Derogation, Discrimination, and (Dis)Satisfaction With Jobs in Science: A Gendered Analysis

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Abstract

In the current study of 353 science and engineering faculty members, we examined whether three types of gender-based mistreatment might "chill" individuals' perceptions of the professional climate, which might in turn undermine satisfaction with their jobs. We also tested gender differences in these relationships. Results indicated that for women, the relationship between gender discrimination (e.g., unequal access to resources) and job satisfaction was mediated by scholarly alienation and a negative workplace climate; gender derogation (e.g., disparaging comments) was related to organizational sexism toward women (OSTW), which was associated with perceptions of scholarly alienation and a negative workplace climate; these perceptions in turn predicted lower job satisfaction. For men, gender derogation was indirectly related to job satisfaction via scholarly alienation, and OSTW was indirectly related to job satisfaction via both climate variables. Analyses indicated that most of these indirect effects were stronger for women than men. We discuss these results for both sexes and suggest reasons why men's climate perceptions may be "chilled" by exposure to sexism toward women. We also discuss implications for individuals working with women in male-dominated environments, such as organizational administrators and clinical practitioners.

Experiences of gender-based mistreatment are harmful to targets and have been associated with numerous negative psychological outcomes (Avina & O'Donohue, 2002; Munson, Hulin, & Drasgow, 2000; O'Connell & Korabik, 2000; Settles, Buchanan, & Colar, 2012; Settles, Harrell, Buchanan, & Yap, 2011) and work outcomes, such as lower job satisfaction (Cortina, Fitzgerald, & Drasgow, 2002; Murrell, Olson, & Frieze, 1995; Schneider, Swan, & Fitzgerald, 1997). Gender-based mistreatment is harmful not only to women directly targeted but also to women who witness the mistreatment of other women. For example, Glomb et al. (1997) found that the impact of sexual harassment directed toward women in one's workgroup was similar to the effect of women's direct sexual harassment.

Direct and indirect experiences of gender-based mistreatment have most often been examined for women, in part because this type of mistreatment is more likely to be directed toward women than men (Hesson-McInnis & Fitzgerald, 1997), especially in male-dominated environments such as the academy (Grauerholz, 1996) and the law (Upton, Panter, Daye, Allen, & Wightman, 2012). However, more recently, a few studies have found that observed hostility toward women is related to lower job satisfaction and psychological well-

being for both men and women (Miner-Rubino & Cortina, 2004, 2007). Because of the negative impact of the different forms of gender-based mistreatment on women and men, it is important for researchers to gain a better sense of the underlying reason for their harm. In the present study, we examine whether two perceptions of the workplace climate mediate the relationships between three types of gender-based mistreatment and job satisfaction. We do so in a sample of male and female science and engineering faculty members, and we investigate whether the proposed meditational relationships differ for men and women.

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Gender-Based Mistreatment

In the present study, we examine three types of gender-based mistreatment: formal gender discrimination, gender derogation (including gender harassment), and organizational sexism toward women (OSTW). These three constructs differ in the extent to which they reflect personal negative experiences versus negative treatment directed at members of a gender group—either toward one's own gender group or toward women.

Gender discrimination is unfair treatment in the employment setting in which individuals are placed at a disadvantage compared to others because of their gender rather than their ability or skill (Dipboye & Halverson, 2004). Scholars draw distinctions between "formal" and "interpersonal" discrimination, with the formal variety entailing "discrimination in hiring, promotions, access, and resource distribution" (Hebl, Foster, Mannix, & Dovidio, 2002, p. 816). Formal discrimination involves behavioral activities that may be illegal according to Title VII of the Civil Rights Act of 1964 (Equal Employment Opportunity Commission [EEOC], 2008), so organizational policies and social norms often prohibit this conduct (Hebl et al., 2002; Mackie & Smith, 1998; Singletary & Hebl, 2009). Examples include unequal access to resources such as pay, space, or assistance from others. Formal gender discrimination against women is especially prevalent in male-dominated occupations (Mansfield et al., 1991); one study of high-achieving female scientists found that 73% reported some type of mistreatment (Sonnert, 1995). Gender discrimination is associated with numerous negative outcomes, including lower job satisfaction and professional self-confidence for women in traditionally male occupations (Carr, Szalacha, Barnett, Caswell, & Inui, 2003; Murrell et al., 1995). Bond, Punnett, Pyle, Cazeca, and Cooperman (2004) investigated gender differences and found that women reported more gender discrimination than men. Further, although gender discrimination was related to more psychological distress for both women and men, this relationship was stronger for women than for men.

Gender derogation refers to negative, insensitive, and offensive comments made by others about individuals of one's own gender (Konik & Cortina, 2008). Statements that women are not suited to be scientists are examples of the gender derogation of women. Such conduct is a form of gender harassment (verbal and nonverbal behaviors that communicate negative attitudes about members of a gender group; Fitzgerald, Drasgow, & Magley, 1999); it also overlaps with incivility (e.g., rude or discourteous treatment with ambiguous intent to harm; Lim & Cortina, 2005). This behavior may be considered illegal sexual harassment when it "explicitly or implicitly affects an individual's employment, unreasonably interferes with an individual's work performance, or creates an intimidating, hostile, or offensive work environment" (Equal Employment Opportunity Commission, 1980, p. 74677).

