human relations
THE TAVISTOCK INSTITUTE

Does gender bias against female leaders persist? Quantitative and qualitative data from a large-scale survey

human relations
64(12) 1555–1578

DOI: 10.1177/0018726711424323
hum.sagepub.com
SAGE

Kim M Elsesser
University of California, Los Angeles, USA

Janet Lever
California State University, Los Angeles, USA

Abstract

The present study of 60,470 women and men examined evaluations of participants' current managers as well as their preferences for male and female managers, in general. A cross-sex bias emerged in the ratings of one's current boss, where men judged their female bosses more favorably and women judged male bosses more favorably. The quality of relationships between subordinates and managers were the same for competent male and female managers. A small majority (54%) of participants claimed to have no preference for the gender of their boss, but the remaining participants reported preferring male over female bosses by more than a 2:1 ratio. Qualitative analysis of the participants' justifications for this preference are presented, and results are discussed within the framework of role congruity theory.

Keywords

female bosses, female managers, gender, management, manager evaluations, stereotypes, role congruity theory

Corresponding author:
Kim M Elsesser, University of California, Los Angeles – Center for Study of Women, Box 957222, Los Angeles, CA 90095-7222, USA.
Email: elsesser@ucla.edu

Introduction

Although acceptance of female managers has increased in the last half-century, negative attitudes toward female leaders still persist (Carlson et al., 2006; Heilman, 2001; Heilman et al., 1995). For example, some research suggests that female leaders are evaluated less favorably than their male counterparts, are liked less than their male counterparts, and are penalized for adopting masculine leadership styles (e.g. Eagly et al., 1992; Heilman et al., 2004; Johnson et al., 2008).

Closer reading, however, calls into question how well much of this research can be generalized to real world scenarios. While a few studies are based on actual bosses in work settings, many works base conclusions on student samples surveyed on vignettes of hypothetical leaders, attitudes about ideal leaders, or ratings of task leaders in laboratory settings (e.g. Eagly et al., 1992; Garcia-Retamero and López-Zafra, 2006; Heilman et al., 2004; Johnson et al., 2008; Parks-Stamm et al, 2008).

As research clearly indicates that increased exposure to a particular person results in less stereotyping of that person (Fiske, 1998), individuals may be more likely to stereotype hypothetical or laboratory leaders than leaders they know well. For example, one study found that the less time respondents had to read a vignette about hypothetical male and female leaders, the more likely they were to give the male leaders higher performance ratings than the female leaders (Martell, 1991). Therefore, stronger gender differences may emerge from studies of these hypothetical or laboratory leaders than would be found in studies of real bosses in actual organizations.

In the present study, subordinates rated their own female and male bosses, allowing us to examine whether biases exist against actual female leaders and, if so, under what conditions and management styles these biases are likely to emerge. Besides offering an updated analysis of gender differences in leader ratings, we contrast participants' ratings of their own boss to their general preferences for male and female managers, so we can put prior research based on hypothetical or idealized bosses in perspective.

Role congruity theory

One explanation provided for the persistence of gender bias against female leaders is the discrepancy between the traditional female gender role and the leadership role (Eagly and Karau, 2002; Schein, 1975). In our society stereotypical female gender roles have included communal roles, which include nurturing, caring, and sensitivity. Male roles are more agentic, with men often being considered more aggressive, ambitious, assertive and direct. Individuals who act in ways that are incongruent with their sex role tend to be evaluated negatively (Eagly and Karau, 2002). This incongruity can create problems for female managers because characteristics necessary to be a successful leader are more frequently associated with the male gender role (Schein, 1975).

Stemming from this conflict between the feminine social role and the leadership role, role congruity theory predicts female leaders suffer two types of prejudice: descriptive and prescriptive (Eagly and Karau, 2002; Johnson et al., 2008). Descriptive bias occurs when female leaders are stereotyped as possessing less potential for leadership than men. Prescriptive bias occurs when actual female leaders are evaluated less favorably because

leadership is seen as more desirable for men than for women. Both sources of bias leave women in a double bind. If they conform to their traditional gender role, women are not seen as having potential for leadership; if they adopt the agentic characteristics associated with successful leaders, then they are evaluated negatively for behaving in an unfeminine manner.

Empirical evidence of bias against female leaders is mixed, and is often dependent on whether the study methodology involves actual bosses in a workplace. Studies using actual bosses typically reveal little or no bias, while those that use hypothetical managers or laboratory-created leaders reveal more bias against female leaders. For example, one meta-analysis of studies that used vignettes of hypothetical leaders and laboratory confederates found male leaders were evaluated more favorably than female leaders (Eagly et al., 1992). By contrast, another meta-analysis of studies of actual leaders in organizations found no gender differences in ratings of leader effectiveness (Eagly et al., 1995). More recently, one study of ratings of actual managers found no gender differences in subordinate ratings of satisfaction with their manager, ratings of manager persuasiveness or ratings of manager supportiveness (Byron, 2007), and another found female leaders received higher ratings than male leaders in emotional and social competence (Taylor and Hood, 2010).

Methodology also seems to impact results when examining evaluations of leaders who behave counter to their gender stereotypes or are in masculine or feminine environments. For example, one meta-analysis of studies using vignettes and lab experiments found male leaders were evaluated more favorably than female leaders, particularly when the female leaders adopted a masculine management style (Eagly et al., 1992). Another set of studies utilized both ratings of hypothetical and actual managers to examine effectiveness and likeability ratings of strong and sensitive male and female leaders. In ratings of hypothetical leaders, strong female leaders were rated least effective and were liked less than strong male leaders. Yet, in ratings of actual bosses, effectiveness was correlated with strength in both male and female leaders, and there were no gender differences in likeability. Finally, the meta-analysis of leaders in actual organizations found the military was the only setting where male leaders were rated more effective than female leaders (Eagly et al., 1995).

Several studies also suggest that competence and success can be detrimental to female leaders in terms of how much these leaders are liked interpersonally, but, again, these studies did not measure interpersonal relationships with actual leaders (Catalyst, 2007; Heilman et al., 1995; Heilman et al., 2004). Although one study of actual leaders revealed no gender differences in likeability ratings of male and female bosses (Johnson et al., 2008), no studies as yet have examined the effect of competence on relationships with actual male and female bosses.

Results regarding which gender exhibits the most bias against male and female leaders are also inconclusive. Some data from hypothetical or idealized bosses show that men exhibit more bias toward female managers (Ayman et al., 2009; Norris and Wylie, 1995; Tomkiewicz and Adeyemi-Bello, 1995), whereas other studies suggest women react more negatively than men to female leaders (Garcia-Retamero and López-Zafra, 2006; Parks-Stamm et al., 2008; Rudman, 1998), and yet another found no gender differences (Johnson et al., 2008). A recent study of actual bosses found no correlation between rater gender and evaluations of manager performance (Byron, 2007).

Goals of the present study

Although this is not an exhaustive review of the literature, the trend does suggest that gender bias seems to be minimized in studies using actual bosses in actual organizations. The goal of this paper is to examine respondents' ratings of their own current boss's competence and of their relationship with their boss, as well as their attitudes toward male and female managers more generally.

