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The female leadership advantage: An evaluation of the evidence

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Abstract

Journalists and authors of trade books increasingly assert a female advantage in leadership, whereby women are more likely than men to lead in a style that is effective under contemporary conditions. Contrasting our analysis of these claims with Vecchio's [Leadersh. Q. 13 (2002) 643] analysis, we show that women have some advantages in typical leadership style but suffer some disadvantages from prejudicial evaluations of their competence as leaders, especially in masculine organizational contexts. Nonetheless, more women are rising into leadership roles at all levels, including elite executive roles. We suggest reasons for this rise and argue that organizations can capture the symbols of progressive social change and modernity by appointments of women in key positions.
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1. Introduction

> After years of analyzing what makes leaders most effective and figuring out who's got the Right Stuff, management gurus now know how to boost the odds of getting a great executive: Hire a female. (Sharpe, 2000, in *Business Week*)

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The idea that women are effective leaders has jumped from the writers of feminist trade books on management (e.g., Helgesen, 1990; Rosener, 1995) to the mainstream press and is steadily making its way into the popular culture. Articles in newspapers and business magazines reveal a cultural realignment in the United States that proclaims a new era for female leaders. As *Business Week* announces that women have the "Right Stuff" (Sharpe, 2000), *Fast Company* concurs that "The future of business depends on women" (Hefferman, 2002, p. 9). Even more startling is *Business Week*'s subsequent cover story on the "New Gender Gap," maintaining that "Men could become losers in a global economy that values mental power over might" (Conlin, 2003, p. 78).

The sharp edge of these female advantage articles must be quite baffling to the many academic leadership researchers who have argued that gender has little relation to leadership style and effectiveness (e.g., Dobbins & Platz, 1986; Powell, 1990). They might be tempted to conclude that in our postmodernist world the voices of social scientists have not been accorded any special authority. However, to earn the trust of journalists and the public, leadership researchers must approach these issues with sophisticated enough theories and methods that they illuminate the implications of gender in organizational life. Toward this goal, we show that a careful sifting through social scientific evidence, separating wheat from chaff, suggests that contemporary journalists, while surely conveying too simple a message, are expressing some of the new realities associated with women's rise into elite leadership roles.[1]

To address these issues, researchers must confront the perennially important issue of what behaviors characterize effective leaders. Is it the firm execution of authority over subordinates or the capacity to support and inspire them? More likely, as situational theories of leadership contend (e.g., Chemers, 1997), the effectiveness of leader behaviors depends on contextual variables, such as the nature of the task and the characteristics of the followers. Yet, historically, leadership has been construed as primarily a masculine enterprise, and many theories of leadership have focused on the desirability of stereotypically masculine qualities in leaders (e.g., Miner, 1993). Nevertheless, it is probable that stereotypically feminine qualities of cooperation, mentoring, and collaboration are important to leadership as well, certainly in some contexts and perhaps increasingly in contemporary organizations.

As we analyze these issues in this article, we contrast many of our views with those of Vecchio (2002), who recently provided a review of some of the research relevant to the debate about female advantage. The basic questions that we address in this article and that demand attention in relation to these arguments are (a) whether men and women behave differently in leadership roles, (b) whether women receive prejudiced evaluations as leaders and potential leaders, and (c) whether leadership by women might be more effective or better meet the needs of organizations than leadership by men. Although Vecchio addressed the first and third of these questions, our conclusions differ from his, and he gave insufficient attention to the second question—the crucial issue of female disadvantage from discriminatory processes.

[1] In this article, the terms *sex* and *sexes* denote the grouping of people into female and male categories. The terms *sex differences* and *similarities* are applied to describe the results of comparing these two groups. The term *gender* refers to the meanings that societies and individuals ascribe to these female and male categories. We do not intend to use these terms to give priority to any class of causes that may underlie sex and gender effects.

2. The changing context of female leadership

Before delving into these issues of female advantage and disadvantage, we note that women's corporate and political leadership is on the rise. Whereas women held only 18% of managerial and administrative positions in the United States in 1972, by 2002 that percentage had increased to 46% (U.S. Bureau of Labor Statistics, 1982, 2002). Moreover, in the Fortune 500, both the percentage of women among all corporate officers (15.7%) and CEOs (1.4%) are at all-time highs (Black, 2003; Catalyst, 2002). Likewise, although women constitute only 14% of the Congress of the United States and 12% of state governors, 42% of the women who have ever served in the Senate are in office now, as are 26% of the women who have ever served as governors (White House Project, 2002). Also, 43 of the 59 women who have ever served as presidents or prime ministers of nations came into office since 1990 (Adler, 1999; de Zárate, 2003). Despite these changes, men, far more often than women, occupy positions conferring decision-making authority and the ability to influence others' pay or promotions (Smith, 2002).

The increase in female leaders has been accompanied by changes in theories and practices of leadership. Whereas in the past, leaders based their authority mainly on their access to political, economic, or military power, in postindustrial societies leaders share power far more and establish many collaborative relationships (Lipman-Blumen, 1996). Therefore, contemporary views of good leadership encourage teamwork and collaboration and emphasize the ability to empower, support, and engage workers (e.g., Hammer & Champy, 1994; Senge, 1994). Trade books urge managers to put people first by using "resonance-building styles…that support commitment, involvement, active pursuit of the vision, and healthy, productive work relationships" (Goleman, Boyatzis, & McKee, 2002, p. 221).

These contemporary approaches to leadership not only recommend a reduction in hierarchy but also place the leader more in the role of coach or teacher than previous models of leadership. Although the specifics of these views vary, most such discussions emphasize that leader roles are changing to meet the demands of greatly accelerated technological growth, increasing workforce diversity, intense competitive pressures on corporations and other organizations, and a weakening of geopolitical boundaries. As Kanter (1997, p. 59) wrote:

> Managerial work is undergoing such enormous and rapid change that many managers are reinventing their profession as they go. With little precedent to guide them, they are watching hierarchy fade away and the clear distinctions of title, task, department, even corporation, blur. Faced with extraordinary levels of complexity and interdependency, they watch traditional sources of power erode and the old motivational tools lose their magic.

Is it possible that the changing nature of managerial work accords female leaders some advantages that they did not possess in the past? As we explain in this article, social scientists have often emphasized the prejudicial disadvantages that women face because of the

construal of leadership in masculine terms. To the extent that modern characterizations of effective leadership have become more consonant with the female gender role, this female disadvantage may be eroding.

The gradual erosion of female disadvantage would be consonant with the emphasis of many popular mass-market management books on traditionally feminine communal behavior, involving creating a sense of community, empowering subordinates, and communicating and listening effectively (Fondas, 1997). Indeed, writers of popular books on leadership have argued that effective leadership is congruent with the ways that women lead (Book, 2000; Helgesen, 1990; Rosener, 1995). For example, Rosener (1995) labeled women's leadership as interactive, involving collaboration and empowerment of employees, and men's leadership as command-and-control, involving the assertion of authority and the accumulation of power. Such authors construe men and women as quite different in the ways that they lead, with men relying on a somewhat antiquated leadership style that does not fit the needs of most contemporary organizations. These provocative descriptions of sex-typed leadership styles invite careful scrutiny from social scientists.

3. Methods of studying gender and leadership

Before reviewing research on how gender impinges on leadership, we give some consideration to the methods by which we draw our conclusions. Popular writing typically has relied on qualitative analyses or on surveys or interviews with select groups of women leaders (e.g., Helgesen, 1990; Rosener, 1990, 1995). Although such approaches can illustrate many of the concerns and experiences of women leaders, they do not allow systematic examination of sex differences and similarities. In contrast, social scientific research has explored gender effects on leadership through a wide variety of research methodologies in many hundreds of studies.

Making use of large numbers of studies is a formidable task. Using narrative methods, some reviewers qualitatively analyze groups of studies to identify common themes or patterns in the findings. Such reviews have value principally when there are few studies that have addressed a particular question. Alternatively, reviewers summarize studies using meta-analysis, which quantitatively combines the results of individual studies (Lipsey & Wilson, 2001). This method is especially useful for integrating large numbers of studies, which would quickly overwhelm reviewers' abilities to produce accurate generalizations from more intuitive, narrative summaries.

In meta-analyses, the outcome of each study is computed using the common metric of effect sizes, which in reviews of gender and leadership generally take the form of a standardized difference (or d), defined as the difference between the mean scores of women and men (e.g., on a measure of leadership style) divided by the pooled standard deviation. The goal of meta-analysis is to combine study findings to yield measures of the average magnitude of an effect and, even more important, to statistically test whether variation in these findings can be accounted for by the characteristics of the studies themselves.

Given our and Vecchio's (2002) reliance on meta-analyses, it is important to scrutinize them with care, especially because they purport to provide authoritative summaries of research literatures. To help readers of *The Leadership Quarterly* evaluate meta-analyses pertaining to gender and leadership, we offer a very short primer on how to judge their quality:

1. Evaluate whether a meta-analyst conducted an extensive enough search that virtually all relevant studies likely were identified. The search should encompass unpublished studies, to lessen publication bias (Sutton, Song, Gilbody, & Abrams, 2000). Multiple databases should be searched as well as the reference lists of existing reviews and all located studies. The exclusion of studies that tested the hypothesis of interest requires a defensible justification. Of course, the cardinal rule of meta-analysis is that all data sets that are included address the same hypothesis.
2. Determine whether at least two independent judges who achieved high interjudge reliability coded the studies extensively enough to represent the differences in studies' attributes, including features relevant to study quality.
3. Appraise whether a meta-analyst thoroughly analyzed the database of studies' effect sizes and coded attributes. Central tendencies of the effect sizes should be presented, accompanied by counts of studies producing findings in each direction. The meta-analyst should calculate all possible models relating study attributes to the effect sizes and report the significant models.
4. Consider whether a meta-analyst appropriately discussed and interpreted the size of effects, the relations between studies' attributes and the effect sizes, the strengths and weaknesses of the studies, and the theoretical and practical implications of the findings.