Notably, this form of mistreatment qualifies as interpersonal (rather than formal) discrimination, which Hebl et al. (2002, p. 816) define as "nonverbal, paraverbal, and . . . verbal behaviors that occur in social interactions" (also see King et al., 2011). In a study of university employees, Konik and Cortina (2008) found that men and women reported similar rates (about 47%) of gender derogation, and Hitlan, Schneider, and Walsh (2006) found that 70% of their sample of female working students reported some gender harassment. Gender harassment is related to women reporting overperformance demands in their jobs (i.e., the need to work harder to prove themselves; Parker & Griffin, 2002), lower work satisfaction (Leskinen, Cortina, & Kabat, 2011; O'Connell & Korabik, 2000; Piotrkowski, 1998), and psychological distress (Buchanan, Settles, & Woods, 2008; Leskinen et al., 2011; Piotrkowski, 1998).

OSTW refers to a wider sense that women in the organization are mistreated or subjected to negative or hostile attitudes and behaviors. These include both interpersonal and institutional components of sexist behavior (Bond et al., 2004) and would be reflected in an individual's belief that women within a department or organization are exposed to formal or interpersonal types of discrimination. OSTW refers to general perceptions about the prevalence of sexism in the organization (in contrast to measures of formal gender discrimination and gender derogation, which assess specific firsthand experiences).

A similar (but narrower) construct is workplace tolerance of sexual harassment, which has been associated with job dissatisfaction and withdrawal (Fitzgerald et al., 1999; Hesson-McInnis & Fitzgerald, 1997; Hulin, Fitzgerald, & Drasgow, 1996; Williams, Fitzgerald, & Drasgow, 1999). Looking at both women and men, Bond et al. (2004) found that OSTW is similarly associated with lower job satisfaction for men and women in both male-dominated and female-dominated work settings. In a related area, Miner-Rubino and Cortina (2004) found that observed incivility toward women had similar negative effects on work outcomes for men and women.

In sum, gender-based mistreatment remains a prevalent concern, especially in organizational settings. In the present study, we examined three types of mistreatment. Gender discrimination reflects firsthand experience of formal discrimination (e.g., access to resources) based on one's gender membership. Gender derogation involves disparaging interpersonal treatment targeting one's gender group; the individual may or may not have been personally targeted with the behavior. Finally, OSTW captures broad perceptions about whether the department is one in which women experience inequitable formal and interpersonal treatment, as perceived by both men and women. We see these phenomena as related but distinct. By employing diverse measures of gender-based mistreatment, we are able to compare their effects on climate perceptions and, indirectly, job satisfaction.

Although there has been only limited study of gender differences in the effects of these types of gender mistreatment, the existing research suggests that women, compared to men, will report more frequent or severe experiences of formal gender discrimination, gender derogation, and perceived OSTW (Bond et al., 2004). However, research also suggests that the effects of gender mistreatment will be similar (but weaker) for men compared to women (Bond et al., 2004; Miner-Rubino & Cortina, 2004). Although there is a sizable body of literature on the negative impact of gender mistreatment on outcomes (at least for women), relatively little is known about why these relationships exist. In the present study, we theorize that gender mistreatment relates to lower job satisfaction indirectly via negative perceptions of the workplace climate.

Climate Perceptions

The psychological climate refers to how individuals perceive their workplace environment, including its policies, practices, and procedures (Kickul & Liao-Troth, 2003; Parker et al., 2003; Seibert, Silver, & Randolph, 2004). These perceptions are formed through interactions with others, and they are often similar for members of a work group or work unit (Hulin et al., 1996; Seibert et al., 2004). Even when climate perceptions are inaccurate, they are important because they are used by individuals to make decisions about workplace involvement and commitment, including decisions about exiting an organization (Preston, 1994, 2004). In the present study, we consider two aspects of the workplace climate: climate of scholarly alienation and general interpersonal climate.

Evidence suggests that a climate of scholarly alienation (e.g., a general sense that one is excluded and not engaged meaningfully by colleagues) is associated with work outcomes and psychological well-being. For example, men's and women's perceptions of workplace exclusion have been related to more negative perceptions of coworkers and supervisors (Hitlan, Cliffton, & DeSoto, 2006), overall job dissatisfaction (Acquavita, Pittman, Gibbons, & Castellanos-Brown, 2009; Findler, Wind, & Mor Barak, 2007), and lower organizational commitment (Findler et al., 2007). Findler et al. (2007) found that women were more likely to be excluded than men and noted that individuals who were different from the typical worker (e.g., women in male-dominated workplaces) also tended to experience isolation from others. Williams and Zadro (2001) have suggested that exclusion or ostracism in social settings is associated with negative psychological well-being because it reduces individuals' sense of belonging and self-esteem.

Other research has focused on the impact of general perceptions of positive versus negative workplace climates on job satisfaction for both women and men. For example, several interpersonal aspects of the climate and positive characteristics of the workplace have been associated with job satisfaction (Donovan, Drasgow, & Munson, 1998; Gunter & Furnham, 1996; Johnson & McIntye, 1998; Joyce, Slocum, & von Glinow, 1982). Further, the results of a large meta-analytic study support a positive relationship between job satisfaction and several aspects of the psychological climate, including affective features of the climate that reflect positive interpersonal interactions in the workplace (Carr, Schmidt, Ford, & DeShon, 2003). In sum, positive perceptions of the general climate are associated with higher job satisfaction, whereas a climate of exclusion and isolation link to lower job satisfaction.

The Current Study

Across a number of studies, gender-based mistreatment and negative aspects of the workplace environment have both been associated with poorer work outcomes. The present study contributes to the existing literature by testing one explanation for the negative relationship between gender-based mistreatment and outcomes; specifically, that such negative experiences directed toward oneself, toward members of one's gender, or even toward the other gender may change the way individuals perceive their work environments. That is, mistreatment of women or men in the workplace may make the climate feel ''chillier.'' Some studies support this contention. For example, individuals who reported little or no sexual harassment viewed the general climate more positively than those who reported moderate or high levels of sexual harassment (Cortina, Swan, Fitzgerald, & Waldo, 1998). Further, Hulin and colleagues (1996) found that climate perceptions explain more variance in psychological and work outcomes than actual reports of sexual harassment, suggesting that climate is the more proximal cause of workplace outcomes than mistreatment per se.