Consistent with the evidence that less bias emerges in evaluations of one's own boss, we predict that gender differences will not emerge in ratings of one's own boss. We will also examine specific conditions where hypothetical studies have found gender differences in leader evaluations, but studies of actual leaders have not (e.g. male dominated environments and counter-stereotypic management styles). Consistent with this research, we predict that no gender bias will emerge in ratings of one's own boss under these conditions. Furthermore, since previous research is divided on the question of whether men or women exhibit more bias against female leaders, the impact of participants' gender impacts on the ratings of male and female bosses will also be examined.

To clarify the following hypotheses, when predicting that ratings for male and female managers 'will not differ,' we mean that the difference in ratings between male and female managers is so small as to be of negligible or trivial size, not that the difference will be exactly zero (as suggested by Cohen [1988, 1990] for confirming this type of hypothesis).

Specifically, regarding competence ratings we predict the following:

Hypothesis 1a: When rating one's own boss, respondents' ratings of male and female managers will not differ with regard to competence.

Hypothesis 1b: Competence ratings for male and female managers will not differ regardless of whether they work in male- or female-dominated environments.

Hypothesis 1c: Competence ratings for male and female managers will not differ regardless of the manager's' management style (sensitive or direct).

Regarding relationship ratings we predict the following:

Hypothesis 2a: When rating one's own boss, respondents will not differ on reports of the quality of their relationships with male and female bosses.

Hypothesis 2b: Relationship ratings will not differ for male and female managers regardless of whether they work in male- or female-dominated environments.

Hypothesis 2c: Relationships ratings will not differ for male and female managers regardless of the manager's management style (sensitive or direct).

Hypothesis 2d: Relationships ratings will not differ for extremely competent male managers and extremely competent female managers.

In stating general preferences for male or female leaders, respondents needed to think more abstractly. Therefore, we predict that gender-based expectations for leadership will be revealed in these preferences, and we will find more bias against women. Furthermore, since there is experimental evidence showing that exposure to female leaders reduces bias against them (Dasgupta and Asgari, 2004; Diekman and Eagly, 2000), we predict those with current or previous exposure to female bosses will be less likely to prefer male bosses:

Hypothesis 3a: When stating their preference for managers in general, respondents will show a preference for male over female managers.

Hypothesis 3b: The general preference for male management will be strongest for those in male-dominated environments, by those with no previous experience with a female boss, and by those who currently report to a male boss.

Furthermore, we will also examine how male and female respondents differ in their preferences. Finally, in an effort to better understand and interpret the quantitative findings, we will explore qualitative responses from the respondents who stated a general preference for either male or female bosses.

Method

Data for this project came from a US-based national survey. Both authors aided in construction of this 37-item survey that was posted on the msnbc.com website for 10 days in 2007. Msnbc.com is one of the most popular news sites in the USA; its 49 million unique visitors each month well reflect the diversity of the age, income, and political spectrum of the country (MSNBC Media Kit, 2010; K Stedman from msnbc.com, personal communication regarding Nielsen Plan Profiling Report, 30 December 2010). Participants were visitors to the website who volunteered to complete the survey by clicking on the prompts to 'Rate Your Boss' that appeared periodically on the website's homepage and financial section. A computer program prevented multiple survey submissions from a single computer station. Although a few descriptive findings were reported in *ELLE* magazine (Tan, 2007) and in msnbc.com's financial section (Tahmincioglu, 2007), the present study represents the first detailed analysis of the data collected.

Participants

Although 61,647 participants took part in the survey, 1177 were not currently employed or did not have a boss to rate; therefore, 60,470 were used in the analysis. Of these, 30,776 (51%) were men and 29,694 (49%) were women. Respondents' ages ranged from 18 to 75, with a mean age of 40.9 (SD = 11.3) for women, and 42.3 (SD = 11.3) for men. A majority of respondents were married (55% of women; 67% of men). Educational backgrounds varied with 26 percent of women and 29 percent of men completing college, and 21 percent of women and 27 percent of men completing at least some graduate school.

Table 1 Industry of participants

	Men		Women	
Industry	*N*	%	*N*	%
Technology/Computer & Information Sciences	6056	20.40%	2526	8.20%
Finance/Real estate/Insurance	3050	10.30%	4713	15.30%
Government/Public administration	2941	9.90%	3130	10.20%
Health care	1503	5.10%	3649	11.90%
Manufacturing	3045	10.30%	1216	4.00%
Education/Library	1129	3.80%	2467	8.00%
Retail trade	1585	5.30%	1184	3.80%
Utilities/Transportation/ Warehousing	1670	5.60%	665	2.20%
Law	655	2.20%	1647	5.40%
Advertising/Marketing/PR	762	2.60%	1284	4.20%
Architecture/Engineering	1366	4.60%	514	1.70%
Media/Entertainment/Recreation	625	2.10%	615	2.00%
Hotel and food services	549	1.80%	502	1.60%
Scientific services/Physical & Social Sciences	507	1.70%	481	1.60%
Wholesale trade	548	1.80%	351	1.10%
Personal care/Social services	186	0.60%	507	1.60%
Arts/Design/Fashion	131	0.40%	239	0.80%
Other	3227	10.90%	5034	16.40%
Did not answer	159	0.50%	52	0.20%

Although the majority of respondents had a male boss (68%), most participants had experience with both male and female management (women = 89%; men = 78%). However, 8 percent of women and 21 percent of men had never reported to a female boss, and 3 percent of women and 1 percent of men had never reported to a male boss. A large majority of our respondents (94%) were employed full time, and the remainder were employed part time. Salaries ranged from less than $20,000 per year to over $500,000, and the modal ranges of income were $35,000–$50,000 for women and $50,000–$75,000 for men. The participants selected from 17 occupational/industry categories, or 'other,' to describe their job sector (summarized in Table 1). Managers were well-represented in the survey, with 36 percent of female participants and 51 percent of male participants reporting that they manage or supervise other people at work.

Measures

Participants completed the ratings of their current boss at the start of the survey and were not questioned about the gender of their manager or their preferences for male or female managers until significantly later so as not to prime respondents to think of gender stereotypes. Individuals who reported to more than one boss were instructed to respond to

the questionnaire thinking about the boss with whom they spend the most time. (In this article, the terms 'boss,' 'supervisor,' and 'manager' are used interchangeably referring to whomever respondents directly report).

Relationship quality Relationship quality with the current boss was assessed with the item, 'How would you rate your relationship with your current boss?' Responses were on a scale from 1 (Poor) to 7 (Excellent).

Competence A competence scale was created using items measuring competence, professionalism, motivation skills and communication skills. Competence, professionalism, and good motivator were nested among a list of positive qualities on a checklist. These qualities appeared in randomized order so that each one appeared equally at the top, middle, and bottom of the list. Participants were asked, 'Which of the following positive qualities do you think your current boss has? (Check all that apply.)'. These three items were chosen from the checklist because they pertained to the competence of the manager, whereas other items on the checklist addressed management style or personality characteristics. Communication skills of the current boss were assessed with the item, 'How would you rate your current boss's communication skills?' Participants were asked to rate on a scale from 1 (Ineffective) to 7 (Very effective). Principal components analysis forcing a one component solution was applied to assess these items as a single construct. All component loadings were greater than 0.70 and the component accounted for 61 percent of the variance. Cronbach's alpha for the scale was 0.76.

Competitiveness Gender with whom participants compete at work was assessed using the following item, 'At work, who do you find yourself competing with?,' with response choices of 'Mainly Men,' 'Mainly Women,' 'Both Men and Women' or 'Nobody'.