To illustrate these criteria, we compare Dobbins and Platz's (1986) meta-analysis of sex differences in leadership style and effectiveness with those of Eagly and Johnson (1990) on leadership style and of Eagly, Karau, and Makhijani (1995) on leaders' effectiveness. Dobbins and Platz located 17 documents, yielding 8 studies of leadership style and 16 studies of the effectiveness of leaders or satisfaction with leaders' performance. In contrast, Eagly and Johnson located 161 documents, yielding 162 studies of style, and Eagly et al. located 87 documents, yielding 96 studies of effectiveness (including satisfaction with leaders' performance). The discrepancy in the number of studies derives primarily from the far more thorough search procedures of Eagly and her colleagues.

In addition to using minimalist search procedures, Dobbins and Platz (1986) failed to code the included studies. They presented only means and variabilities of the effect sizes and dispatched discussion of these findings in three paragraphs, one of which called for a moratorium on research comparing male and female leaders. In contrast, the Eagly and Johnson (1990) and Eagly et al. (1995) meta-analyses included: (a) extensive coding of the studies by two judges who achieved adequate intercoder reliability, (b) the computation of all possible models relating study attributes to the effect sizes and the presentation of the

significant models, and (c) a discussion of the strengths and weaknesses and the theoretical and practical implications of their findings.

The most startling defect of the Dobbins and Platz (1986) review is its inclusion of studies with designs inappropriate to drawing conclusions about sex differences in leaders' style or effectiveness. Reviews of these questions should include only studies that allowed leader behavior to vary naturally and omit those that constrained or manipulated leader behavior. However, Dobbins and Platz included seven experimental studies featuring male and female behavior that had been made artificially equivalent by presenting participants with (a) standardized written descriptions of leader behavior ascribed to a man or woman (Bartol & Butterfield, 1976; Butterfield & Powell, 1981; Frasher & Frasher, 1980; Haccoun, Haccoun, & Sallay, 1978; Rosen & Jerdee, 1973); (b) male or female experimental confederates who had been carefully trained to lead in a particular style (Lee & Alvares, 1977); or (c) videotapes of a man or woman portraying a leader by delivering the exact same script (Welsh, 1979).

These studies holding male and female behavior constant and varying only sex were variants of the *Goldberg paradigm*, designed to investigate biases in perceptions of equivalent male and female leader behavior (Goldberg, 1968). Despite the fact that 41% of the included studies deliberately insured the actual equivalence of male and female behavior, Dobbins and Platz (1986) announced conclusions about sex differences in leadership style and effectiveness. The invalid conclusions from this meta-analysis spread like a virus through organizational and management science, as shown by the 78 citations of this project (ISI Web of Science, 2003). Vecchio (2002) repeatedly cited this defective meta-analysis to support his views and even maintained that "Dobbins and Platz can be applauded for focusing their analysis on more rigorous, published studies" (p. 651). In this statement, he also wrongly maintained that published studies are more rigorous than unpublished ones, which primarily consist of dissertations. In contrast, meta-analysts judge study quality, not by publication status, but by coding of quality-relevant study attributes.

In this article, we rely on high-quality meta-analytic reviews because of their advantages in producing valid conclusions from large research literatures. Of course, questions concerning gender and leadership, as with any social science research question, are best derived from a variety of different and valuable methods: true experiments, quasi-experiments, organizational studies, survey research, and studies using aggregate social statistics such as wages. Both convergent and divergent findings across differing methods can yield important information.

Experiments can be useful for their excellent internal validity, especially when they are considered in the context of studies using methods with excellent external validity, albeit lesser internal validity (e.g., organizational studies, survey research). Vecchio's (2002) suspicion of true experiments derives in part from his inaccurate opinion that they are conducted in laboratories with impoverished stimuli. Instead, experiments are defined only by manipulated independent variables and the random assignment of participants to conditions. The stimuli may be complex (e.g., realistic job résumés, videotaped interviews) or simple (e.g., brief descriptions of leaders). The participants can be managers or other nonstudent

groups, and the sites include organizations and other nonlaboratory settings. In contrast to Vecchio's tilt toward organizational studies, we thus adopt an ecumenical approach toward research evidence.

4. Sex differences and similarities in leadership style

We first turn to the question of whether women and men differ in leadership style, an issue that many researchers have addressed, primarily with organizational studies. Although Vecchio (2002) questioned the value of this research because job descriptions do not ordinarily stipulate particular styles, we believe that this research is important, well beyond its potential to yield "developmental insights related to the understanding of others and one's self" (Vecchio, 2002, p. 649). Job candidates' leadership styles are surely among the attributes given special scrutiny in interviews of candidates for managerial positions, and managers fired from their positions are often critiqued for their leadership styles (e.g., faulty "top-down management style," Steinberg, 2003). Moreover, the impetus of this research was, in some cases, to investigate whether the dearth of women in high-level positions could be explained by their leading with styles that are less effective than those of their male counterparts, and in other cases, to investigate whether women possessed superior leadership styles. To shed light on these issues as well as to participate in wider scholarly debates about the magnitude and implications of sex differences in behavior (Eagly, 1995), many investigators have compared the leadership styles of women and men.

4.1. Task-oriented, interpersonally oriented, and autocratic–democratic styles

In the long-standing tradition of studying leadership style (see Bass, 1990), most research conducted prior to 1990 distinguished between *task-oriented style* or *initiation of structure* and *interpersonally oriented* style or *consideration.* A somewhat less popular distinction was between leaders who (a) behave *democratically* and allow subordinates to participate in decision-making, or (b) behave *autocratically* and discourage subordinates from such participation. To examine sex differences and similarities in these styles, Eagly and Johnson (1990) reviewed 162 studies that yielded comparisons of women and men on relevant measures. Approaching this project in an exploratory frame of mind, Eagly and Johnson began their analysis by discussing both reasons to expect the absence of sex differences and reasons to expect their presence.

This synthesis found that leadership styles were somewhat gender-stereotypic in (a) laboratory studies generally conducted as experiments on group processes with student participants and (b) assessment studies using participants not selected for occupancy of leadership roles (e.g., samples of employees or students in university business programs). Specifically, in such research, women, more than men, manifested relatively interpersonally oriented and democratic styles, and men, more than women, manifested relatively task-oriented and autocratic styles. In contrast, sex differences were more limited in organizational

studies, which examined managers' styles. Male and female managers did not differ in their tendencies to manifest interpersonally oriented and task-oriented styles. However, in these studies of managers, as in the laboratory and assessment studies, women manifested a somewhat more democratic (or participative) style and a less autocratic (or directive) style than men did.

This autocratic–democratic finding, which was based on 23 data sets and a heterogeneous set of measuring instruments, produced a relatively small mean effect size ($d = 0.22$). Nonetheless, 92% of the available comparisons went in the direction of a more democratic or participative style among women. The diversity of measures of autocratic and democratic tendencies, regarded as undesirable by Vecchio (2002), can be regarded as a strength because the conclusion was not based solely on a particular measure and thus has potentially greater generalizability. Moreover, some confirmation of Eagly and Johnson's findings is contained in a later meta-analysis that surveyed studies published subsequent to their review (van Engen, 2001).

Vecchio (2002) would prefer that Eagly and Johnson (1990) had excluded studies that used certain measuring instruments, especially Fiedler's (1967) measure (Least Preferred Co-Worker Scale [LPC]). Instead of excluding studies that used methods that some had criticized, Eagly and Johnson adopted the more informative strategy of including them but then disaggregating their meta-analytic data to test whether differing methods produced differing findings. In particular, studies using the LPC and similar one-dimensional measures of task-oriented versus interpersonally oriented style were aggregated separately from those that assessed interpersonal style and task style on two dimensions.

Vecchio's (2002) view that studies using leaders' self-ratings should be deleted also violates the meta-analytic principle of including a wide range of methods and disaggregating based on method. Moreover, his opinion that leaders' self ratings have less validity than others' ratings of leaders appears to be debatable. When Malloy and Janowski (1992) applied the statistical analyses of Kenny's (1991) social relations model to perceptions of leadership (e.g., amount of talking, friendliness, leadership), self and other perceptions appeared to be highly similar and in general quite accurate. It is apparently for strictly evaluative ratings of managers' effectiveness that self ratings may be more biased than others' ratings (e.g., Atkins & Wood, 2000). At any rate, the identity of raters was treated as a moderator variable in analyses of the effect sizes. In fact, consistent with meta-analytic practice, all coded study attributes were related to the effect sizes, and only the significant models were reported in the text.

Based on analyses of their large database, Eagly and Johnson (1990) concluded that gender-stereotypic sex differences in leadership behavior were less common in organizational studies than in other types of studies because male and female managers were selected by similar criteria and subjected to similar organizational socialization—forces that tend to equalize the sexes. Among managers, a sex difference was detected only in a fairly narrow range of leadership behaviors assessed by measures of autocratic–democratic (or directive–participative) tendencies, which relate primarily to the exercise of power. These findings illustrate the value of comparing studies of different types: Without the context provided by the laboratory and assessment studies of persons not occupying managerial roles, any

conclusion about the lessening of sex differences among managers would not have been convincing.