For individuals who are numerical minorities, as is often the case for women in male-dominated fields, workplace mistreatment may reinforce or create feelings of vulnerability, low status, and low power. Kanter's (1977) theory of proportional representation suggests that women who are numerically scarce will experience particular forms of stress as a result of their "token" status. These include feeling performance pressures because women are highly visible and seen as group representatives, being socially isolated because women are perceived as outsiders, and being viewed in terms of stereotypes for women. We suggest that gender-based mistreatment may make women's low power and status salient, thereby exacerbating token stress effects and negative climate perceptions. Consistent with this assertion, studies find that women who experience gender harassment, sexual harassment, or gender discrimination report higher social isolation and lower self-confidence (Carr, Szalacha, et al., 2003; Roosmalen & McDaniel, 1998).

There are several reasons why a sample composed of female and male faculty members in science and engineering

is well suited to the goals of the present study. The sciences are predominately male-dominated, especially at the graduate and faculty levels (National Science Foundation, 2011). As with other male-dominated environments, women in academic science are likely to experience the types of gender-based mistreatment of interest to us (Sonnert, 1995; Wyer, Barbercheck, Geisman, Öztürk, & Wayne, 2001). Researchers have theorized their negative treatment may result because women are perceived by men as threatening the quality of the field of science (Eagly & Karau, 2002; Settles, Jellison, & Pratt-Hyatt, 2009). When dominant group members (male scientists) perceive lower status individuals (female scientists) as reducing the overall group status (scientists), the dominant group members may target the lower status members with hostile behavior and poor treatment (Dovidio, Major, & Crocker, 2000). Another theory takes a more economic perspective on these phenomena: some men use gendered hostility as a mechanism for turf protection—pushing women out and keeping the most lucrative or highest status jobs as the exclusive province of men. In other words, some workplace mistreatment is "used to preserve the sex segregation of jobs by claiming the most highly rewarded forms of work as masculine in composition and content" (Schultz, 2006, p. 22). Whatever the motivation of gender-based mistreatment in the workplace, it is important that we understand how it operates.

In sum, to build on past work, we derived the following two hypotheses. First, women will report more gender-based mistreatment (formal gender discrimination, gender derogation, and OSTW) than men. Second, gender-based mistreatment will be indirectly related to job satisfaction via two climate perceptions: scholarly alienation and general negative climate. Furthermore, these mediated relationships will be moderated by participants' sex; more specifically, they will be stronger for women than men because of women's status as minority group members in terms of their number and power.

Method

Procedure and Participants

The present study is a secondary analysis of data collected by the University of Michigan ADVANCE Program. Participants were female and male faculty members in science and engineering departments and research institutes at a large Midwestern university ($N = 1,242$). All female tenure track ($n = 259$), research track ($n = 115$), and clinical track ($n = 143$) science and engineering faculty were recruited. In addition, random samples of male tenure track ($n = 339$) and research track ($n = 184$), as well as all male clinical track ($n = 202$), science and engineering faculty were contacted. All female faculty members in these positions were recruited because of their relatively small numbers. In contrast, because of their larger numbers, only a random

sample of men were invited to participate in order to provide a comparison sample for the women, with the exception that all male clinical track faculty members were recruited because their numbers were similar to the number of female clinical track faculty.

Surveys were completed by 185 (35.8%) female faculty members (response rates were 44.4% for female tenure track faculty, 14.8% for female research track faculty, and 37.1% for female clinical track faculty) and 168 (23.2%) male faculty members (response rates were 28.6% for male tenure track faculty, 16.3% for male research track faculty, and 20.3% for male clinical track faculty); two participants did not report their gender. These response rates are comparable to those in other studies of similar length that sample relatively high-status individuals (Center for the Study of Higher and Postsecondary Education [CSHPE] and Center for the Education of Women [CEW], 1999). There were no differences between respondents and nonrespondents by race, rank, or college/school (all $ps > .05$), which are the only indicators we have available to evaluate the representativeness of our sample. All survey responses were anonymous.

Women ranged in age from 29 to 69 years, with an average age of 44.75 years ($SD = 8.02$), whereas men ranged in age from 28 to 69 years, and were, on average, 48.26 years old ($SD = 10.33$); this difference was significant, $t(341) = -3.49$, $p < .01$. In terms of racial/ethnic group membership, 152 (82.2%) women self-identified as White, 24 (13.0%) were women of color, and 9 (4.9%) did not report their racial/ethnic group. One-hundred thirty-two (78.6%) men self-identified as White, 33 (19.6%) were men of color, and 3 (1.8%) did not report their racial/ethnic group. Women had worked at the university from 1 to 31 years, with a median of 7–16 years, whereas men had worked at the university from 1 to 36 years, with a median of 12–16 years.

Measures

Gender mistreatment. We employed three measures to assess participants' perceptions of gender-based mistreatment in their workplace. Participants' personal experiences of *formal gender discrimination* were assessed using a scale adapted from the Texas A&M University Campus Climate Survey (Hurtado, 1998). Participants reported whether, in the past 5 years, they had personally experienced job-related gender discrimination ($0 = no$, $1 = yes$) at the university in each of the following areas: hiring, promotion, salary, space/equipment or other resources, access to administrative staff, or graduate student assignments. A simple count was computed that reflected the number of areas in which the participant experienced formal gender discrimination (from 0 to 6 areas).