Sensitive and direct Sensitivity was measured using nurturing, understanding, and encouraging, which were the only items from our randomized checklist that related to sensitivity. Principal components analysis forcing a one component solution was applied to these items. All component loadings were greater than 0.66 and the component accounted for 62 percent of the variance. Cronbach's alpha for the scale was 0.68. Direct was one item on a randomly ordered checklist of communication styles.

Preference for male or female boss In order to assess if participants had a preference for male or female managers, they were asked, 'Who would you prefer to work for . . .' and provided the following three choices: female boss, male boss, no preference. For those who chose female boss or male boss, a follow-up question asked, 'Briefly tell us why you prefer female/male over male/female bosses. If you do not want to answer, please hit the 'continue' button.' Nearly half (46%) of those who stated a gender preference offered explanations in narrative form in the space provided.

Analyses

Both quantitative and qualitative analyses are utilized for the current study. For the quantitative analyses, statistical test included t-tests and chi-square and, for the more complex

Table 2 Correlations between study variables

	M(SD)	1	2	3	4	5	6	7	8	9
1. Participant gender[1]	1.49(0.50)	–								
2. Boss gender[1]	1.68(0.47)	0.22*	–							
3. Gender preference[2]	1.72(0.45)	–0.06*	0.20*	–						
4. Relationship w/boss	4.49(1.88)	–0.06*	0.03*	0.05*	–					
5. Boss competence	1.56(1.28)	–0.05*	0.00	0.03*	0.68*	–				
6. Direct	0.34(0.47)	–0.02*	–0.02*	0.02	0.37*	0.46*	–			
7. Sensitive	0.76(0.99)	–0.09*	–0.07*	–0.03*	0.61*	0.67*	0.31*	–		
8. Male-dom. ind. [3]	0.03(0.17)	0.08*	0.09*	0.04*	0.00	0.02*	0.02*	0.00	–	
9. Female-dom. ind.[4]	0.01(0.11)	–0.09*	–0.07*	–0.03*	0.01	0.00	0.00	0.02*	–0.02*	–

Note: * $p < .001$. $N = 60{,}470$.

[1]Gender items are coded as female = 1, male = 2.

[2]Item is coded as 1 if participant prefers female leaders, and 2 if participant prefers male leaders. Those with no preference are not included in this item.

[3]Male-dominated industry variable is 1 if participants works in architecture/engineering, and 0 for all other professions.

[4]Female-dominated industry variable is 1 if participant works in personal care/social services and 0 for all other professions.

analyses inferring interaction effects, factorial ANOVA was used. Simple effects testing of hypothesized mean differences was applied only when interaction terms were statistically significant at the $p < .01$ level. Means, standard deviations, and correlations of all relevant study variables are presented in Table 2.

Effect sizes (Cohen's *d*) are provided for all statistical analyses. According to Cohen (1969) a *d* value of 0.20 is small, $d = 0.50$ is moderate, and $d = 0.80$ is large. In her research on gender differences, Hyde (1994) suggested a Cohen's *d* value less than 0.10 (less than half the magnitude of a small effect size), is small enough to state that no meaningful gender difference exists. In our gender comparisons, to make an even more stringent test, we divide this value in half again, and will assume that *d* values less than 0.05 are of such small size that only gender differences of trivial size are present.

In the qualitative analyses we took a random stratified subsample of 1000 narratives from the 12,440 responses received. This included 250 responses from women who preferred female bosses, 250 responses from women who preferred male bosses, 250 responses from men who preferred female bosses, and 250 responses from men who preferred male bosses. Using a grounded theory approach (Glaser and Strauss, 1967), the two authors independently identified common themes that emerged from the narratives and provided quotes supportive of the themes. Data saturation (the point at which no new themes emerge) occurred well before all responses were analyzed indicating that the size of the subsample was sufficient (Glaser and Strauss, 1967). The themes generated by the different coders were then compared for consistency, and discrepancies were discussed to determine whether the themes required modification.

Results

The first set of hypotheses addressed competence evaluations of participants' current bosses. Although Hypothesis 1a predicted no meaningful differences in competence ratings of male

Table 3 Mean comparisons of ratings of actual male or female managers by gender of participant

	Ratings of female mgrs		Ratings of male mgrs		*t*	Cohen's *d*
	N	Mean (SD)	*N*	Mean (SD)		
Competence:						
female participants	13012	1.55 (1.32)	17764	1.68 (1.31)	t (30774) = –5.69, $p < .001$	0.08
male participants	6531	1.27 (1.53)	23163	1.24 (1.48)	t (29692) = 2.90, $p = .004$	0.06
Relationship quality:						
female participants	13012	4.44 (1.88)	17764	4.73 (1.86)	t (30774) = 13.75, $p < .001$	0.15
male participants	6531	4.35 (1.93)	23163	4.37 (1.86)	t (29692) = –1.06, $p = 0.29$	0.01

and female bosses, results of mean competence comparisons in Table 3 indicate a cross-sex preference. Although these were very small effects, male participants gave higher competence ratings to female bosses, and female participants favored male managers in their competence ratings.

Hypothesis 1b predicted that competence ratings would be the same for male and female leaders regardless of whether their workplace was male- or female-dominated. To consider the effect of male- and female-dominated environments on manager ratings, the participants' estimations of the gender of upper-level management in their organization were used. The most common industry to be estimated as having 'no men or just a few men' in upper-level management was personal care/social services (Male $N = 186$; Female $N = 507$), and the industry with 'no women or just a few women' in upper-level management was architecture/engineering (Male $N = 1336$; Female $N = 514$). This is consistent with United States census data that indicates these two professions are the most male- and female-dominated of the industries in our survey (U.S. Census Bureau, 2003).

Since some previous research suggests that evaluations differ in only the most gender-imbalanced environments (e.g. Eagly et al., 1995), only participants in the architecture/engineering and personal care/social service occupations were considered for this analysis. A 2 (participant gender) x 2 (boss gender) x 2 (male- or female-dominated workplace) factorial ANOVA was used to examine competence (results in Table 4). There were no significant interactions involving the gender composition of the workplace indicating, as predicted, no gender differences in ratings of competence in either the female or male-dominated environments. Owing to our large sample size, our null finding is not the result of inadequate power, but instead indicates that no gender differences of nontrivial size exist in the competence evaluations of male and female leaders in these environments.

The next Hypothesis (1c) predicted that male and female managers would have the same ratings of competence regardless of their management style. In order to isolate the effect of sensitive and direct styles, participants who described their bosses as having both a direct and a sensitive style, or neither of these styles, were eliminated from this analysis, leaving those who were either only sensitive (1231 women, 733 men) or only direct (9017 women, 8843 men). A 2 (sensitive or direct management style) x 2 (gender of participant) x 2 (gender of boss) factorial ANOVA was used to examine both competence and relationship with the boss. If sensitive men or direct women were penalized with regard to

Table 4 ANOVA results of the association of male- and female-dominated occupations with gender differences in ratings of manager competence and relationship with manager

	df	Competence (df = 2572)			Relationship (df = 2572)		
		F	*p*	*d*	*F*	*p*	*d*
Participant gender	1	0.87	0.35	0.04	0.61	0.43	0.03
Boss gender	1	2.97	0.08	0.07	0.49	0.49	0.02
Male vs female dominated work	1	0.00	0.95	<.01	0.11	0.74	0.01
Part. gender x boss gender	1	2.69	0.10	0.06	4.24	0.04	0.08
Part. gender x M/F dominated work	1	0.01	0.92	<.01	0.07	0.78	0.01
Boss gender x M/F dominated workplace	1	0.10	0.75	0.01	0.70	0.40	0.03
Part. gender x boss gender x M/F dominated	1	0.06	0.80	<.01	0.20	0.66	0.02

All *F* values are at 1, 2572 df.