This meta-analysis included some possible interpretations of the autocratic–democratic sex difference—specifically, (a) the greater social skills of women (vs. men) may have facilitated collaborative, democratic leadership behavior and (b) such behavior may have been especially advantageous for women because it placated subordinates and peers who might otherwise have been resistant to female leadership. Although we do not concur with Vecchio's (2002) view that the demonstrated difference in autocratic–democratic tendencies is unimportant, we agree that this style's effectiveness depends on context (e.g., Foels, Driskell, Mullen, & Salas, 2000; Gastil, 1994), as did Eagly and Johnson (1990, p. 249), who were "unwilling to argue that women's relatively democratic and participative style is either an advantage or disadvantage." Nonetheless, consistent with Fondas's (1997) analysis, democratic, participative leader behavior is more similar to the leadership styles advocated by contemporary managerial writers than is autocratic, directive behavior.

Another significant moderator analysis in Eagly and Johnson's (1990) meta-analysis established that leaders of each sex were especially task-oriented relative to the other sex when their role was congruent (or congenial) with their gender—that is, defined in relatively masculine terms for male leaders or in more feminine terms for female leaders. This finding does not support Vecchio's (2002) interpretation that "regardless of sex, individuals are inclined to be work-focused" (p. 651), but rather that leaders' work-related task behavior occurs more often when the leader role is perceived as congenial to their gender.

4.2. Transformational, transactional, and laissez-faire styles

Debates about the leadership styles of women and men gained momentum in the 1990s because of new research attempting to identify the styles that are especially attuned to contemporary conditions. The new emphasis was on leadership that is *transformational* in the sense that it is future oriented rather than present oriented and that strengthens organizations by inspiring followers' commitment and creativity. As initially described by Burns (1978) and elaborated by Bass (1985), transformational leadership entails establishing oneself as a role model by gaining followers' trust and confidence. Transformational leaders state future goals, develop plans to achieve those goals, and innovate, even when their organization is generally successful. By mentoring and empowering followers, such leaders help followers to develop their potential and thus to contribute more effectively to their organization.

Leadership researchers (e.g., Avolio, 1999) contrasted transformational leaders to *transactional* leaders, who appeal to subordinates' self-interest by establishing exchange relationships with them. Transactional leadership involves managing in the conventional sense of clarifying subordinates' responsibilities, rewarding them for meeting objectives, and correcting them for failing to meet objectives. In addition, researchers distinguished a *laissez-faire* style that is marked by an overall failure to take responsibility for managing. These distinctions between aspects of leadership style are commonly assessed by the Multifactor

Leadership Questionnaire, known as the MLQ (see Table 1 and Antonakis, Avolio, & Sivasubramaniam, 2003).

Although Vecchio (2002) discounted the possibility that noteworthy gender effects might emerge in research on transformational and transactional leadership, researchers in this area have reasoned that transformational leadership might be particularly advantageous to women because of its androgynous qualities (e.g., Yoder, 2001) and, indeed, the substantial research literature comparing women and men on these styles has yielded interesting outcomes. Pursuing these ideas, Eagly, Johannesen-Schmidt, and van Engen (2003) carried out a meta-analysis of 45 studies that compared male and female managers on measures of transformational, transactional, and laissez-faire leadership styles. This meta-analysis encompassed a large study conducted to provide norms and psychometric standards for the MLQ (Center for Leadership Studies, 2000) as well as many studies conducted within specific organizations or groups of organizations, the majority of which were in business or educational domains. The

Table 1
Study-level effect sizes for transformational, transactional, and laissez-faire leadership styles

Leadership measure	All studies					Excluding outliers	
	k	d_+	95% CI	*Q*[a]	Mean unweighted *d*	*k*	d_+
Transformational	44	−0.10	−0.13, −0.08	152.94**	−0.19	40	−0.16
Charisma[b]	25	−0.09	−0.12, −0.06	51.61**	−0.13	24	−0.11
Idealized Influence (attribute)	10	−0.12	−0.16, −0.08	16.56	−0.06		
Idealized Influence (behavior)	15	−0.02	−0.06, 0.01	29.79**	−0.07	14	−0.02
Inspirational Motivation	29	−0.05	−0.08, −0.03	88.40**	−0.10	24	−0.06
Intellectual Stimulation	35	−0.05	−0.07, −0.02	150.74**	−0.12	30	−0.06
Individualized Consideration	28	−0.19	−0.22, −0.16	37.31	−0.20		
Transactional							
Contingent Reward	21	−0.13	−0.17, −0.10	29.83	−0.13		
Management by Exception (active)	12	0.12	0.08, 0.16	21.24*	0.11	11	0.13
Management by Exception (passive)	18	0.27	0.23, 0.30	19.18	0.23		
Laissez-faire	16	0.16	0.14, 0.19	18.74	0.06		

Positive effect sizes (*d*s) indicate that men had higher scores than women on a given leadership style, and negative *d*s indicate that women had higher scores than men.

k = number of studies; d_+ = mean weighted effect size; CI = confidence interval; *Q* = homogeneity of *d*s.

Table adapted from Eagly et al. (2003).

[a] Significance indicates rejection of the hypothesis of homogeneity.

[b] In some studies, the Idealized Influence (attribute) and Idealized Influence (behavior) subscales were presented separately, and in some studies, they were combined into a Charisma subscale.

*$p < .05$.

**$p < .01$.

measures of leadership style were completed by leaders' subordinates, peers, or superiors or by the leaders themselves.

In general, Eagly et al.'s (2003) meta-analysis revealed that, compared with male leaders, female leaders were (a) more transformational (significant in general and on all but one subscale) and (b) engaged in more of the contingent reward behaviors (i.e., exchanging rewards for followers' satisfactory performance) that are one component of transactional leadership (see Table 1). Also, male leaders were more likely than female leaders to manifest two other aspects of transactional leadership: active management by exception (attending to followers' mistakes and failures to meet standards) and passive management by exception (waiting for problems to become severe before intervening). Men were also higher on laissez-faire leadership (exhibiting widespread absence and lack of involvement). These sex differences were small, but prevailed in the meta-analysis as a whole as well as in auxiliary analyses of (a) the MLQ norming study, (b) the other studies that used the MLQ, and (c) the studies that used other measures of these styles.

These provocative findings are unlikely to be an artifact of publication bias, given that the majority of the included studies were unpublished and that the authors of the published studies had often not included sex comparisons (but were willing to provide these data when asked for them). In addition, contrary to the view, endorsed by Vecchio (2002), that sex differences in style are an artifact of the placement of women and men in different leadership roles, which often cede men more power than women (e.g., Kanter, 1977; Ragins, 1991), the sex effects did not differ between (a) studies assessing leaders who had the same specific role description (e.g., college hall directors) and (b) studies assessing leaders in a broad category within which men and women were likely concentrated in different roles (e.g., managers of various organizations). Also, these findings are unlikely to be a product of the application of different standards in judging men and women (see Biernat & Kobrynowicz, 1999) because the rating scales used in this research are not adjective rating scales but are behaviorally anchored scales assessing the frequency with which a leader engages in each of the relevant behaviors.

Interpretation of these findings included several possibilities (Eagly et al., 2003): (a) the transformational repertoire (and contingent reward behaviors) may resolve some of the typical incongruity that exists between leadership roles and the female gender role because these styles are not distinctively masculine (see Eagly & Karau, 2002), (b) gender roles may influence leadership by means of the spillover and internalization of gender-specific norms, which could facilitate women's focus on the more feminine aspects of transformational leadership (e.g., individualized consideration), and (c) the glass ceiling and the associated double standard for the selection and promotion of managers may produce more highly skilled female than male leaders.

Sex differences in transformational and transactional leadership do have implications for female advantage arguments because researchers defined these styles in an effort to identify effective leadership. Substantiating these claims, a meta-analysis of 39 studies showed positive correlations between effectiveness and all components of transformational leadership as well as the contingent reward component of transactional leadership, the one aspect of transactional leadership on which women exceeded men (Lowe, Kroeck, & Sivasubrama-

niam, 1996). The norming study of the MLQ measure produced similar effectiveness findings (Center for Leadership Studies, 2000), and in addition, showed negative relations between leaders' effectiveness and two of the remaining measures: (a) passive management by exception, which is one of the components of transactional leadership, and (b) laissez-faire leadership.

In view of these findings, the tendency of women to exceed men on the components of leadership style that relate positively to effectiveness (i.e., transformational leadership and the contingent reward aspect of transactional leadership) and the tendency of men to exceed women on the ineffective styles (i.e., passive management by exception and laissez-faire leadership) attest to women's abilities. Thus, research on transformational, transactional, and laissez-faire leadership styles does suggest female advantage, albeit a small advantage.

5. Prejudice and discrimination against women as leaders

Any female advantage in leadership style might be offset by disadvantage that flows from prejudice and discrimination directed against women as leaders. Prejudice consists of unfair evaluation of a group of people based on stereotypical judgments of the group rather than the behavior or qualifications of its individual members. When people hold stereotypes about a group, they expect members of that group to possess characteristics and exhibit behavior consistent with those stereotypes. Perceivers then tacitly assimilate information to their gender-stereotypic expectations (von Hippel, Sekaquaptewa, & Vargas, 1995) and spontaneously fill in unknown details of others' behavior to conform to those expectations (Dunning & Sherman, 1997). These stereotypic inferences yield prejudice against individual group members when stereotypes about their group are incongruent with the attributes associated with success in certain classes of social roles. This incongruity tends to produce discrimination by lowering evaluation of such group members as potential or actual occupants of those roles.