Gender derogation assessed how frequently participants had experienced firsthand, verbal derogation toward members of their own gender on the job. That is, it assessed

women's experiences of the derogation of women and men's experiences of the derogation of men. For the women's measure, we combined 2 items in which respondents reported how often they had overheard "insensitive or disparaging comments" about women made by faculty (Item 1) and students (Item 2) on a scale from 1 (*never*) to 5 (*weekly*), $r(N = 311) = .61$, $p < .01$. To create the men's measure, we combined two parallel items about overhearing insensitive or disparaging comments about men made by faculty (Item 1) and students (Item 2), $r(N = 303) = .68$, $p < .01$. The resulting variable thus assessed the frequency of derogation of one's own gender, with higher scores indicating more derogation.

OSTW assessed the extent to which both male and female participants viewed their workplace as one in which women are disadvantaged relative to men. Unlike the discrimination and derogation scales, this measure tapped general perceptions of behavior rather than specific firsthand experiences of behavior. It included 2 items from Riger, Stokes, Raja, and Sullivan (1997) and 7 items from the Gender Fairness Environment Scale (Hostler & Gressard, 1993). Participants rated the 9 items (e.g., "Some faculty have a condescending attitude toward women"; "Men are more likely than women to receive helpful career advice from colleagues") on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree)*. After reverse-coding appropriate items, a mean of all 9 items was computed such that higher scores indicated a more sexist climate ($\alpha = .90$).

Workplace climate perceptions. Two measures were used to assess individuals' perceptions of the workplace climate. *Scholarly alienation* was assessed with 10 items adapted from the University of Michigan Faculty Work-Life Study (CSHPE & CEW, 1999). Items asked about the extent to which colleagues valued respondents' work and ideas and engaged with them in meaningful ways (e.g., "My research interests are valued by my colleagues"; "My colleagues solicit my opinions about their research ideas and problems" [reverse-coded], and conversely, "I constantly feel under scrutiny by my colleagues"). Participants indicated their agreement with each statement using a scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Appropriate items were reverse scored, and all items were averaged such that higher scores indicated more scholarly alienation ($\alpha = .84$).

Perceptions of the *general climate* in the participant's department were measured using a scale adapted from the Texas A&M University Campus Climate Survey (Hurtado, 1998). Using 5-point semantic differential scales in which each pair of descriptors served as the labels for the poles, participants rated their department on six dimensions: friendly–hostile, disrespectful–respectful, collegial–contentious, collaborative–individualistic, cooperative–competitive, and not supportive–supportive. Appropriate items were reversed and a mean was computed such that higher scores indicated a more negative departmental climate ($\alpha = .89$).

Job satisfaction. Participants' satisfaction with their job was assessed with 10 items. Eight of these items were adapted from the University of Michigan Faculty Work-Life Study (CSHPE & CEW, 1999), and two were created for our study. Items asked about overall satisfaction with resources and salary (e.g., "level of funding for my research or creative efforts"; "current salary in comparison to the salaries of my colleagues"), success as a teacher (e.g., "ability to attract students to work with me"), success in scholarship (e.g., "sense of being valued for my teaching by members of my unit/department"), and work–family balance (e.g., "balance between professional and personal life"). Participants responded on a 5-point scale that ranged from 1 (*very dissatisfied*) to 5 (*very satisfied*). All items were averaged, with higher scores indicating more job satisfaction ($\alpha = .85$).

Demographic variables. Participants self-reported their *sex* (0 = *female*, 1 = *male*). Racial/ethnic group membership was also self-reported by participants; due to the small percentage of faculty of color, race was coded into a dichotomous variable (0 = *racial minority*, 1 = *White*). Participants also self-reported the faculty rank of their primary budgeted appointment for the academic year when the study was conducted (1 = *assistant*, 2 = *associate*, 3 = *full*). Finally, participants indicated the number of years they had worked at the university (1 = *0–1 year*, 2 = *2–6 years*, then grouped in 5-year intervals through 9 = *37–41 years*).

Results

Preliminary Analyses

Confirmatory factor analysis (CFI). We began by factor analyzing our gender mistreatment, workplace climate, and job satisfaction items to determine whether all items loaded onto their assigned construct (and not others). More specifically, after computing Pearson product–moment correlations among items, we submitted them to Maximum Likelihood CFA using LISREL 8.80. We tested a six-factor model reflecting our six primary study constructs: gender discrimination, gender derogation, OSTW, scholarly alienation, general negative climate, and job satisfaction. We compared the six-factor solution against a three-factor solution containing our three types of constructs: gender mistreatment (allowing gender discrimination, gender derogation, and OSTW to load onto a single latent construct), climate perceptions (including both scholarly alienation and general negative climate), and job satisfaction. Due to the unique limitations of each fit index, we inspected a number of indices to assess the fit of each model: root mean square error of approximation (RMSEA), standardized root mean square residual (SRMSR), Non-Normed Fit Index (NNFI), and Comparative Fit Index (CFI). To compare the fit of the two models, we examined the change in χ^2.

Table 1. Univariate Statistics of Study Variables by Gender.

	Women M (SD)	Men M (SD)	F(1, 309)	Cohen's d
Gender Discrimination	0.83 (1.34)	.07 (.43)	42.94**	0.76
Gender Derogation	1.94 (.89)	1.66 (.88)	5.81*	0.32
Organizational Sexism	2.94 (.87)	2.11 (.75)	77.48**	1.02
Scholarly Alienation	2.62 (.89)	2.39 (.79)	5.58*	0.27
Negative Climate	2.71 (.95)	2.54 (.88)	3.72	0.19
Job Satisfaction	3.50 (.77)	3.64 (.82)	2.14	-0.18

Note. Analyses control for race, tenure, and rank.
*$p < .05$. **$p < .001$.