Table 5 ANOVA results of the effects of manager style (sensitive or direct) on gender differences in ratings of manager competence and relationship with manager

	df	Competence (df = 19823)			Relationship (df = 19823)		
		F	*p*	*d*	*F*	*p*	*d*
Participant gender	1	4.62	0.03	0.03	24.07	<.001	0.06
Boss gender	1	22.57	<.001	0.06	25.57	<.001	0.06
Style (sensitive or direct)	1	975.07	<.001	0.44	949.61	<.001	0.43
Participant gender x Boss gender	1	2.25	0.13	0.06	5.46	<.001	0.03
Participant gender x Style	1	6.15	0.01	0.02	0.89	0.35	0.01
Boss gender x Style	1	0.04	0.83	d<.01	8.66	0.003	0.04
Participant gender x Boss gender x Style	1	5.21	0.02	0.03	0.88	0.35	0.01

All *f* values are at 1, 19823 df.

competence or relationship quality, we would expect a significant interaction between gender of boss and management style. Results (see Table 5) revealed significant main effects with regard to management style. Bosses rated as sensitive ($M = 3.05$, SD = 1.05) were more likely to be rated competent than bosses who were direct ($M = 2.18$, SD = 1.14). As predicted by Hypothesis 1c, there was no significant interaction between boss gender and management style indicating that adopting a counter-stereotypic style did not impact competence ratings for the boss.

Relationship with manager

The next set of hypotheses addressed the participants' reported relationship with their boss, and Hypothesis 2a predicted that relationships with male and female bosses would be equally positive. This hypothesis was partially supported. Although results (in Table 3)

indicate that men reported equally positive relationships with male and female bosses, women reported better relationships with male managers than female managers. However, in support of Hypothesis 2b, as indicated by results of a 2 (participant gender) x 2 (boss gender) x 2 (male- or female-dominated environment) factorial ANOVA (in Table 4), there were no significant interactions between boss' gender and gender makeup of the workplace. That is, competence ratings were not impacted by whether the manager was in a workplace minority or majority with regard to gender.

Hypothesis 2c predicted relationship ratings would be equally positive for male and female managers regardless of the manager's management style (sensitive or direct). Results (in Table 5) of a 2 (gender of participant) x 2 (gender of boss) x 2 (sensitive or direct style) factorial ANOVA revealed significant main effects with regard to management style. Participants with sensitive bosses (M = 6.35, SD = 0.83) reported having better relationships than those with direct bosses (M = 5.26, SD = 1.49). Simple effects testing of the interaction between style and boss gender indicated that although sensitive male and female bosses had basically the same level of relationship with their subordinates (Male boss M = 6.38, SD = 0.81; Female boss M = 6.31, SD = 0.85, $F(1,19823)$ = 1.26, p = .26, d = 0.01), direct male bosses (M = 5.34, SD = 1.45) had better relationships with their subordinates than direct female bosses (M = 5.09, SD = 1.55, $F(1,19823)$ =145.67, $p < .001$, d = -0.17). Therefore, Hypothesis 2c was not supported. Furthermore, the three-way interaction was not significant indicating that participant gender did not play a role in the interaction between boss gender and management style.

Hypothesis 2d addressed the role of manager competence in the participants' relationship with the manager. We predicted that competent female bosses would have the same level of relationship with their subordinates as competent male bosses. Since previous research showed that only female managers who are depicted as *extremely* competent were disliked (Heilman et al., 2004), we dichotomized our competence variable into those who have the highest possible rating for competence (1999 women, 1212 men) and the remaining participants. A 2 (extremely competent or not) x 2 (gender of participant) x 2 (gender of boss) factorial ANOVA was used to examine the relationship with the boss.

The results (in Table 6) revealed significant main effects with regard to manager competence. Those with extremely competent bosses (M = 6.74, SD = 0.56) reported having

Table 6 ANOVA results of effects of manager competence and participant gender on gender differences in relationship with manager

	df	*F*	*p*	*d*
Participant gender	1	9.48	0.002	0.02
Boss gender	1	7.81	0.005	0.02
Competence	1	4445.93	< .001	0.54
Participant gender x Boss gender	1	6.91	0.009	0.02
Participant gender x Competence	1	3.96	0.05	0.01
Boss gender x Competence	1	8.17	0.004	0.02
Participant gender x Boss gender x Competence	1	1.12	0.29	< .01

All *F* values are at 1, 60469 df.

Table 7 ANOVA results for the effect of participant gender and competition on ratings of manager competence and relationship with the manager

	df	Competence			Relationship		
		F	*p*	*d*	*F*	*p*	*d*
Participant gender	1	29.29	<0.001	0.07	39.7	<0.001	0.08
Competes with boss gender (1) or not (0)	1	58.73	<0.001	0.10	89.01	<0.001	0.12
Participant gender x Competes with boss gender	1	11.63	0.001	0.04	31.27	<0.001	0.07

Note: Participant gender is coded 1 = female; 2 = male.
All *F* values are at 1, 23525 df.

better relationships with their boss than those with bosses who were viewed as less competent ($M = 4.36$, SD = 1.84). Simple effects tests of the interaction between competence and gender of the boss revealed that both competent male bosses ($M = 6.74$, SD = 0.56) and competent female bosses ($M = 6.74$, SD = 0.56, $F(1, 60469) = 0.0$, $p = 0.97$, $d < 0.01$) had the same level of relationship with their subordinates, supporting hypothesis 2d. However, less competent men ($M = 4.26$, SD = 1.82) had better relationships with their subordinates than less competent women ($M = 4.07$, SD = 1.82, $F(1, 60469) = 147.19$, $p < .001$, $d = 0.09$). The three-way interaction was not significant indicating that participant gender had no impact on the interaction between manager gender and competence.

Cross-sex favoritism and competition

To conclude the analysis of the ratings of the participants' current bosses, we revisited our finding of cross-sex favoritism in competence evaluations. Specifically we wanted to explore if competition with same-sex others may lead to cross-sex favoritism. That is, do employees devalue the competency of those of their own gender to enhance their own comparative worth? Although, when asked who they compete with at work, the most common response for men (33%) and women (41%) was that they do not compete with anybody at work, both men (32%) and women (27%) were more likely to say that they compete with same-sex coworkers than cross-sex coworkers (men = 7%, $\chi^2[1, N = 11608] = 4563.17$, $p < .001$, $d = 1.6$; women = 12%, $\chi^2[1, N = 11918] = 1850.34$, $p < .001$, $d = 0.85$).

Furthermore, this competition played a role in participants' boss ratings. A 2 (gender of participant) x 2 (compete with same gender of boss vs. compete with opposite sex of boss) factorial ANOVA was completed using participants who reported competing with a particular sex at work. Results (in Table 7) reveal main effects for competitor gender. Participants who reported competing with the gender that matched the gender of their boss gave lower competence evaluations ($M = 1.42$, SD = 1.21) and relationship ratings to their boss ($M = 4.26$, SD = 1.81), compared with those who competed with the opposite sex of their boss ($M_{competence} = 1.61$, SD = 1.26 and $M_{relationship} = 4.61$, SD = 1.79). Results of simple effects tests of the interaction (in Table 8) reveal that this effect holds for both men and women in both ratings of competence and relationship with their manager. In summary, those participants who competed with male coworkers and had male bosses as well as those participants who competed with female coworkers and had female bosses gave lower competence and relationship ratings to their managers.