According to Eagly and Karau (2002), incongruity between expectations about women (i.e., the female gender role) and expectations about leaders (i.e., leader roles) underlie prejudice against female leaders (see also Burgess & Borgida, 1999, Heilman, 2001). This explanation, based on Eagly's social role theory of sex differences and similarities in social behavior (Eagly, 1987; Eagly, Wood, & Diekman, 2000) asserts that the activation of beliefs about women and men by gender-related cues influences people to perceive individual women as communal but not very agentic and individual men as agentic but not very communal.

Consistent with role incongruity theory, stereotype research reveals that people do consider men to be more agentic than women and women to be more communal than men (Deaux & Kite, 1993). Also, the communal qualities that people associate with women, such as warmth and selflessness, diverge from the agentic qualities, such as assertiveness and instrumentality, that people perceive as characteristic of successful leaders. In contrast, the predominantly agentic qualities that people associate with men are similar to the qualities perceived to be

needed for success in high status occupations, which would include most managerial occupations (see Cejka & Eagly, 1999).

Stereotypes about women and men, like other stereotypes of social groups, appear to be easily and automatically activated (Fiske, 1998). Although stereotypes are not necessarily activated or applied to bias judgments of individuals, many circumstances do favor both activation and application (Kunda & Spencer, 2003). Because such circumstances are common, we assume that, in general, perceptions of individual leaders reflect both beliefs about leaders and beliefs about gender. Therefore, it is likely that judgments of female leaders ordinarily manifest an amalgam of the communal traits associated with the female gender role and the agentic traits associated with leadership roles (Heilman, Block, & Martell, 1995). The typical similarity of the male gender role and leader roles requires no such amalgamation.

Ample evidence exists that managers (and undergraduate and graduate business students) link management ability with being male and possessing masculine characteristics (Powell, Butterfield, & Parent, 2002; Schein, 2001). Also, nationally representative survey data reveal greater preference for male than female bosses, although this preference has been decreasing over time (Simmons, 2001). Because of doubts about women's leadership ability, they are generally held to a higher standard of competence than men are. For women to be considered as instrumentally competent as men, perceivers must be given clear evidence of women's greater ability or superior performance compared to their male counterparts (Biernat & Kobrynowicz, 1997; Foschi, 1996; Shackelford, Wood, & Worchel, 1996; Wood & Karten, 1986).

Examples of the challenges women face in being perceived as competent leaders include a field study examining judgments of leadership ability among U.S. Army captains attending a leadership training course. This study revealed a bias favoring men in both self and other judgments, even when controlling for years as captain and other status factors, and particularly when women were in a solo or token situation in their groups (Biernat, Crandall, Young, Kobrynowicz, & Halpin, 1998). A field study of a university cadet corps also showed that judgments of competence and leadership qualities were biased against women, when evaluated against the criterion of objective military performance (Boldry, Wood, & Kashy, 2001).

Despite the external validity advantages of organizational studies, they remain vulnerable to the internal validity criticism that uncontrolled sex differences may account for apparently prejudicial effects. To address this concern, researchers have turned to Goldberg paradigm experiments that equate the objective characteristics of men and women other than their sex and are carried out in a variety of settings with diverse participants, including managers and other employee groups.

One popular variant of these Goldberg paradigm experiments involves presenting a résumé or application for evaluation, with half of the participants receiving it with a female name attached to it and half receiving it with a male name. Meta-analysis of these experiments showed that men were preferred over women for jobs rated as male sex-typed ($d = 0.34$) and women over men for jobs rated as female sex-typed ($d = -0.26$; Davison & Burke, 2000). Given that leadership roles are usually sex-typed as masculine, these experiments suggest bias against female candidates for such positions. Other studies in

this tradition include some more naturalistic but less controlled field experiments conducted by sending male and female job applications to companies (e.g., McIntyre, Moberg, & Posner, 1980) or having male and female confederates respond by telephone to advertised jobs (Levinson, 1982). These studies also showed sex discrimination that depended on the sex-typing of jobs.

A meta-analysis of Goldberg paradigm experiments that investigated evaluations of male and female performances on a wide variety of tasks revealed an overall effect favoring male expertise (Swim, Borgida, Maruyama, & Myers, 1989). This overall prejudicial bias was small (*d*s between -0.05 and -0.08, depending on the method of estimation). However, consistent with the role incongruity theory, this bias was larger for masculine and gender-neutral tasks (*d*s between -0.10 and -0.32) than feminine tasks (*d*s between -0.01 and -0.08).

Even in face-to-face interactions with no evidence of male superiority at the task (Wood & Karten, 1986) or no objective gender differences in the quality of performance (Carli, 1991, 1997), undergraduate participants rated men to have performed more competently than women. Also, in an experiment manipulating managers' speech, union members rated female managers as less effective than their male counterparts when the managers spoke in a relatively uncertain manner, although they gave the female and male managers comparable ratings when they communicated more competently (Geddes, 1992). In addition, women's task contributions in small groups are more likely to be ignored or to evoke negative reactions from others than men's contributions are (e.g., Butler & Geis, 1990; Propp, 1995). Consequently, women, more than men, face a difficult challenge to prove that they have the high level of ability required to become a leader.

Despite doubts about women's competence as leaders, one might expect that highly agentic female leaders would be able to overcome such difficulties. However, people may perceive women who demonstrate clear-cut leadership ability as insufficiently feminine. Thus, a female leader can be rejected because people perceive her to lack the agentic qualities associated with effective leadership or because she possesses too many of them. This rejection as "too masculine" results from injunctive or prescriptive gender role norms—that is, consensual expectations about what men and women ought to do—that require women to display communal behavior and not too much agentic behavior (Eagly & Karau, 2002; Fiske & Stevens, 1993).

As a result of these injunctive demands, female leaders often receive less favorable reactions than male leaders do for male-stereotypic forms of leadership. This generalization was confirmed in a meta-analysis of Goldberg paradigm experiments on the evaluation of male and female leaders (Eagly, Makhijani, & Klonsky, 1992). Although the overall bias in favor of men was small ($d = 0.05$), women received lower evaluations than equivalent men for autocratic leadership ($d = 0.30$) but comparable evaluations for democratic leadership. Also, women encounter more dislike and rejection than men do for showing dominance, expressing disagreement, or being highly assertive or self-promoting (e.g., Carli, 1998; Copeland, Driskell, & Salas, 1995; Rudman, 1998). In addition, dominance lowers women's but not men's ability to influence others (Carli, 1998; Mehta et al., 1989, cited in Ellyson, Dovidio, &

Brown, 1992). Greater penalties against women than men for dominant and assertive behaviors reflect the constraints on women to avoid stereotypically masculine behavior.

The resistance to female leadership demonstrated by these findings is problematic for female leaders, especially because it appears that, with some exceptions (e.g., Rudman, 1998), men, who currently hold most positions of power and authority, generally find female agency and leadership more objectionable than women do. This generalization is consistent with the Eagly et al. (1992) meta-analysis, which showed that male evaluators rated female leaders less favorably than equivalent male leaders, whereas female evaluators did not exhibit gender bias. For example, in one study, employees watched a videotape depicting an assertive, confident target employee who expressed interest in advancement and later disagreed with senior management (Geller & Hobfoll, 1993). Results revealed that, whereas the male target received similar evaluations from the men and women, the female target received less favorable evaluations from the men. Such findings are consistent with evidence that, although both sexes view the social category of "successful managers" as more like men than women, men show this "think manager, think male" effect more strongly than women (Schein, 2001).

Male-dominated environments can be difficult for women. The Eagly et al. (1992) meta-analysis of Goldberg paradigm experiments thus demonstrated that female leaders received less favorable evaluations than their equivalent male counterparts in male-dominated leader roles, but were equally evaluated in roles that were not male-dominated. Congruent evidence in survey data emerged from an analysis of the Panel Study of Income Dynamics (Hill, 1992), which showed that, despite controls on numerous variables (e.g., human capital, family characteristics, skill requirements of occupations), working in male-dominated occupations increased men's chances of promotions (as assessed by substantial wage increases in successive years), but increased women's chances of leaving their jobs (Maume, 1999). Consistent with such findings, women appear to be disadvantaged in employment contexts in which advancement depends on sex homophilous male networks, which are especially prevalent in environments where men constitute a strong majority (McPherson, Smith-Lovin, & Cook, 2001).

In terms of everyday organizational behaviors, discrimination in male-dominated settings occurs through blatant and subtle stereotyping, questioning of women's competence, sexual harassment, and social isolation (e.g., Collinson, Knights, & Collinson, 1990; Fitzgerald, Drasgow, Hulin, Gelfand, & Magley, 1997; Kanter, 1977; Martin, 1992). Stereotyping can produce its own reality through expectancy confirmation processes that can derail women's performance in the stereotypic domain (Geis, 1993). In a demonstration of such processes, experiments in the "stereotype threat" paradigm made the female stereotype especially accessible to students by having them view female-stereotypic (vs. neutral) television commercials (Davies & Spencer, 2003). Then in a subsequent procedure portrayed as an unrelated experiment on leadership, the women, but not the men, who had been exposed to the female-stereotypic portrayals, expressed less preference for a leadership role versus a non-leadership role.

How can women cope with disapproval elicited by their assertive, directive, or highly competent behavior (e.g., Carli, 1990)? Not surprisingly, given the injunctive demand for

female communality, one technique supported by research findings involves combining agentic behavior with warm, communal behavior, which seems to mitigate suspicion of agentic women. Women thus increase their likableness and influence by "feminizing" their behavior and displaying increased warmth or cooperativeness, whereas men's influence does not depend on displays of communality (Carli, 2001, 1998; Carli, LaFleur, & Loeber, 1995; Ridgeway, 1982; Shackelford et al., 1996). Because men are not penalized for communal behavior but can gain from dominant and assertive behavior, male leaders may enjoy easier access to a wider range of leader behaviors that can be tailored to fit the demands of the situation.