Data-model fit for the six-factor model was superior (RMSEA = 0.06, SRMSR = 0.07, NNFI = 0.95, CFI = 0.95) to the three-factor model (RMSEA = 0.08, SRMSR = 0.08, NNFI = 0.92, CFI = 0.93). Moreover, a χ^2-difference test revealed that the six-factor model represented a significant improvement over the three-factor model, $\chi^2(11) = 647.46$, $p < .001$, suggesting that the former solution provides a better fit to the data. All of the items loaded significantly onto the six-factor model. Given these results, we proceeded to analyze gender discrimination, gender derogation, OSTW, scholarly alienation, general negative climate, and job satisfaction as separate constructs.

Descriptive analysis. We next examined whether there were differences between female and male faculty on our control and primary study variables. Results examining the control variables indicated that there were no race differences between men and women, $\chi^2(1, 341) = 2.48$, $p = .12$. However, there was a significant difference between men and women by rank, $\chi^2(2, 353) = 15.04$, $p < .001$. Specifically, women were more likely to be associate level professors/researchers, whereas men were more likely to be full level professors/researchers. Further, men ($M = 3.83$, $SD = 2.03$) had worked at the university for more years than women ($M = 3.26$, $SD = 1.57$), $t(343) = -2.92$, $p = .004$. Controlling for years worked at the university, there was not a sex difference in whether participants held the rank of assistant versus full professor, $B = .364$, Wald = 1.29, $p = .26$; however, women were more likely than men to be associate professors versus full professors, $B = 8.76$, Wald = 7.96, $p = .005$.

We examined whether there were differences by participant sex in the primary study variables using a multivariate analyses of covariance (MANCOVA) in which three control variables (race, rank, and years at university) served as covariates (see Table 1). The overall MANCOVA was significant, Wilks's $\lambda = .74$, $F(6, 304) = 17.52$, $p < .001$. Results indicated that the multivariate effect of participant sex was driven by significantly higher levels of gender discrimination, gender derogation, OSTW, and scholarly alienation for women compared to men. Men and women did not differ in their perceptions

of the general climate or levels of job satisfaction. The significant participant gender differences in the three gender-mistreatment variables support our first hypothesis.

Correlations for women and men on all study variables are shown in Table 2. The results indicated that White women reported significantly less scholarly alienation than women of color. White men reported being at the university for more years and experiencing less scholarly alienation than men of color. Women and men with higher rank reported being at the university for more years and experiencing less scholarly alienation. For men, more years at the university was related to reporting more OSTW. For women, all three gender mistreatment variables were positively related to each other, positively related to measures of a poor climate, and negatively related to job satisfaction. In contrast, for men, none of the gender mistreatment variables was related to the others, although each was related to more scholarly alienation. OSTW, but not gender discrimination or gender derogation, was related to more negative perceptions of the general climate. Scholarly alienation was positively related to negative climate perceptions, and both climate perceptions were negatively related to job satisfaction.

Primary Analyses

To examine our second hypothesis, we conducted path analyses using MPlus5 (Muthén & Muthén, 2007) to assess the indirect effect of our gender mistreatment variables on job satisfaction via negative climate and scholarly alienation. We compared model fit for women and men to determine whether the magnitudes of the mediating relationships differed for women and men (i.e., moderation by participant sex). Because 96% of men reported no personal gender discrimination, we were unable to compare mediation for men and women for this gender mistreatment measure. Instead, we tested simple mediation of the relationship between gender discrimination and job satisfaction via our two climate measures for only women. For gender derogation and OSTW, we tested the relationship between these two mistreatment variables and job satisfaction via our two mediators for both women and men.

As shown in Model 1, women's report of gender discrimination was significantly related to both mediators (see Figure 1). That is, women who reported more gender discrimination at work perceived more scholarly alienation and viewed their workplace climates as generally more negative. In addition, both mediators were significantly related to job satisfaction; women who reported more scholarly alienation and negative climate perceptions were less satisfied with their jobs. Examination of the indirect effects (see Table 3) indicated that the relationship between gender discrimination and job satisfaction was significantly mediated by each climate variable: scholarly alienation and negative climate. Finally, fit statistics indicated that the

Table 2. Correlations on all Study Variables by Gender.

Variable	1	2	3	4	5	6	7	8	9
1. Race	—	.07	.18*	−.14	.01	−.14	−.17*	−.11	.03
2. Rank	.07	—	.59**	−.03	−.12	−.03	−.29**	−.00	.13†
3. Years at university	.06	.56**	—	−.07	−.03	.16*	−.07	.08	.01
4. Gender discrimination	.00	.04	.01	—	.11	.05	.25**	.08	−.14
5. Gender derogation	.06	.02	−.12	.33**	—	.09	.19*	.10	−.13
6. Organizational sexism	−.13	−.05	−.09	.46**	.46**	—	.30**	.28**	−.12
7. Scholarly alienation	−.18*	−.17*	−.12	.38**	.30**	.65**	—	.58**	−.60**
8. Negative climate	−.11	−.03	−.03	.29**	.27**	.62**	.64**	—	−.63**
9. Job satisfaction	.09	.05	.11	−.26**	−.24**	−.52**	−.60**	−.60**	—

Note. Correlations for women are below the diagonal; for men, above; for race (0 = *racial minority*, 1 = *White*).
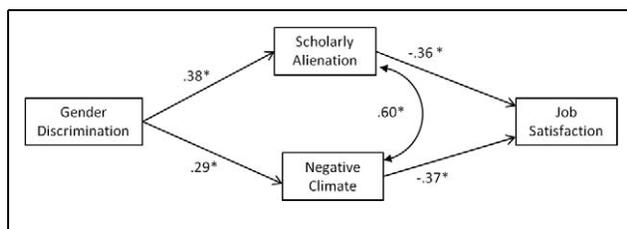*p < .05. **p < .01.