Table 8 Results of simple effects test of mean comparisons of competition by participant gender

	Mean	SD	*F*	*p*	*d*
Competence ratings					
Female participants					
Competes with boss gender	1.44	1.24			
Does not compete with boss gender	1.66	1.28	69.66	<.001	0.11
Male Participants					
Competes with boss gender	1.40	1.18			
Does not compete with boss gender	1.48	1.20	48.32	<.001	0.09
Relationship ratings					
Female participants					
Competes with boss gender	4.27	1.81			
Does not compete with boss gender	4.71	1.76	133.28	<.001	0.15
Male Participants					
Competes with boss gender	4.24	1.81			
Does not compete with boss gender	4.36	1.82	52.62	<.001	0.09

All *F* values are at 1, 23525 df.

General preference for male or female managers

Although only small effects emerged when participants were asked about their actual managers, much larger gender effects were found when participants were questioned about which gender they would prefer to work for, in general. Hypothesis 3a predicted a general preference for male bosses over female bosses, and although the greatest percentage (54%) indicated they had no preference, 33 percent stated they would prefer male bosses, and 13 percent preferred female bosses. The difference between those preferring a male and female boss is significant $\chi^2(1, N = 27{,}179)=5470.0$, $p < .001$, $d = 1.0$, and the Cohen's d level indicates that this preference for male bosses is a large effect.

Further analysis was completed including only the 27,179 participants (14,812 women and 12,367 men) who had a preference for male (72%) or female (28%) managers (see Table 9). We hypothesized (Hypothesis 3b) that male bosses would be preferred most by those in male-dominated environments, by those with no previous experience with a female boss, and by those who currently report to a male boss. Consistent with this hypothesis, those in the most male-dominated profession of architecture/engineering preferred male bosses more than those in the female-dominated profession of personal care and social services.

Also, as predicted, previous experience with male and female managers was associated with the participants' preferences. Those participants who currently reported to a male manager were more likely to prefer male management than those who currently reported to a woman. In addition, those respondents who have never worked for women were more likely to prefer male bosses than those who never worked for a man. Furthermore, a larger percentage of women than men preferred male management, and even a majority of women who were currently managers themselves were more likely to prefer male bosses (75%) over female bosses (25%), $\chi^2(1, N = 5095)=1227.6$, $p < .001$, $d = 1.1$.

Table 9 Comparisons of preferences for male or female leader, in general

	Female participants % Who Prefer					Male participants % Who Prefer				
	N	Male Boss	χ^2	*p*	*d*	*N*	Male Boss	χ^2	*p*	*d*
Reports to M mgr	8700	84%				9667	74%			
vs										
Reports to F mgr	6112	62%	908.92	<.001	0.51	2700	55%	371.56	<.001	0.35
Never had F mgr	1594	85%				2964	86%			
vs										
Never had M mgr	586	56%	210.23	<.001	0.65	236	49%	210.7	<.001	0.53
M-dom workplace	246	85%				555	82%			
F-dom workplace	218	58%	41.02	<.001	0.62	79	61%	18.75	<.001	0.35

Note: Table only includes participants who indicated a preference for the gender of their boss.
M = male; F = female

Table 10 Participants' justifications for management gender preference

Justifications for preference for male managers	Percentage of participants		Justifications for preferences for female managers	Percentage of participants	
	Female	Male		Female	Male
Dislike female managers	74%	50%	Compassionate/ Understanding	43%	38%
Competence	23%	28%	Competence	30%	27%
Better chemistry with men	7%	19%	Dislike male managers	21%	13%
Previous experiences	4%	6%	Better chemistry with women	17%	16%
Compassionate/Understanding	4%	0%	Previous experiences	8%	5%
Easier to manipulate	1%	0%	Sexier, prettier	0%	4%
			Show favoritism to females	3%	0%
			Easier to manipulate	0%	3%

Note: Table includes all justifications representing at least 1% of female or male participants.

Justifications for manager preference

An optional open-ended follow-up question asked participants who had selected a preference for the gender of their boss to state the rationale for their choice. Participants were required to keep responses short, and were only permitted space to enter 100 characters. A list of themes, along with the percentage of respondents mentioning this theme, are provided for illustrative purposes in Table 10. Only themes that were mentioned by more than 1 percent of the examined narratives were included, and the sum of percentages may exceed 100 percent owing to the fact that several participants listed two or more

explanations for their gender preference. Narratives justifying a preference for female managers are discussed first, followed by those for male managers.

Justifications of preference for female bosses

The most prevalent rationale for preferring female bosses was their compassion and understanding. Participants indicated female managers were more 'supportive,' 'nurturing,' 'personable,' 'understanding,' 'empathetic' and 'better listeners' than men. One female participant described how 'women tend to have a more understanding and nurturing approach,' while a male participant explained, 'from my experiences female bosses listen and empathize more.' A few respondents appreciated that female bosses were more understanding with regard to work–family conflicts such as staying home with sick children. One woman explains how female bosses 'understand my family needs sometime take precedence over work.'

Female bosses were also preferred to men because of their competence. These respondents thought females were better managers, better organizers, and had better communication skills than male managers. Female bosses were viewed as more 'intelligent,' better 'decision-makers,' and 'more hard-working' than their male counterparts, and they were also credited with creating more collaborative work teams and environments. One female respondent noted, 'In my experience female bosses had a greater understanding of both the technical and social issues,' and a male participant wrote, 'Female bosses tend to be more organized and can see a broader picture than males.'

A better chemistry with female managers was also mentioned in the narratives. Respondents reported relating to women better, communicating with women more easily, understanding women, and feeling understood by women. 'I feel unity with a female boss–almost as if we're in the trenches together,' claimed one female respondent, and a male participant wrote, 'I am more comfortable talking to women than men.'

In addition, consistent with our quantitative analysis of manager gender preferences, some open-ended responses indicated positive previous experiences with female bosses led to a preference for female bosses. A smaller percentage of female respondents felt that female leaders showed more favoritism to women than did male leaders. For example, a female respondent reported 'They (female bosses) tend to treat female employees better than male bosses.'

Some men favored female managers because they are 'sexier,' 'prettier,' and more 'attractive' than male bosses. Female managers were described as 'easier to look at than a male boss,' and several men also mentioned the potential for a sexual relationship with a female boss as an additional benefit. Other men mentioned liking females because they are more gullible and easier to manipulate. One man claimed female managers are 'more susceptible to my b.s.'

While the majority of responses centered on positive attributes of women, some preferred female management because they disliked male bosses. The most prevalent reason for disliking male bosses was their self-centeredness and competitiveness, and male bosses were often described as having too much 'male ego' and being overly 'power-hungry.' One woman described, 'It's all about him to the exclusion of everyone else.' One man explained, female managers 'don't feel like they need to be the alpha dog like men.'

Consistent with our quantitative findings regarding competition, several men reported preferring female management because of a competitiveness between men. One wrote, 'I have generally noticed that as a male I seem to be more competitive with male supervisors,' while another describes that with female bosses there is 'less competition and more cooperation.' While several other men described male competition as a reason for preferring female management, only one woman preferred female management because there was less competition.