In summary, research provides ample demonstration of bias against women as leaders, despite the failure of some reviewers (e.g., Arvey & Murphy, 1998) to recognize important moderators of these effects. Our conclusions are strengthened by converging results from differing methods—specifically, organizational studies, survey research, and experiments that equate the objective characteristics of men and women. Women thus face discriminatory barriers mainly in male-dominated and masculine environments and with male evaluators. Because higher levels of authority and higher wages are concentrated in such environments and are controlled primarily by men, this prejudice is highly consequential for women's advancement.

Traditional arguments against prejudice as accounting for women's lower wages and lesser workplace authority ascribed these phenomena to women's lesser human capital in terms of education, training, and work experience. However, women's human capital investments have increased (Eagly & Carli, in press). In addition, sex differences in human capital investments account for only a portion of the male–female wage gap (e.g., 21% in O'Neill & Polachek, 1993) and are clearly insufficient to explain women's lesser access to higher-level leadership positions in view of evidence that women receive substantially smaller gains in workplace authority than men do for similar human capital investments (Smith, 2002). In addition, considerable evidence argues against the "female choice" proposition that family and domestic responsibilities cause employed women to avoid leadership responsibility (see Smith, 2002).

Paradoxically, the discriminatory disadvantage that women encounter in male-dominated environments can sometimes produce the appearance of a female competence advantage. Given impediments to achieving high-level leadership roles, those women who do rise in such hierarchies are typically the survivors of discriminatory processes and therefore tend to be very competent. This increment of competence, driven at least in part by a double standard, is no doubt one factor underlying social scientific evidence and journalistic claims of female advantage (e.g., Eagly et al., 2003; Sharpe, 2000).

6. The effectiveness of male and female leaders

We have presented meta-analytic evidence that women are slightly more likely than men to lead in the ways that managerial experts consider particularly effective and that have been shown to be effective in research on transformational, transactional, and

laissez-faire leadership (Lowe et al., 1996). However, we have also presented evidence of prejudice against female leaders and potential leaders in masculine domains. Given both advantage and disadvantage, how do female leaders fare relative to their male counterparts? This question should be addressed with direct assessments of effectiveness on appropriate measures, including performance appraisals and objective outcome measures.

Given the findings we have presented on prejudice, it would be reasonable to expect that the relative success of women and men in leadership roles depends on context. In masculine contexts, prejudicial reactions not only restrict women's access to leadership roles, but also can reduce the effectiveness of women who attain these roles (Eagly & Karau, 2002). Testing this role incongruity hypothesis, Eagly et al. (1995) conducted a meta-analysis that included 96 studies that compared the effectiveness of male and female leaders. As required to properly assess reactions to actual leadership, the review contained only studies that did not artificially equate male and female behavior. In these 74 organizational and 22 laboratories studies, the male and female leaders held the same role, which was sometimes given a general definition (e.g., middle managers in one or more industries) and sometimes a specific definition (e.g., elementary school principals in a particular city). Most of these studies used subjective ratings of performance or effectiveness, and some included more objective measures. It is of course likely that subjective ratings of effectiveness were biased to some extent, given the demonstration of some gender bias in the evaluation of leaders in the Eagly et al. (1992) meta-analysis of Goldberg paradigm experiments.

The results of these studies proved to be quite heterogeneous. Nevertheless, moderating variables successfully predicted the effect sizes, revealing support for the incongruity hypothesis that women are relatively less effective in leadership roles defined in especially masculine terms and more effective in roles defined in less masculine terms. The following findings were consistent with these expectations: (a) women were less effective than men to the extent that leadership positions were male dominated; (b) women were less effective relative to men as the proportion of male subordinates increased; (c) women were less effective relative to men the greater the proportion of men among the raters of leader effectiveness (see also Bowen, Swim, & Jacobs, 2000); (d) women were substantially less effective than men in military organizations, a traditionally masculine environment, but modestly more effective than men in educational, governmental, and social service organizations; (e) women fared particularly well in effectiveness, relative to men, in middle-level leadership positions, as opposed to line or supervisory positions. This finding is consistent with the characterization of middle management as favoring interpersonal skills that are in the more communal repertoire (e.g., Paolillo, 1981).

To further explore the role congruity principle that the masculinity of leader roles affects whether men or women are more effective, Eagly et al. (1995) ran six additional tests based on a group of respondents' ratings of each of the leadership roles in the meta-analytic sample of effectiveness studies. These ratings were correlated with the studies' effect sizes, which represented the comparison between male and female leaders' effectiveness. Although

Vecchio (2002) criticized Eagly et al. (1995) for using university students as raters, young adults have experience with managers in many educational and business settings. More important, Eagly et al. based their conclusions not merely on analyses using these ratings, but also on the relations between the coded study attributes and studies' outcomes (see prior paragraph).

These respondents rated the leadership roles on three types of measures: (a) how competent they thought they would be in each role and how interested they would be in performing each role, (b) how interested the average man and the average woman would be in occupying each role, and (c) how much each role required the ability to direct and control people and the ability to cooperate and get along with other people. Roles were considered congruent with the male gender role to the extent that the male respondents indicated more competence and interest in them, the roles were perceived as more interesting to the average man, and the roles were seen as requiring the ability to direct and control people. Roles were considered congruent with the female gender role to the extent that the female respondents indicated more competence and interest in them, the roles were perceived as more interesting to the average woman, and the roles were seen as requiring the ability to cooperate and get along with others. Using these several measures of leader roles' congruity with the male and female gender role, Eagly et al. (1995) found that the relative effectiveness of female leaders compared with their male counterparts decreased for the roles rated as more congruent with the male gender role and increased for the roles rated as more congruent with the female gender role.

In view of the consistent results produced by these 11 moderating variables (five based on coded study attributes and six on ratings of the leadership roles), clearly the mean sex difference in effectiveness in the meta-analysis depends on the balance of masculine or feminine leadership roles that happened to be represented in the sample of studies. Overall, there was no difference in the effectiveness of male and female leaders ($d = -0.02$, indicating nonsignificantly greater female effectiveness). Nonetheless, consistent with the prejudice we documented in the prior section of this article, women do fare worse than men in masculine settings. However, perhaps because of an advantage accorded by their tendency toward a transformational (and contingent reward) leadership style, they fare somewhat better than men in less masculine settings. In general, gender appears to be consequential in relation to leaders' effectiveness.

Finally, people's perceptions of female advantage must be framed by the well-known history of concrete walls and glass ceilings that have restricted women from positions that carry substantial authority. Therefore, research findings or everyday observations suggesting equality between women and men in their effectiveness as leaders likely appear notable because men might be expected to be generally more able than women to justify their greater success in obtaining higher-level leadership roles. In addition, because social perceivers often believe that women in extremely male-dominated positions have had to overcome very strong barriers, they may occasionally accord such women competence beyond what they accord to equivalent men (e.g., Heilman, Martell, & Simon, 1988). This effect presumably occurs because perceivers augment the causal importance of a force (i.e., task competence)

that they believe has prevailed over a countervailing force (i.e., discrimination; Kelley, 1972).

7. Conclusions

7.1. What has research established concerning female advantage and disadvantage?

Research has shown that women possess both advantages and disadvantages as leaders, with the disadvantages arising primarily in roles that are male-dominated or otherwise defined in masculine ways. Many of the difficulties and challenges that women face arise from the incongruity of the traditional female role and many leader roles (Eagly & Karau, 2002). This incongruity creates vulnerability whereby women encounter prejudicial reactions that restrict their access to leadership roles and negatively bias judgments of their performance as leaders.

Easing this dilemma of role incongruity requires that female leaders behave extremely competently while reassuring others that they conform to expectations concerning appropriate female behavior. The double-standard requirement to display extra competence makes it especially difficult for women to gain recognition for high ability and outstanding achievements (Biernat & Kobrynowicz, 1997; Foschi, 2000). Therefore, successful female leaders generally work hard and seek leadership styles that do not unnecessarily elicit resistance to their authority by challenging norms dictating that women be egalitarian and supportive of others.

Given these constraints, transformational leadership may be especially advantageous for women (Eagly et al., 2003; Yoder, 2001) because it encompasses some behaviors that are consistent with the female gender role's demand for supportive, considerate behaviors. The transformational repertoire, along with the contingent reward aspect of transactional leadership, may resolve some of the inconsistencies between the demands of leadership roles and the female gender role and therefore allow women to excel as leaders. Fortunately for women's progress as leaders, this positive, encouraging, inspiring style appears to have generalized advantages for contemporary organizations (Avolio, 1999; Bass, 1998; Lowe et al., 1996).

One feature of some of the findings that we have presented is that their magnitude is small. Critics such as Vecchio (2002) often suggest that such effects are therefore unimportant. Contrary to this view, methodologists have agreed that effects that can seem quite small in terms of most statistical metrics can have practical importance in natural settings (see Abelson, 1985; Bushman & Anderson, 2001). For example, the relation between taking aspirin and the prevention of heart attacks in a randomized double-blind experiment was only r=.034, yet this effect corresponded to 3.4% fewer people experiencing heart attacks, a drop meaningful enough to induce researchers to end the experiment prematurely because it was deemed unethical to deny the benefits of the treatment to the individuals in the control group (Rosnow & Rosenthal, 1989). Similarly, small biases against women in performance evaluations, when repeated over individuals and occasions, can produce large consequences in terms of the distribution of women and men in senior management (Martell, 1999; Martell, Lane, & Emrich, 1996).