Figure 1. Model 1: Mediation of the relationship between gender discrimination and job satisfaction by scholarly alienation and gender climate for women only. Coefficients are standardized. *p < .05.

model fit the data well, $\chi^2(1) = 0.17$, $p = .68$; RMSEA = 0.00, SRMSR = 0.01, NNFI = 1.02, CFI = 1.00.

To examine mediation for gender derogation and OSTW, we performed a second path analysis. In this analysis, the remaining two gender mistreatment variables (gender derogation and OSTW) were the independent variables, job satisfaction was the dependent variable, and the two climate measures (scholarly alienation and negative climate) served as the mediators. Because research suggests that personal experiences of mistreatment and oppression (e.g., gender derogation) increase one's awareness and consciousness about broader and systemic ways in which one's group is devalued (e.g., OSTW; Buchanan & Fitzgerald, 2008; Martin, Reynolds, & Keith, 2002; Watts, Griffith, & Abdul-Adil, 1999), we modeled gender derogation predicting OSTW. We then compared the indirect effects for men and women to test whether there were gender differences.

As seen in Model 2, and consistent with the bivariate correlations, gender derogation was related to OSTW for women but not for men (see Figure 2). Gender derogation was related to greater scholarly alienation only for men and unrelated to negative climate for both sexes. In contrast, OSTW was linked to greater scholarly alienation and more negative climate perceptions for both women and men. Further, for both women and men, greater perceptions of scholarly alienation and a negative climate were significantly associated with lower job satisfaction.

We tested six indirect pathways in total: whether gender derogation was related to job satisfaction via scholarly alienation or general negative climate (two indirect paths); whether OSTW was related to job satisfaction via scholarly alienation or general negative climate (two indirect paths); and whether gender derogation was related to job satisfaction via OSTW *and* one of the two climate dimensions (scholarly alienation and gender climate; two indirect paths). We also compared the magnitude of the indirect relationships for women and men (see Table 3). Results indicated that for women there was no relationship between gender derogation and job satisfaction via either of the mediators. For men, gender derogation was related to job satisfaction indirectly via scholarly isolation but not negative climate perceptions. There were no significant gender differences in the sizes of the indirect effects of gender derogation via either mediator. For both women and men, OSTW was indirectly related to job satisfaction through both scholarly alienation and negative climate perceptions. The sizes of the indirect effects of OSTW on job satisfaction through each mediator were significantly greater for women than men. Finally, for women, gender derogation was related to job satisfaction via OSTW and through both scholarly alienation and general negative climate; however, for men, these indirect linkages were not significant. The indirect relationship of gender derogation and job satisfaction via OSTW and each mediator was significantly larger for women than for men.

These results suggest that, for both women and men, perceiving the organization as having more sexism toward women relates to lower job satisfaction because organizational sexism perceptions relate to experiencing more scholarly alienation and viewing the general climate as more negative. However, the pathway for gender derogation to job satisfaction differed by sex. For men, gender derogation (i.e., hearing negative comments about men) was related to lower job satisfaction because of greater feelings of being alienated from one's colleagues. In contrast, for women, gender derogation (i.e., hearing negative comments about women) was related to viewing the organization as more sexist toward women, which was related to greater perceptions of alienation and poor climate, which were in turn related to lower job satisfaction.

Table 3. 95% Confidence Intervals and Standardized Conditional Indirect Effects for Climate Mediators of the Relationships Between Gender Mistreatment and Job Satisfaction by Gender.

	Women		Men		χ^2	
	95% CI	Indirect Effect	95% CI	Indirect Effect	Difference	df
Model 1						
Gender discrimination → Scholarly alienation	[−.12, −.04]	−.08*	—	—		
Gender discrimination → Negative climate	[−.10, −.02]	−.06*	—	—		
Sum of indirect effects from gender discrimination	[−.19, −.08]	−.14*	—	—		
Model 2						
Gender derogation → Scholarly alienation	[−.04, .04]	.00	[−.11, −.00]	−.06*	3.50	2
Gender derogation → Negative climate	[−.04, .05]	.00	[−.09, .03]	−.03	3.92	2
Organizational sexism toward women → Scholarly alienation	[−.29, −.11]	−.20*	[−.19, −.05]	−.12*	6.25*	2
Organizational sexism toward women → Negative climate	[−.29, −.11]	−.20*	[−.21, −.05]	−.13*	6.87*	2
Gender derogation → Organizational sexism toward women → Scholarly alienation	[−.14, −.05]	−.09*	[−.03 .01]	−.01	22.71*	3
Gender derogation → Organizational sexism toward women → Negative climate	[−.14, −.04]	−.09*	[−.03, .01]	−.01	23.37*	3
Sum of indirect effects from gender derogation	[−.27, −.10]	−.18*	[−.21, −.01]	−.11*	18.98*	6
Sum of indirect effects from organizational sexism	[−.50, −.31]	−.40	[−.36, −.13]	−.25*	16.37*	8