For some female respondents, a dislike of male management stemmed from fear of sexual harassment or sexual tension. One participant reports, 'Every male boss I have ever worked for hit on me, talked about sex, or hit on other women.' For other participants, their aversion to male management is attributed to the incompetence of male managers, their membership in the 'old boy network,' their favoritism toward male or female employees, and their lack of respect toward female employees.

Justification of preference for male bosses

Examination of the justifications of those who preferred male bosses revealed that the most common justifications for preferring male bosses centered upon *negative* attributes of female leaders. Many participants indicated their preference for male leaders stemmed from a dislike of the personality of female managers. In particular, they claimed female managers tended to be too 'emotional,' 'moody,' 'catty,' 'gossipy,' 'bitchy,' 'backstabbing,' 'dramatic,' 'jealous,' and 'petty.' Although these were the most popular adjectives used to describe disdain for female leaders, it is interesting to note that none of these adjectives appeared in the narratives disparaging the male leaders.

Once again, consistent with quantitative results from the present study, several women reported preferring male management because they feel too much competition with female bosses. One woman wrote that she preferred male bosses because 'I work in a male-dominated field, so the females in the field are competitive with each other.' Another woman describes 'I'm an attractive woman and . . . females do not like competition.' Yet another reports, 'Females tend to be more competitive and jealous. Men like me.' Although several other females also mentioned preferring male management because of competition with other women, only one man described female competitiveness as a reason for preferring male management.

While some respondents also disliked female leaders because they were self-centered, others viewed female leaders as less competent, voicing displeasure with 'female micromanagement' and 'women's inability to focus on the work at hand.' One male respondent says, 'Most females don't have the technical skills to understand my job.' And one woman states, 'Males generally earned their position rather than being given the position for political correctness.'

Still others disliked female managers because these managers needed to prove themselves worthy of the management role. One male participant reported, 'Female bosses often seemed to feel they have to prove something to everyone and be bossier than men.' Another mentioned, 'Female bosses tend to think they have to act tough to be taken seriously.' Finally, a few male respondents voiced how the possibility of sexual tension with female management leads them to prefer male management.

As outlined in Table 8, positive attributes of male leaders were also provided as justification for preferring male management. Many gave responses that centered on the competence of male leaders, describing men as more 'professional,' 'objective,' 'decisive,' 'open-minded,' 'consistent,' and 'fair.' One male respondent wrote, 'Men just have a better business sense.'

Others described a better chemistry with male leaders. These respondents preferred male bosses because they had more in common with them, related better to them, and understood them better than women. 'Men are easier to get along with,' wrote one female respondent, and a man wrote 'the gender gap can cause miscommunication.' In addition, some respondents describe how positive previous experiences with male management led them to a preference for male management, in general.

Counter to traditional stereotypes, some women described how male bosses were more understanding and empathetic than female bosses. One woman described male management as 'more understanding of personal problems when they arise.' Finally, a small proportion of women described how women can use their attractiveness to gain favor with male bosses. In particular, one female respondent wrote, 'I'm an attractive woman and know how to work a man.'

In summary, the most common justification for preferring female management included positive attributes of female managers, such as their compassion and understanding. However, the most common justification for preferring male management was negative attitudes regarding female managers.

Discussion

The answer to our title question (Does gender bias against female leaders persist?) is both 'yes' and 'no.' Our analysis indicated participants were less likely to show gender bias when evaluating their own boss, indicating minimal prescriptive bias (bias against women for violating their sex role by adopting a leadership position). However, our study suggests that a high level of descriptive bias (where women are seen as having less potential for management) still prevails when one imagines an ideal manager. This is consistent with previous research that shows much larger gender bias in studies of hypothetical or abstract leaders, and little or no bias in studies of actual bosses, and should serve as a reminder that caution must be taken in extending laboratory results based on hypothetical bosses to actual organizational scenarios.

Instead of a prescriptive bias against female leaders, a surprising, albeit small, competence evaluation bias favoring cross-sex management emerged. Rating competence, male participants' evaluations favored their female bosses, and female participants favored their male bosses. With regard to the relationship with the boss, women reported having better relationships with male than female managers, whereas men reported similar relationships with both male and female managers. Furthermore, women were also more likely than men to state a general preference for male bosses.

A similar cross-sex manager-subordinate preference has previously been demonstrated by Rose and Stone (1978). More recently, Schieman and McMullen (2008) found that women with female superiors reported more distress and negative health symptoms than women with male management. By contrast, men with female management did not

differ from men with male management in terms of distress or physical symptoms. One potential explanation these authors provide for their results is intra-gender competition among women.

There is empirical evidence of intra-gender competition between women (Cooper, 1997; Ellemers et al., 2004), and the term ‘queen bee syndrome’ was coined to describe successful women in male-dominated positions who undermine the success of other women as a result of competitiveness with these women (Staines et al., 1974). One study found that when female participants had the ability to penalize successful female leaders (in a scenario), the participants' ratings of their own competence increased (Parks-Stamm et al., 2008). These studies suggest that the female employees devalue the competency of others of their own gender to enhance their own comparative worth.

Indeed, our survey indicated that not only women were more likely to compete with other women in the workplace, but men were more likely to compete with other men. Furthermore, lower competence relationship ratings were given to a boss by both male and female participants, if the participant reported competing with the boss's gender at work. Participants' open-ended responses further illustrated how this competition impacts boss gender preferences.

Although cross-sex favoritism emerged when all occupations were examined, no bias emerged within the male-dominated and female-dominated occupations. While it still may be more difficult for women to attain management positions in male-dominated environments, the women who become managers in these environments do not seem to be penalized for violating role norms and appear to garner the same respect from their subordinates as female managers in female-dominated positions.

In addition, our findings based on actual bosses contradict previous research that found that competent female leaders were less likeable than competent male leaders (Catalyst, 2007; Heilman et al., 2004). Instead, we found no differences between the quality of the relationship between competent female managers and competent male managers.

Although leaders who adopted a counter-stereotypic style (sensitive for men or direct for women) suffered no penalty in competence ratings, direct female leaders received lower relationship ratings than direct male leaders. Although this was a small effect, it indicates that women are still penalized for adopting a style that contrasts with the feminine gender role. There were no differences in the relationship ratings of sensitive male and sensitive female leaders, indicating that men are less likely to be penalized for adopting a counter-stereotypic style.

No preference for boss gender

When asked more generally about their gender preferences for managers, a small majority (54%) did not have a preference for the gender of their boss. Gallup polls over time indicate a trend toward indifference to the gender of one's manager. In a 1953 Gallup poll, only 25 percent of participants had no preference for the sex of their boss; in 1983, 36 percent had indicated no preference, and by 2006, 43 percent had no preference (Carroll, 2006). Our results indicate that this encouraging trend seems to be continuing.

Preference for male bosses

Of those who did offer a preference for the gender of the manager, there was a general preference for male bosses. Consistent with research that indicates exposure to female leaders diminishes the use of stereotyping (Dasgupta and Asgari, 2004), we found that those who had experience with a female boss were less likely to prefer male management than those who had never reported to a woman. However, a majority of those that currently report to a woman still had a preference for male management. Indeed, there was no category of participants that we examined where a significant majority preferred female management over male management.