7.2. Why are women rising?

The analyses that we have presented so far do not sufficiently explain the shift toward more women leaders. To address this, we suggest that several causes are at work, eroding female disadvantage and augmenting female advantage. Specifically, at the individual level, women's characteristics have changed. At the organizational level, leadership roles have changed and practices that constituted barriers to promoting women into positions of authority have eroded. At the cultural level, appointments of female leaders have come to symbolize progressive organizational change. We discuss each of these factors in turn and also acknowledge that the more distal causes of these changes are embedded in the weakening of the traditional family division of labor, the large increase in job roles that are managerial, and general political, bureaucratic, and economic pressures that favor gender equality (see Jackson, 1998).

7.2.1. Women have changed

As women shift more of their time from domestic to paid labor, they assume the personal characteristics required to succeed in these new roles (Eagly et al., 2000). In addition to women's increased human capital investments, women's psychological attributes and related behaviors have changed in concert with their entry into formerly male-dominated roles. Especially relevant to leadership are findings showing that the career aspirations of female university students (Astin, Parrott, Korn, & Sax, 1997), women's self-reports of assertiveness, dominance, and masculinity (Twenge, 1997, 2001), and the value that women place on job attributes such as freedom, challenge, leadership, prestige, and power (Konrad, Ritchie, Lieb, & Corrigall, 2000) have all become more similar to those of men. To the extent that risk-taking is relevant to leadership, it is notable the sex difference in the tendency to take risks has decreased (Byrnes, Miller, & Schafer, 1999). Given these changes, it is not surprising that social perceivers believe that women are becoming more masculine, particularly in agentic attributes, although not decreasing in feminine qualities (Diekman & Eagly, 2000).

7.2.2. Leadership roles have changed

Some research indicates that the incongruity between leader roles and the female gender role have diminished. For example, Schein's (2001) "think manager, think male" studies have revealed that, in the United States, but not in several other nations, women, but not men, have adopted a more androgynous view of managerial roles. Although a definitive description of secular trends in stereotypes of leaders and managers awaits an appropriate meta-analysis, these changes may be modest. In general, consistent with the idea of *cultural lag* (Brinkman & Brinkman, 1997), the ideological aspects of culture, including stereotypes, are slower to change than shifts in social structure such as the actual content of roles. Therefore, gradual change in stereotypes of leaders is not inconsistent with change in leadership roles to emphasize qualities that are more consistent with the female gender role than traditional characterizations of leadership. As leadership roles change, a larger proportion of them provide environments that welcome women's managerial competence.

7.2.3. Organizational practices have changed

Also important to women's rise is change in organizational practices, brought about in part by civil rights legislation, especially Title VII of the Civil Rights Act of 1967, which deemed sex discrimination in employment illegal in the United States. With the authority of such laws, discrimination has been challenged in the courts, and some organizations were then required to give women access to leadership roles. For example, several women in high executive positions in high-tech industry, including Carly Fiorina (CEO of Hewlett-Packard) and Patricia Russo (CEO of Lucent), spent critical periods of their careers at AT&T, which had been challenged for what the government deemed its "blatantly unlawful" discrimination against women (Black, 2003). After signing a US$38 million consent decree containing provisions to remedy its discrimination, AT&T allowed quite a few women to rise as line managers, and some of these women have achieved distinction as executives.

These legal challenges have continued. Currently in the courts is a discrimination suit against Wal-Mart, which, if granted class-action status, would cover at least 500,000 female employees (Zellner, 2003). This lawsuit may open up equitable managerial opportunities for women in the world's largest retail organization. Although obtaining legal remedies for sex discrimination is time-consuming, costly, and not always successful, they have proven to be a powerful force for increasing women's opportunities in managerial careers.

Organizational changes that are not necessarily driven by lawsuits have also increased the representation of women in leadership positions. To the extent that organizations have become less hierarchical and more driven by results than "old boy" networks, they reward talent over gender and present a more level playing field than do traditional organizations (Klein, 2000). In addition, the culture of many organizations now embraces the benefits of including women and minorities among their leaders. Such organizations may support women by encouraging mentoring and networking and establishing more family-friendly policies. Also critical is a clear message from executives at the top of the organization endorsing equitable opportunities. Special efforts of these types have increased women's access to leadership roles. For example, at Deloitte and Touche, a Big Five accounting firm that put forth such effort, the number of women in leadership positions tripled between 1992 and 1998 (Trimberger, 1998). Also, because the U.S. federal government has strongly endorsed equal employment opportunity, it is noteworthy that, in the Senior Executive Service of a cabinet-level U.S. federal department that was particularly noted for its commitment to equal opportunity, female applicants fared somewhat better than equally qualified male applicants in recent years (Powell & Butterfield, 2002).

7.2.4. The culture has changed

In view of changes in leader roles and organizational practices, female leaders have come to symbolize new types of leadership that connote greater effectiveness and synergy than leadership of the past (Adler, 1999). Appointments of women signal an organization's departure from past practices and help it to capture the symbols of innovation and progressive change. For example, the choice of Shirley Tilghman as President of Princeton University

expressed this Ivy League university's transition to a progressive institution that fosters the talents of women as well as men (Zernike, 2001). This new cultural symbolism may be fueled in part by exposure of the illegal and unethical business practices of Enron and other businesses led by men (e.g., Lavelle et al., 2002). Thus, after Smith Barney was exposed for fraudulent financial research, Sallie Krawcheck became CEO, symbolizing competence and honesty (Rynecki, 2003).

This symbolic shift in the meaning conveyed by appointments of women to high positions is one force underlying the surge of claims of female advantage in trade books and newspaper and magazine articles in the United States. However, concerning the specific issues of sex differences in leadership style and effectiveness, scientific evidence produces the narrower conclusions that we have set forth in this article. Nonetheless, consistent with this evidence, gender-fair organizations substantially enlarge the pool of talent from which they select their managers, and, for many managerial roles, the selection of women can increase organizations' chances of obtaining leaders who are especially effective under modern conditions.

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References

Abelson, R. P. (1985). A variance explanation paradox: When a little is a lot. *Psychological Bulletin*, *97*, 129–133.

Adler, N. J. (1999). Global leaders: Women of influence. In G. N. Powell (Ed.), *Handbook of gender & work* (pp. 239–261). Thousand Oaks, CA: Sage.

Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: An examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *The Leadership Quarterly*, *14*, 261–295.

Arvey, R. D., & Murphy, K. R. (1998). Performance evaluation in work settings. *Annual Review of Psychology*, *49*, 141–168.

Astin, A. W., Parrott, S. A., Korn, W. S., & Sax, L. J. (1997). *The American freshman: Thirty year trends*. Los Angeles: Higher Education Research Institute, University of California.

Atkins, P. W., & Wood, R. E. (2000). Self- versus others' ratings as predictors of assessment center ratings: Validation evidence for 360-degree feedback programs. *Personnel Psychology*, *55*, 871–904.

Avolio, B. J. (1999). *Full leadership development: Building the vital forces in organizations*. Thousand Oaks, CA: Sage.

Bartol, K. M., & Butterfield, D. A. (1976). Sex effects in evaluating leaders. *Journal of Applied Psychology*, *61*, 446–454.

Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.

Bass, B. M. (1990). *Bass and Stodgill's handbook of leadership: Theory, research, and managerial applications* (3rd ed.). New York: Free Press.

Bass, B. M. (1998). *Transformational leadership: Industry, military, and educational impact*. Mahwah, NJ: Erlbaum.

Biernat, M., Crandall, C. S., Young, L. V., Kobrynowicz, D., & Halpin, S. M. (1998). All that you can be: Stereotyping of self and others in a military context. *Journal of Personality and Social Psychology*, *75*, 301–317.

Biernat, M., & Kobrynowicz, D. (1997). Gender- and race-based standards of competence: Lower minimum standards but higher ability standards for devalued groups. *Journal of Personality and Social Psychology*, *72*, 544–557.

Biernat, M., & Kobrynowicz, D. (1999). A shifting standards perspective on the complexity of gender stereotypes and gender stereotyping. In W. B., Swann Jr., J. H. Langlois, & L. A. Gilbert (Eds.), *Sexism and stereotypes in modern society: The gender science of Janet Taylor Spence* (pp. 75–106). Washington DC: American Psychological Association.

Black, J. (2003, May 29). The women of tech. *Business Week Online*. Retrieved June 9, 2003 from http://www.businessweek.com/technology/tc_special/03women.htm.

Boldry, J., Wood, W., & Kashy, D. A. (2001). Gender stereotypes and the evaluation of men and women in military training. *Journal of Social Issues*, *57*, 689–705.

Book, E. W. (2000). *Why the best man for the job is a woman: The unique female qualities of leadership*. New York: Harper Business.

Bowen, C., Swim, J. K., & Jacobs, R. R. (2000). Evaluating gender biases on actual job performance of real people: A meta-analysis. *Journal of Applied Social Psychology*, *30*, 2194–2215.

Brinkman, R. L., & Brinkman, J. E. (1997). Cultural lag: Conception and theory. *International Journal of Social Economics*, *24*, 609–627.

Burgess, D., & Borgida, E. (1999). Who women are, who women should be: Descriptive and prescriptive gender stereotyping in sex discrimination. *Psychology, Public Policy, and Law*, *5*, 665–692.

Burns, J. M. (1978). *Leadership*. New York: Harper & Row.

Bushman, B. J., & Anderson, C. A. (2001). Media violence and the American public: Scientific facts versus media misinformation. *American Psychologist*, *56*, 477–489.

Butler, D., & Geis, F. L. (1990). Nonverbal affect responses to male and female leaders: Implications for leadership evaluations. *Journal of Personality and Social Psychology*, *58*, 48–59.