Note. Gender discrimination was rarely reported by men making consideration of this model irrelevant for men.
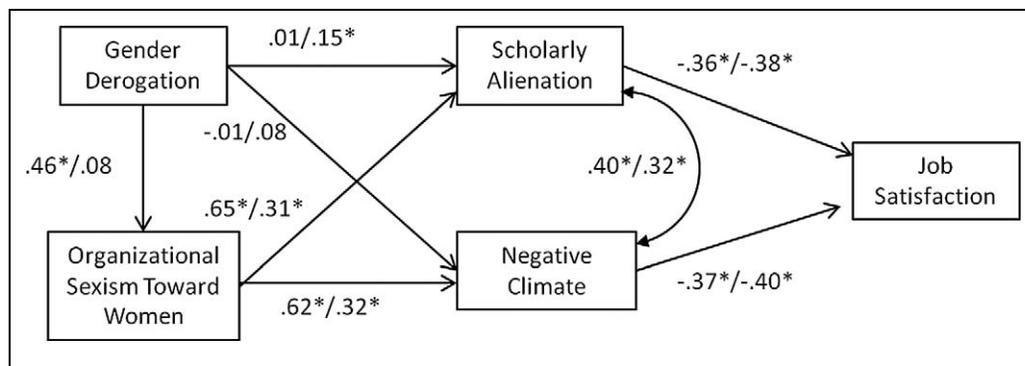*$p < .05$.

Figure 2. Model 2: Mediation of the relationships between gender derogation with job satisfaction and organizational sexism toward women with job satisfaction by scholarly alienation and general climate for women and men. Coefficients are standardized, reported first for women and then for men (women/men). *$p < .05$.

In the final step of our analysis, we examined how well the model fit the data for women and men. For women, the fit was excellent: $\chi^2(2) = 1.92$, $p = .38$; RMSEA = 0.00, SRMSR = 0.02, NNFI = 1.00, CFI = 1.00. For men, the model fit the data well: $\chi^2(2) = 4.31$, $p = .12$; RMSEA = 0.08, SRMSR = 0.02, NNFI = 0.94, CFI = 0.99.

Discussion

Previous research has consistently found that gender-based mistreatment, even when subtle and seemingly trivial, relates to negative outcomes for women (Buchanan et al., 2008; O'Connell & Korabik, 2000; Piotrkowski, 1998). However, little is known about the possible explanations for these relations. In the present study, we sought to add to the extant body of literature in two ways. First, we proposed that

negative perceptions of the workplace environment may help explain the negative outcomes associated with the mistreatment of women. Second, we examined whether similar processes may exist for men. Specifically, we proposed that three types of gender mistreatment would be related to less job satisfaction indirectly via two aspects of the climate, for both women and men. However, we predicted that the meditational relationships would be stronger for women than men. Our results largely supported our predictions, with some exceptions described in the following discussion.

Our first hypothesis stated that women would report more of each type of gender-based mistreatment than men. Our results supported this prediction, with women describing significantly more formal gender discrimination, informal gender derogation, and OSTW than men. These results are

consistent with studies that find women to be frequent targets of many types of gender-based bias, including gender discrimination and sexist treatment (Bond et al., 2004; Upton et al., 2012). In fact, men reported very little formal gender discrimination, suggesting that they did not perceive having poorer access to resources or inequity in hiring, promotion, or salary on the basis of their sex.

The first part of our second hypothesis stated that our two climate variables would mediate the relationship between the different types of gender mistreatment and job satisfaction. Because men reported little gender discrimination, we only examined mediation for gender discrimination for women. Those results indicated that both scholarly alienation and negative climate mediated the relationship between women's personal experiences of formal gender discrimination and job satisfaction. In other words, discrimination in pay, promotion, resources, and so on, may increase women's feelings of alienation from colleagues and also increases their perceptions that the general work environment is poor; these climate perceptions in turn may undermine women's satisfaction with their jobs.

We further examined this hypothesis for gender derogation and OSTW for both women and men. Gender derogation referred to the extent to which participants had heard insults about their own sex. Thus, for women, gender derogation represents exposure to insults about women; for men, about men. Given these differences, it makes sense that gender derogation would be related to OSTW for women but not for men. That is, when women hear their sex being derogated, it contributes to feelings that the organization more generally is one where sexism is prevalent. However, when men hear *men* being put down, it is unrelated to their sense of the level of OSTW. For men, experiences of gender derogation were instead directly related to feeling more alienated and reporting more negative perceptions of the workplace climate, as were feelings that the organization was one with more sexism toward women. These "chilly" climate perceptions, in turn, predicted lower satisfaction with one's job. For women, gender derogation was related to job dissatisfaction through dual mediation processes; the relationship between gender derogation and job dissatisfaction was significantly mediated by organizational sexism which, in turn, was mediated by scholarly alienation and negative climate.

Thus, for women, all three types of gender mistreatment related to lower job satisfaction via perceptions of the work environment as negative and alienating, although for gender derogation this relationship occurred through a greater perception that the organization is sexist toward women. For men, gender derogation indirectly related to job dissatisfaction through scholarly alienation, and OSTW indirectly linked with job dissatisfaction by way of scholarly alienation and negative climate perceptions. In sum, our results suggest that women's personal experiences of gender discrimination, as well as women's and men's experiences of own-sex derogation and sexism toward women, were associated with poorer perceptions of their workplace climate, which were related to lower job satisfaction. These results are consistent with the literature that has found that women's negative experiences in the workplace are related to poorer outcomes (Buchanan et al., 2008; O'Connell & Korabik, 2000; Piotrkowski, 1998). However, the present study extends and enhances our understanding of those findings by suggesting that these negative relationships exist because gender-based mistreatment leads women to feel more isolated and undervalued and perceive their workplace to be more hostile and competitive. Further, similar processes appear to operate for men in relation to their experiences of gender derogation and OSTW.