In general, the justifications for preferring male or female bosses frequently adhered to gender stereotypes, with female bosses often preferred for their compassion and understanding. Perhaps the most notable difference between the participants' justifications for their preference for male or female management was the extreme negative sentiment that emerged toward female managers. The rationales for preferring a female boss were, for the most part, positive characteristics associated with female leaders. By contrast, the explanations given for preferring male bosses primarily centered on negative attributes of female bosses. Many of these negative comments directly addressed women's incompetence in a leadership position, and clearly supported role congruity theory's notion of descriptive bias, by revealing that some workers still held blatant prejudice about women's leadership ability in the workplace.

International research on gender stereotypes continues to show more negative traits are associated with females than males, and persistent gender stereotyping affects the judgments people make about others (Lips, 2008). In our study, negative comments such as 'bitchy' or 'catty' were commonly applied to female leaders. While not directly addressing the competence of female leaders, these comments attack the personality of the female leader, indicating that some perceive these abstract female leaders as less likeable than men. It is important to note that although these negative sentiments about women were among the most common responses for preferring a male manager, they still represent only a minority of the survey respondents.

Benevolent sexism was also revealed in descriptions of female managers as 'pretty' and 'sexy.' Benevolent sexist remarks such as these are positive on the surface but are rooted in the belief that women are less competent then men (Glick and Fiske, 1996).

Limitations and strengths

As with any work, there were limitations to the current study. First, the need for brevity to minimize survey dropout rate and the sponsor mandate to cover many topics necessitated single-item measures of key variables where multiple-items would have been preferable. Although we interpreted characteristics not marked on checklists as characteristics lacking in the boss, these could also be interpreted as missing data items. However, to minimize bias, characteristics were randomized and were equally likely to appear at the top of respondents' lists. Furthermore, we recognize that manager competence and relationship with the manager are highly correlated, and participants who have good relationships with their bosses may be more likely to award them better competence ratings and vice versa.

Although our sample was unusually large, it was not nationally representative, and the survey did not include information on race or ethnicity. There has been concern that some groups are underrepresented in internet research, but a recent study that compared internet research to traditional survey methods found internet samples to be relatively diverse with respect to gender, age, socioeconomic status and geographic region (Gosling et al., 2004). Selection biases introduced by who has access to the Internet have been minimized as internet use has grown more common among women, minorities and older individuals (Pew Internet & American Life Project, 2005). In fact, access to surveys such as this one is available to 95 percent of those between ages 18 and 29, 87 percent of those 30 to 49, and 78 percent of those 50–64 (U.S. Census Bureau, 2011).

Research on stereotyping and cognitive processing suggests that, in this study, the gender bias against one's own boss was minimized because participants knew their bosses well. Therefore, our results may not generalize to individuals with jobs where they do not have an opportunity to interact with their bosses frequently such as telecommuters or traveling salespeople. Since we did not collect data on the frequency of interactions with one's boss, future research will have to determine the generalizability to these populations. Also, over 99 percent of our respondents graduated from high school, and 90 percent attended some college, so generalizability of our results to those who work in low-skill jobs is unclear.

Our data may also contain some social desirability bias, or a tendency for survey participants to respond in a manner that will be viewed favorably by others (Nederhof, 1985). However, social desirability tends to be minimized in surveys such as ours where anonymity is assured (Nederhof, 1985). In our survey, social desirability bias may have boosted the proportion who reported no preference for boss gender. If that is the case, then the preference for male bosses may be even larger than we report here.

Several strengths of the current research should also be noted. The large size and diversity in our sample provided adequate statistical power for comparisons of male and female bosses on all our variables of interest, including having sufficient numbers in a wide variety of work settings. For example, those who work in male- and female-dominated organizations are often too few in number to be represented in general studies, but here we have a sufficient subsample size for meaningful analysis of these important minorities. Furthermore, our study examined actual workers' evaluations of their own managers, rather than hypothetical managers, as is the case in so much of the extant literature. Finally, allowing respondents to supplement their closed-end choices in the survey with their own open-ended views provided valuable insight into the quantitative patterns we found.

Implications

The results of the present study offer encouraging evidence of changing attitudes toward female leaders. The gender differences found in the ratings of participants' male and female leaders were very small or nonexistent, and a majority of participants claim to have no preference for the gender of their boss. These results certainly indicate a growing acceptance of female leaders, and serve as a reminder that stereotypes are less likely to be applied when sufficient individuating information is available. Unfortunately, often

times, decisions such as hiring a new manager are made by those who do not know the job candidates well, and, therefore, bias may persist. Indeed, Lyness and Judiesch (1999) found women are much more likely to be promoted into a management roles than to be hired into them.

Also encouraging, both the quantitative and qualitative results of the present study suggested that exposure to female bosses reduced bias against female leaders. Deutsch (2007) is optimistic that the stereotypes will be reduced or disappear as increased exposure to women in leadership positions 'may decrease the difference in how competent and assertive men and women are perceived to be . . .' (p. 115). In other words, over time, the traits required for successful leadership will be seen as gender neutral, rather than being seen as incongruous with the female role.

Furthermore, our data indicate a feminizing of the management role, with our participants favoring sensitive over direct managers, regardless of the managers' gender. Management scholars have recently been advocating a shift toward a more feminine style of leadership that emphasizes cooperation and a more democratic approach than the traditional masculine leadership style (Eagly and Karau, 2002; Fondas, 1997; Helgesen, 1990; Rosener, 1995). If the characteristics of the ideal manager become more communal, the female gender role and the management role will no longer be incongruous, resulting in greater acceptance and reduced prejudice toward female leaders in the future.

Acknowledgements

We thank *ELLE* magazine and msnbc.com for access to data from the 'ELLE/msnbc.com Work and Power Survey.' We thank Alex Postman, Roberta Myers, and Lili Tan for their input on the questionnaire, and we thank Carol Edwards for helping to create the database. We also gratefully acknowledge the support provided to Kim Elsesser by the UCLA Center for the Study of Women. Finally, we'd like to thank *Human Relations* Associate Editor Terry Beehr and the anonymous reviewers for their constructive critiques.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

References

Ayman R, Korabik K and Morris S (2009) Is transformational leadership always perceived as effective? Male subordinates devaluation of female transformational leaders. *Journal of Applied Social Psychology* 39(4): 852–879.

Byron K (2007) Male and female managers' ability to 'read' emotions: Relationships with supervisor's performance ratings and subordinates' satisfaction ratings. *Journal of Occupational and Organizational Psychology* 80(4): 713–733.

Carlson D, Kacmar M and Whitten D (2006) What men think about executive women. *Harvard Business Review* 84(9): 28–29.