Butterfield, D. A., & Powell, G. N. (1981). Effect of group performance, leader sex, and rater sex on ratings of leader behavior. *Organizational Behavior and Human Decision Processes*, *28*, 129–141.

Byrnes, J. P., Miller, D. C., & Schafer, W. D. (1999). Gender differences in risk taking: A meta-analysis. *Psychological Bulletin*, *125*, 367–383.

Carli, L. L. (1990). Gender, language, and influence. *Journal of Personality and Social Psychology*, *59*, 941–951.

Carli, L. L. (1991). Gender, status, and influence. In E. J. Lawler, B. Markovsky, C. Ridgeway, & H. A. Walker (Eds.), *Advances in group processes: Theory and research,* (vol. 8, pp. 89–113). Greenwich, CT: JAI Press.

Carli, L. L. (1997, October). *Effect of gender composition on self-evaluation*. Paper presented at the meeting of the New England Social Psychological Association, Williams College, Williamstown, MA.

Carli, L. L. (1998, June). *Gender effects in social influence*. Paper presented at the meeting of the Society for the Psychological Study of Social Issues, Ann Arbor, MI.

Carli, L. L. (2001). Gender and social influence. *Journal of Social Issues*, *57*, 725–741.

Carli, L. L., LaFleur, S. J., & Loeber, C. C. (1995). Nonverbal behavior, gender, and influence. *Journal of Personality and Social Psychology*, *68*, 1030–1041.

Catalyst. (2002). *Release: Catalyst census marks gains in numbers of women corporate officers in America's largest 500 companies*. Retrieved February 20, 2003 from http://www.catalystwomen.org/press_room/press_releases/2002_cote.htm.

Cejka, M. A., & Eagly, A. H. (1999). Gender-stereotypic images of occupations correspond to the sex segregation of employment. *Personality and Social Psychology Bulletin*, *25*, 413–423.

Center for Leadership Studies. (2000). *Multifactor Leadership Questionnaire: Norms*. Retrieved June 22, 2000 from http://cls.binghamton.edu/mlq.htm. Website now located at http://www.gallupleadershipinstitute.org.

Chemers, M. M. (1997). *An integrative theory of leadership*. Mahwah, NJ: Erlbaum.

Collinson, D. L., Knights, D., & Collinson, M. (1990). *Managing to discriminate*. New York: Routledge.
Conlin, M. (2003, May 26). The new gender gap: From kindergarten to grad school, boys are becoming the second sex. Business Week. Retrieved October 13, 2003 from http://www.businessweek.com/@@roCLFYUQ7MXa*w8A/magazine/content/03_21/b3834001_MZ001.htm.
Copeland, C. L., Driskell, J. E., & Salas, E. (1995). Gender and reactions to dominance. *Journal of Social Behavior and Personality*, *10*, 53–68.
Davies, P. G., & Spencer, S. J. (2003). *Reinforcing the glass ceiling via stereotype threat: Gender-stereotypic television commercials persuade women to avoid leadership positions*. Submitted for publication.
Davison, H. K., & Burke, M. J. (2000). Sex discrimination in simulated employment contexts: A meta-analytic investigation. *Journal of Vocational Behavior*, *56*, 225–248.
Deaux, K., & Kite, M. (1993). Gender stereotypes. In F. L. Denmark, & M. A. Paludi (Eds.), *Psychology of women: A handbook of issues and theories* (pp. 107–139). Westport, CT: Greenwood Press.
de Zárate, R. O. (2003). *Women world leaders: 1945–2003*. Retrieved May 20, 2003 from http://www.terra.es/personal2/monolith/00women.htm.
Diekman, A. B., & Eagly, A. H. (2000). Stereotypes as dynamic constructs: Women and men of the past, present, and future. *Personality and Social Psychology Bulletin*, *26*, 1171–1188.
Dobbins, G. H., & Platz, S. J. (1986). Sex differences in leadership: How real are they? *Academy of Management Review*, *11*, 118–127.
Dunning, D., & Sherman, D. A. (1997). Stereotypes and tacit inference. *Journal of Personality and Social Psychology*, *73*, 459–471.
Eagly, A. H. (1987). *Sex differences in social behavior: A social-role interpretation*. Hillsdale, NJ: Erlbaum.
Eagly, A. H. (1995). The science and politics of comparing women and men. *American Psychologist*, *50*, 145–158.
Eagly, A. H., & Carli, L. L. (in press). Women and men as leaders. In J. Antonakis, R. J. Sternberg, & A. T. Cianciolo (Eds.), *The nature of leadership*. Thousand Oaks, CA: Sage.
Eagly, A. H., Johannesen-Schmidt, M. C., & van Engen, M. (2003). Transformational, transactional, and laissez-faire leadership styles: A meta-analysis comparing women and men. *Psychological Bulletin*, *95*, 569–591.
Eagly, A. H., & Johnson, B. T. (1990). Gender and leadership style: A meta-analysis. *Psychological Bulletin*, *108*, 233–256.
Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, *109*, 573–598.
Eagly, A. H., Karau, S. J., & Makhijani, M. G. (1995). Gender and the effectiveness of leaders: A meta-analysis. *Psychological Bulletin*, *117*, 125–145.
Eagly, A. H., Makhijani, M. G., & Klonsky, B. G. (1992). Gender and the evaluation of leaders: A meta-analysis. *Psychological Bulletin*, *111*, 3–22.
Eagly, A. H., Wood, W., & Diekman, A. B. (2000). Social role theory of sex differences and similarities: A current appraisal. In T. Eckes, & H. M. Trautner (Eds.), *The developmental social psychology of gender* (pp. 123–174). Mahwah, NJ: Erlbaum.
Ellyson, S. L., Dovidio, J. F., & Brown, C. E. (1992). The look of power: Gender differences in visual dominance behavior. In C. L. Ridgeway (Ed.), *Gender, interaction, and inequality* (pp. 50–80). New York: Springer-Verlag.
Fiedler, F. E. (1967). *A theory of leadership effectiveness*. New York: McGraw-Hill.
Fiske, S. T. (1998). Stereotyping, prejudice, and discrimination. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), (4th ed.)*The handbook of social psychology,* (vol. 2, pp. 357–411). Boston: McGraw-Hill.
Fiske, S. T., & Stevens, L. E. (1993). What's so special about sex? Gender stereotyping and discrimination. In S. Oskamp, & M. Costanzo (Eds.), *Gender issues in contemporary society: Claremont symposium on applied social psychology,* (vol. 6, pp. 173–196). Newbury Park, CA: Sage.
Fitzgerald, L. F., Drasgow, F., Hulin, C. L., Gelfand, M. J., & Magley, V. J. (1997). Antecedents and consequences of sexual harassment in organizations: A test of an integrated model. *Journal of Applied Psychology*, *82*, 578–589.

Foels, R., Driskell, J. E., Mullen, B., & Salas, E. (2000). The effects of democratic leadership on group member satisfaction: An integration. *Small Group Research*, *31*, 676–701.

Fondas, N. (1997). Feminization unveiled: Management qualities in contemporary writings. *Academy of Management Review*, *22*, 257–282.

Foschi, M. (1996). Double standards in the evaluation of men and women. *Social Psychology Quarterly*, *59*, 237–254.

Foschi, M. (2000). Double standards for competence: Theory and research. *Annual Review of Sociology*, *26*, 21–42.

Frasher, J. M., & Frasher, R. S. (1980). Sex bias in the evaluation of administrators. *Journal of Educational Administration*, *18*, 245–253.

Gastil, J. (1994). A meta-analytic review of the productivity and satisfaction of democratic and autocratic leadership. *Small Group Research*, *25*, 384–410.

Geddes, D. (1992). Sex roles in management: The impact of varying power of speech style on union members' perception of satisfaction and effectiveness. *Journal of Psychology*, *126*, 589–607.

Geis, F. L. (1993). Self-fulfilling prophecies: A social psychological view of gender. In A. E. Beall, & R. J. Sternberg (Eds.), *The psychology of gender* (pp. 9–54). New York: Guilford Press.

Geller, P. A., & Hobfoll, S. E. (1993). Gender differences in preference to offer social support to assertive men and women. *Sex Roles*, *28*, 419–432.

Goldberg, P. (1968). Are women prejudiced against women? *Transaction*, *5*, 316–322.

Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership: Realizing the power of emotional intelligence*. Boston, MA: Harvard Business School Press.

Haccoun, D. M., Haccoun, R. R., & Sallay, G. (1978). Sex differences in the appropriateness of supervisory styles: A nonmanagement view. *Journal of Applied Psychology*, *63*, 124–127.

Hammer, M., & Champy, J. (1994). *Reengineering the corporation: A manifesto for business revolution*. New York: Harper Business.

Hefferman, M. (2002, August). The female CEO ca. 2002. *Fast Company, 61*, pp. 5, 58, 60, 62, 64, 66.

Heilman, M. E. (2001). Description and prescription: How gender stereotypes prevent women's ascent up the organizational ladder. *Journal of Social Issues*, *57*, 657–674.

Heilman, M. E., Block, C. J., & Martell, R. F. (1995). Sex stereotypes: Do they influence perceptions of managers? *Journal of Social Behavior and Personality*, *10*, 237–252.

Heilman, M. E., Martell, R. F., & Simon, M. C. (1988). The vagaries of sex bias: Conditions regulating the undervaluation, equivaluation, and overvaluation of female job applicants. *Organizational Behavior and Human Decision Processes*, *41*, 98–110.

Helgesen, S. (1990). *The female advantage: Women's ways of leadership*. New York: Doubleday Currency.

Hill, M. (1992). *The panel study of income dynamics: A user's guide*. Newbury Park, CA: Sage.

