gender role, which calls for feminine niceness and deference to the authority of men. Further, Koenig *et al.*'s (2011) meta-analysis found that according to three different research paradigms, theories of leader stereotypes that the leader role is more associated with men than women were supported.

Scholars do not need to choose between arguing for a female advantage or disadvantage in leadership. Indeed, both views may be true, and the two phenomena may offset each other to some extent (Eagly *et al.*, 2014). That is, women may possess an advantage in leadership style, as supported by meta-analyses linking the behaviors they display (more than those of men) with leader effectiveness (Eagly *et al.*, 2003; Lowe *et al.*, 1996), and a disadvantage in leader selection and promotion decisions, including decisions about promotions to top management positions, as supported by theories of prejudice and stereotyping on the basis of sex (Eagly and Karau, 2002; Koenig *et al.*, 2011). Overall, this body of theory and research suggests that any organizational processes that neutralize or eliminate the effects of prejudice and stereotyping on the basis of leader sex will contribute to the shattering of glass ceilings, which leads us to come full circle to the implications for organizational effectiveness of our 1994 study.

Where do we go from here?

As our review has demonstrated, early explanations for glass ceilings have been extended substantially over the last 20 years as new explanations for glass ceilings have emerged. However, the nature of glass ceilings has remained essentially stable despite all of the scholarly attention they have received.

Within the glass ceiling literature over the last 20 years that has been reviewed in this paper, we have observed curious reactions to our original study. On the one hand, Powell and Butterfield (1994) has been widely cited, and it was reprinted in a collection of classic studies on women and management (Gatrell *et al.*, 2010). On the other hand, its results and implications for organizational effectiveness have been largely ignored. When it has been cited, it has typically been either as a reference for the low proportion of women in top management or as an example of a prior glass ceiling study. To our knowledge, Eagly and Karau (2002, p. 582) gave the most attention to the substance of our results in commenting on their "unusual" nature. They concluded, as we did, that the greater success for women than men in SES promotion decisions in the federal department studied may have been due to the government's commitment to decision procedures that counteract biases against women and to affirmative action. They also suggested that the conditions to counteract sex discrimination may be more prevalent in public-sector than private-sector organizations, a notion on which we called for further research.

We concluded Powell and Butterfield (1994, p. 84) by emphasizing its implications for organizational effectiveness:

> What would it take for the glass ceiling phenomenon to disappear? This study suggests some tentative answers. Organizations may be able to avert it by revising procedures for making promotion decisions in ways that increase the accountability of decision makers and impose uniformity on the promotion process, and by making these procedures well known to all potential applicants. In addition, organizations that pursue a strong promote-from-within policy and fill positions immediately below the top level with highly qualified women and men who progressed to that level without delay may eventually find their glass ceilings shattered.

We stand by these implications for organizational effectiveness of our original study. We believe that it identified specific practices that organizations may adopt to minimize the existence of glass ceilings to women's disadvantage. We do not argue that women's being advantaged rather than disadvantaged when promotions to top management positions are made, as we found, is desirable. In other words, we are not arguing that sex discrimination that favors women be substituted for sex discrimination that favors men in promotions to top management. Instead, we believe that the most appropriate goal is for personal biases that contribute to sex discrimination in such decisions to be eradicated or at least minimized.

What can human resources directors and internal decision makers do to promote achievement of this goal? Research on decision making suggests that procedures may be adopted for debiasing, or reducing or eliminating biases from the cognitive strategies of decision makers (Bazerman and Moore, 2013; Fischoff, 1982; Larrick, 2004). For example, Fischoff (1982) suggested that training in decision making that warns about the possibility of biased judgments, describes the possible direction of the bias, provides specific feedback, and is supplemented by personal coaching contributes to debiasing. HR directors may promote the implementation of such training for key decision makers in their organizations, and the decision makers may seek out such training themselves.

HR directors may foster debiasing by promoting the adoption of incentives for making bias-free decisions. For example, the PQ Corporation, a manufacturer of specialty chemicals, catalysts, and silicates (PQ Corporation, 2015), was a pioneer in instituting a special procedure to encourage nondiscrimination in personnel decisions (Poole and Kautz, 1987). The key to the procedure was the "selection checklist," a document that a manager completed for each candidate interviewed for a position. It contained questions about each step in the selection process and the degree of possible discrimination (e.g. "Did you perform or do you have a current job analysis for this position?" "Was the position posted internally?" "Were reasons for rejection based solely on job-related deficiencies and not on nonjob-related factors?") Each question had to be answered yes, no, or not applicable. The questions answered no reflected possible incidents of discrimination by the manager. This procedure was intended to make managers aware of the cognitive processes they used to make their decisions. Managers' checklists were passed on to their superiors, who could then assess how well the corporate goal of nondiscrimination was being achieved. Of course, managers could always fake the checklist to cover up their biases. However, if they did so, it would be with the knowledge that this behavior was contrary to corporate goals.

Further, holding decision makers accountable for their decisions promotes debiasing. For example, coaches of executives may encourage them to imagine how they would explain their decisions about promotions to top management to individuals with no preference or stake in the decision outcome; taking an outsider's perspective may lead to useful pre-emptive self-criticism (Bazerman and Moore, 2013). Also, decision makers may hold themselves accountable by writing down an explanation for the decision to themselves.

What are the implications of the above analysis for scholars of the glass ceiling phenomenon? If results such as those obtained by Powell and Butterfield (1994) are more likely to occur in public-sector organizations (i.e. government) than in private-sector organizations as Eagly and Karau (2002) suggested, we view the biggest challenge for scholars going forward as to identify ways in which private-sector organizations may be encouraged to act more like public-sector organizations in this regard. In our opinion, we do not need more scholarly explanations of glass ceilings. Instead, we need more scholarly examinations of ways to shatter glass ceilings and thereby enhance organizational effectiveness as well as organizational justice and impression management.

Note

1. Similar to other scholars (e.g. Archer and Lloyd, 2002; Lippa, 2005; Unger, 1979), we use the term sex in this paper to refer to the biology-based categories of male and female, with the recognition that these categories are not all-inclusive, and the term gender to refer to the psychological and social implications of being male or female.

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