Carroll J (2006) *Americans prefer a male boss to a female boss*. Available at: http:/www.gallup.com/poll/24346/americans-prefer-male-boss-female-boss.aspx#1

Catalyst (2007) *The double-bind dilemma for women in leadership: Damned if you do, doomed if you don't.* Available at: http:/www.catalystwomen.org/publications/83/the-double-bind-dilemma-for-women-in-leadership-damned-if-you-do-doomed-if-you-dont

Cohen J (1969) *Statistical Power Analysis for the Behavioral Sciences* (1st Edition). New York: Academic Press.
Cohen J (1988) *Statistical Power Analysis for the Behavioral Sciences* (2nd Edition). Hillsdale, NJ: Erlbaum.
Cohen J (1990) Things I have learned (so far). *American Psychologist* 45(12): 1304–1312.
Cooper V (1997) Homophily or the queen bee syndrome: Female evaluation of female leadership. *Small Group Research* 28(4): 483–499.
Dasgupta N and Asgari S (2004) Seeing is believing: Exposure to counterstereotypic women leaders and its effect on the malleability of automatic gender stereotyping. *Journal of Experimental Social Psychology* 40(5): 642–658.
Deutsch FM (2007) Undoing gender. *Gender and Society* 21(1): 106–127.
Diekman AB and Eagly AH (2000) Stereotypes as dynamic constructs: Women and men of the past, present, and future. *Personality and Social Psychology Bulletin* 26(10): 1171–1188.
Eagly AH and Karau SJ (2002) Role congruity theory of prejudice toward female leaders. *Psychological Review* 109(3): 573–598.
Eagly AH, Karau S and Makhijani M (1995) Gender and the effectiveness of leaders: A meta-analysis. *Psychological Bulletin* 117(1): 125–145.
Eagly AH, Makhijani MG and Klonsky BG (1992) Gender and the evaluation of leaders: A meta-nalysis. *Psychological Bulletin* 111(1): 3–22.
Ellemers N, Van den Heuvel H, De Gilder D, Maass A and Bonvini A (2004) The underrepresentation of women in science: Differential commitment or the queen bee syndrome? *The British Journal of Social Psychology* 43(3): 315–338.
Fiske ST (1998) Stereotyping, prejudice, and discrimination. In: Gilbert DT, Fiske ST and Lindzey G (eds) *Handbook of Social Psychology*, vol. 1. Boston, MA: McGraw Hill, 357–414.
Fondas N (1997) Feminization unveiled: Management qualities in contemporary writings. *Academy of Management Review* 22(2): 257–282.
Garcia-Retamero R and López-Zafra E (2006) Prejudice against women in male-congenial environments: Perceptions of gender role congruity in leadership. *Sex Roles* 55(1–2): 51–61.
Glaser BG and Strauss AL (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine Publishing Company.
Glick P and Fiske ST (1996) The ambivalent sexism inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology* 70(3): 491–512.
Gosling SD, Vazire S, Srivastava S and John OP (2004) Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist* 59(2): 93–104.
Heilman ME (2001) Description and prescription: How gender stereotypes prevent women's ascent up the organizational ladder. *Journal of Social Issues* 57(4): 657–674.
Heilman ME, Block CJ and Martell R (1995) Sex stereotypes: Do they influence perceptions of managers? *Journal of Social Behavior and Personality* 10(6): 237–252.
Heilman ME, Wallen AS, Fuchs D and Tamkins MM (2004) Penalties for success: Reactions to women who succeed at male gender-typed tasks. *Journal of Applied Psychology* 89(3): 416–427.
Helgesen S (1990) *The Female Advantage: Women's Ways of Leadership*. New York: Doubleday.
Hyde JS (1994) Can meta-analysis make feminist transformations in psychology? *Psychology of Women Quarterly* 18(4): 451–462.
Johnson SK, Murphy SE, Zewdie S and Reichard RJ (2008) The strong sensitive type: Effects of gender stereotypes and leadership prototypes on the evaluation of male and female leaders. *Organizational Behavior and Human Decision Processes* 106(1): 39–60.
Lips HM (2008) *Sex and Gender: An Introduction*, 6th edn. New York: McGraw-Hill.

Lyness K and Judiesch MK (1999) Are women more likely to be hired or promoted into management positions? *Journal of Vocational Behavior* 54(1): 158–173.

Martell RF (1991) Sex bias at work: The effects of attentional and memory demands on performance ratings of men and women. *Journal of Applied Social Psychology* 21(23): 1939–1960.

MSNBC Media Kit (2010) Available at: http://www.msnbc.msn.com/id/31066137

Nederhof AJ (1985) Methods of coping with social desirability bias: A review. *European Journal of Social Psychology* 15(3): 263–280.

Norris JM and Wylie AM (1995) Gender stereotyping of the managerial role among students in Canada and the United States. *Group & Organization Management* 20(2): 167–182.

Parks-Stamm EJ, Heilman ME and Hearns KA (2008) Motivated to penalize: Strategic rejection of successful women. *Personality and Social Psychology Bulletin* 34(2): 237–247.

Pew Internet & American Life Project (2005) *How the Internet has woven itself into American life*. Available at: http://www.pewinternet.org/Reports/2005/How-the-internet--has-woven-itself-into-American-life.aspx

Rose GL and Stone TJ (1978) Why good job performance may (not) be rewarded: Sex factors and career development. *Journal of Vocational Behavior* 12(2): 197–207.

Rosener JB (1995) *America's Competitive Secret: Utilizing Women as a Management Strategy*. New York: Oxford University Press.

Rudman LA (1998) Self-promotion as a risk factor for women: The costs and benefits of counterstereotypical impression management. *Journal of Personality and Social Psychology* 74(3): 629–645.

Schein VE (1975) Relationships between sex role stereotypes and requisite management characteristics among female managers. *Journal of Applied Psychology* 60(3): 340–344.

Schieman S and McMullen T (2008) Relational demography in the workplace and health: An analysis of gender and the subordinate-superordinate role-set. *Journal of Health and Social Behavior* 49(3): 286–300.

Staines G, Tavris C and Jayaratne TE (1974) The queen bee syndrome. *Psychology Today* 7(1): 55–60.

Tahmincioglu E (2007) *Men rule – at least in workplace attitudes.* Available at: http://www.msnbc.msn.com/id/17345308/

Tan L (2007) The new rules of engagement. *ELLE* 260: 272–273.

Taylor SN and Hood JN (2010) It may not be what you think: Gender differences in predicting emotional and social competence. *Human Relations* 64(5): 627–652.

Tomkiewicz J and Adeyemi-Bello T (1995) A cross-sectional analysis of attitudes of Nigerians and Americans toward women as managers. *Journal of Social Behavior and Personality* 10(6): 189–198.

U.S. Census Bureau (2003) *Occupations: 2000*. Available at: http://www.census.gov/prod/2003pubs/c2kbr-25.pdf

U.S. Census Bureau (2011) *Adult Computer and Adult Internet Users by Selected Characteristics: 2000 to 2010.* Available at: http://www.census.gov/compendia/statab/2011/tables/11s1158.pdf

Kim M Elsesser is a research scholar at the Center for the Study of Women at the University of California, Los Angeles. In addition to her PhD in Psychology from UCLA, Elsesser holds graduate degrees in management and operations research from MIT. In her business career, she was a principal at Morgan Stanley where she co-managed a quantitative hedge fund. More recently she has consulted on large-scale national studies relating to gender and work, and her research interests include gender and leadership, gender discrimination, sexual harassment, cross-sex friendships and social support in the workplace. Her most recent work appears in *Human Relations.* [Email: elsesser@ucla.edu]

Janet Lever is Professor of Sociology at California State University, Los Angeles. For the past 40 years her research has focused on wide-ranging issues related to gender studies and human sexuality. Since the early 1980s Lever has collaborated with mass media both to popularize academic scholarship and to harness its power to create data for later scientific analysis. After leading teams of researchers that designed the three largest magazine sex surveys ever tabulated, she came to *ELLE* to lead a series of surveys hosted on both the health and the business sections of msnbc.com. Her *Office Sex and Romance Survey* (2002) and the *Work and Power Survey* reported on here are among the largest surveys on these workplace topics. As with the magazine surveys, each of these internet surveys has been reanalyzed for social science, management, health, and medical audiences. [Email: jlever@calstatela.edu]