ISI Web of Science. (2003). Cited references for Dobbins, G. H., & Platz, S. J. (1986). Retrieved June 5, 2003 from http://isi5.isiknowledge.com/portal.cgi/wos/.

Jackson, R. M. (1998). *Destined for equality: The inevitable rise of women's status*. Cambridge, MA: Harvard University Press.

Kanter, R. M. (1977). *Men and women of the corporation*. New York: Basic Books.

Kanter, R. M. (1997). *On the frontiers of management*. Boston: Harvard Business School Press.

Kelley, H. H. (1972). Attribution in social interaction. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 1–26). Morristown, NJ: General Learning Press.

Kenny, D. A. (1991). A general model of consensus and accuracy in interpersonal perception. *Psychological Review*, *98*, 155–163.

Klein, E. E. (2000). The impact of information technology on leadership opportunities for women: The leveling of the playing field. *Journal of Leadership Studies*, *7*, 88–98.

Konrad, A. M., Ritchie Jr., J. E., Lieb, P., & Corrigall, E. (2000). Sex differences and similarities in job attribute preferences: A meta-analysis. *Psychological Bulletin*, *126*, 593–641.

Kunda, Z., & Spencer, S. J. (2003). When do stereotypes come to mind and when do they color judgment? A goal-based theoretical framework for stereotype activation and application. *Psychological Bulletin*, *129*, 522–544.

Lavelle, M., et al. (2002, December 30). The actions of corporate honchos horrified the nation: So when's the day of reckoning? *U.S. News and World Report*, p. 33 ff.

Lee, D. M., & Alvares, K. M. (1977). Effects of sex on descriptions and evaluations of supervisory behavior in a simulated industrial setting. *Journal of Applied Psychology*, *62*, 405–410.

Levinson, R. M. (1982). Sex discrimination and employment practices: An experiment with unconventional job inquiries. In R. Kahn-Hut, A. N. Daniels, & R. Colvard (Eds.), *Women and work: Problems and perspectives* (pp. 54–65). New York: Oxford University Press.

Lipman-Blumen, J. (1996). *The connective edge: Leading in an interdependent world*. San Francisco: Jossey-Bass.

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.

Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. *The Leadership Quarterly*, *7*, 385–425.

Malloy, T. E., & Janowski, C. L. (1992). Perceptions and metaperceptions of leadership: Components, accuracy, and dispositional correlates. *Personality and Social Psychology Bulletin*, *18*, 700–708.

Martell, R. F. (1999, May). *Sensitive dependence in organizations: How just a little gender bias can cause the 'glass ceiling' in organizations*. Paper presented at the meeting of the Midwestern Psychological Association, Chicago.

Martell, R. F., Lane, D. M., & Emrich, C. G. (1996). Male–female differences: A computer simulation. *American Psychologist*, *51*, 157–158.

Martin, P. Y. (1992). Gender, interaction, and inequality in organizations. In C. L. Ridgeway (Ed.), *Gender, interaction, and inequality* (pp. 208–231). New York: Springer-Verlag.

Maume Jr., D. J. (1999). Occupational segregation and the career mobility of White men and women. *Social Forces*, *77*, 1433–1459.

McIntyre, S., Moberg, D. J., & Posner, B. Z. (1980). Preferential treatment in preselection decisions according to sex and race. *Academy of Management Journal*, *23*, 738–749.

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, *27*, 415–444.

Miner, J. B. (1993). *Role motivation theories.* New York: Routledge.

O'Neill, J. A., & Polachek, S. (1993). Why the gender gap in wages narrowed in the 1980s. *Journal of Labor Economics*, *11*, 205–228.

Paolillo, J. G. (1981). Manager's self assessments of managerial roles: The influence of hierarchical level. *Journal of Management*, *7*, 43–52.

Powell, G. N. (1990). One more time: Do male and female managers differ? *Academy of Management Executive*, *12*, 731–743.

Powell, G. N., & Butterfield, A. D. (2002). Exploring the influence of decision makers' race and gender on actual promotions to top management. *Personnel Psychology*, *55*, 397–428.

Powell, G. N., Butterfield, D. A., & Parent, J. D. (2002). Gender and managerial stereotypes: Have the times changed? *Journal of Management*, *28*, 177–193.

Propp, K. M. (1995). An experimental examination of biological sex as a status cue in decision-making groups and its influence on information use. *Small Groups Research*, *26*, 451–474.

Ragins, B. R. (1991). Gender effects in subordinate evaluations of leaders: Real or artifact? *Journal of Organizational Behavior*, *12*, 259–268.

Ridgeway, C. L. (1982). Status in groups: The importance of motivation. *American Sociological Review*, *47*, 76–88.

Rosen, B., & Jerdee, T. H. (1973). The influence of sex-role stereotypes on evaluations of male and female supervisor behavior. *Journal of Applied Psychology*, *57*, 44–48.

Rosener, J. B. (1990). Ways women lead. *Harvard Business Review*, *68*(6), 119–125.

Rosener, J. B. (1995). *America's competitive secret: Utilizing women as management strategy.* New York: Oxford University Press.

Rosnow, R. L., & Rosenthal, R. (1989). Statistical procedures and the justification of knowledge in psychological science. *American Psychologist*, *44*, 1276–1284.

Rudman, L. A. (1998). Self-promotion as a risk factor for women: The costs and benefits of counterstereotypical impression management. *Journal of Personality and Social Psychology*, *74*, 629–645.

Rynecki, D. (2003, June 9). Can Sallie save Citi, restore Sandy's reputation, and earn her $30 million paycheck? *Fortune*, 68–72.

Schein, V. E. (2001). A global look at psychological barriers to women's progress in management. *Journal of Social Issues*, *57*, 675–688.

Senge, P. M. (1994). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday Currency.

Shackelford, S., Wood, W., & Worchel, S. (1996). Behavioral styles and the influence of women in mixed-sex groups. *Social Psychology Quarterly*, *59*, 284–293.

Sharpe, R. (2000, November 20). As leaders, women rule: New studies find that female managers outshine their male counterparts in almost every measure. *Business Week*, 74. Retrieved December 15, 2000 from http://www.businessweek.com/common_frames/ca.htm?/2000/00_47/b3708145.htm.

Simmons, W. W. (2001, January 11). *When it comes to choosing a boss, Americans still prefer men*. Retrieved August 18, 2001 from the Gallup Poll News Service Website, http://www.gallup.com/poll/releases/pr010111.asp.

Smith, R. A. (2002). Race, gender, and authority in the workplace: Theory and research. *Annual Review of Sociology*, *28*, 509–542.

Steinberg, J. (2003, June 5). Executive Editor of *The Times* and top deputy step down. *New York Times*. Retrieved June 11, 2003 from http://www.nytimes.com/2003/06/05/national/05CND-RESI.html.

Sutton, A. J., Song, F., Gilbody, S. M., & Abrams, K. R. (2000). Modeling publication bias in meta-analysis: A review. *Statistical Methods in Medical Research*, *9*, 421–445.

Swim, J., Borgida, E., Maruyama, G., & Myers, D. G. (1989). Joan McKay versus John McKay: Do gender stereotypes bias evaluations? *Psychological Bulletin*, *105*, 409–429.

Trimberger, L. (1998). Deloitte and Touche: Retaining women means success. *HR Focus*, *75*, 7–8.

Twenge, J. M. (1997). Changes in masculine and feminine traits over time: A meta-analysis. *Sex Roles*, *36*, 305–325.

Twenge, J. M. (2001). Changes in women's assertiveness in response to status and roles: A cross-temporal meta-analysis, 1931–1993. *Journal of Personality and Social Psychology*, *81*, 133–145.

U.S. Bureau of Labor Statistics (1982). *Labor force statistics derived from the current population survey: A databook* (Vol. 1: Bulletin 2096). Washington, DC: U.S. Department of Labor.

U.S. Bureau of Labor Statistics. (2002). *Household data: Monthly household data* (Table A-19: Employed persons by occupation, sex, and age). Retrieved November 24, 2002 from ftp://ftp.bls.gov/pub/suppl/empsit.cpseea19.txt.

van Engen, M. L. (2001). *Gender and leadership: A contextual perspective*. Doctoral dissertation, Tilburg University, The Netherlands.

Vecchio, R. P. (2002). Leadership and gender advantage. *The Leadership Quarterly*, *13*, 643–671.

von Hippel, W., Sekaquaptewa, D., & Vargas, P. (1995). On the role of encoding processes in stereotype maintenance. In M. P. Zanna (Ed.), *Advances in experimental social psychology,* (vol. 27, pp. 177–254). San Diego, CA: Academic Press.

Welsh, M. C. (1979). Attitudinal measures and evaluation of males and females in leadership roles. *Psychological Reports*, *45*, 19–22.

White House Project. (2002). *Snapshot of current political leadership*. Retrieved October 27, 2002. from http://www.thewhitehouseproject.org/know_facts/snapshots_women.html.

Wood, W., & Karten, S. J. (1986). Sex differences in interaction style as a product of perceived sex differences in competence. *Journal of Personality and Social Psychology*, *50*, 341–347.

Yoder, J. D. (2001). Making leadership work more effectively for women. *Journal of Social Issues*, *57*, 815–828.

Zellner, W. (2003, March 3). No way to treat a lady? *Business Week Online*. Retrieved June 9, 2002 from http://www.businessweek.com:/print/magazine/content/03_09/b3822067_mz021.htm?mz.

Zernike, K. (2001, May 6). Princeton picks professor as President. *New York Times*, Section 1, p. 45. Retrieved on June 15, 2003 from http://web.lexis-nexis.com/universe/printdoc.