For gender derogation and OSTW, we were also able to conduct further tests of our second hypothesis, proposing that mediated relationships would be stronger for women than men; that is, that the indirect relationships would differ by participant sex. For both gender derogation and OSTW, the results largely supported this prediction of moderation. Specifically, the indirect effects were significantly larger for women than men except in two instances: (a) the relationship between gender derogation with job satisfaction via scholarly alienation was significantly greater for men than women and (b) the relationship between gender derogation with job satisfaction via negative climate was not different for women and men. In the former instance, women's gender derogation was related to job dissatisfaction via scholarly alienation but the relationship was also mediated by a second variable: organizational sexism. This longer pathway was significantly larger in magnitude for women than for men. Finally, the sum of the indirect effects in Model 2 was significantly larger for women than for men. It is not surprising that women, compared to men, might be more affected by gender derogation and OSTW because of women's status as current or potentially future targets of derogating and sexist treatment.

It is notable that men's sense of their departments as those in which women experience sexist treatment was related to feeling more poorly about their workplace climate. Other research has found similar patterns in which both men and women are negatively affected by working in an environment where women are mistreated (Miner-Rubino & Cortina, 2004, 2007). There are several possible explanations for this relationship. When men view their department as sexist towards women, they may perceive their department or university to be unfair or unjust. If so, then men may fear that they will be the targets of unjust policies in the future. Alternatively, men may feel empathy and compassion toward mistreated women, particularly if they view their female coworkers as friends and colleagues. A further possibility is that workplaces that have pervasive sexism toward women are also hostile toward men or toward all employees, regardless of gender. If so, both men and women may feel isolated and unwelcome in such environments. Thus, sexism

toward women may negatively affect men for reasons related to men's self-interest and personal experiences, as well as because of their relationships with women.

It is surprising that the derogation of men did not foster negative climate perceptions among our male participants. However, given men's greater numbers and power in academic science (Barbercheck, 2001), they may be able to discount and ignore comments that are insensitive or disparaging to men (Berdahl, Magley, & Waldo, 1996). When such comments are made by women, men may perceive them as being humorous or based in jealousy. In contrast, when women hear men putting down women, these comments may be perceived as threatening because of women's lesser power and more tenuous status as "scientists"—the prototypical scientist embodies norms that are inconsistent with gender-normative prescriptions for women (Barbercheck, 2001). These possibilities speak to the importance of assessing the sex of the perpetrator of gendered mistreatment as an important direction for future research.

Limitations and Future Directions

Some limitations of our study bear discussion. Although our theorizing and mediation analyses imply causal ordering, our study was cross sectional and correlational and thus cannot determine causality. We have captured a "snapshot" of social–organizational processes, found support for a set of models that closely approximate women's and men's experiences, and offered interpretations that are theoretically reasonable. Nevertheless, as with any correlational analysis, other models could potentially explain relationships in these data as well as our own models. For example, although our theory suggests that women's experiences of gender discrimination, gender derogation, and organizational sexism cause them to perceive their departments as having poorer climates, it is also plausible that women who feel they are alienated from their colleagues and working in a hostile environment are targeted with negative treatment because of their outsider status within the organization. A longitudinal study that follows faculty members from the time that they start their academic position could advance this research further by offering more definitive answers about causality, including the possibility of reciprocal causality.

Another limitation is that our measures assessed participants' subjective experiences and may not always accurately reflect the workplace. These measures may allow for ambiguity or individual differences in interpretations of what constitutes discrimination, derogation, or sexism. However, subjective perceptions reflect "reality" for our participants, and they can drive important outcomes including decisions to leave the workplace (Preston, 2004; Seibert et al., 2004). For this reason, assessment of self-reported perceptions was not only appropriate but necessary (Chan, 2009).

Also related to measurement, data in our research were collected using single-source, self-report surveys. Although the nature of our constructs makes the use of self-report appropriate (Chan, 2009), relying fully on self-reported data raises the potential that correlations may be distorted due to common method variance. Response biases were minimized to some extent in the design of these surveys, which assessed job satisfaction independent of and prior to measuring gender-related mistreatment. This creates "psychological separation" of the variables, which Podsakoff, MacKenzie, Lee, and Podsakoff (2003) recommended as a means of reducing common method bias. In our surveys, this strategy also decreased the chances that respondents' memories of mistreatment could influence their answers to satisfaction questions.

Another important limitation of our study is the inability to more closely examine the experiences of faculty of color. Results of our correlations indicated that both men and women faculty of color perceived themselves to be more alienated than White faculty. Although their small numbers prevent their experiences from being easily compared to those of White faculty, it is precisely their small numbers that make it important for researchers to identify what aspects of their workplace experiences are unique. Because men and women of color are an even greater minority in academic science than White women—in terms of both numbers and power—experiences of gender-based mistreatment may highlight their distinctiveness in terms of their race (and for women of color, their gender); this may further exacerbate the relationships we observed.

We should always interpret results from a single organization with a certain degree of caution regarding generalizability. This particular organization was a large public research university and is similar to other such academic institutions in important ways (e.g., size, structure, hiring practices, gender ratios). Our focus was deliberately on science and engineering departments in order to capture the unique experience of employment in fields dominated by men. We suspect that we would find similar processes operating in male-skewed environments outside science, both within academia (e.g., law schools) and in industry (e.g., advertising), but this speculation should be put to an empirical test. It is also possible that, although *mean levels* of gender-based mistreatment are higher in male-dominated fields, similar *relationships* operate in more gender-balanced work environments. That is, the experience of gender-based mistreatment in any work context may relate to job satisfaction via aspects of the work climate. Thus, it is critical that our results be replicated in a range of settings, both academic and nonacademic, science and nonscience, gender-imbalanced and balanced, and so on.

Practice Implications

The current findings have implications for university and corporate administrators as well as clinical practitioners.

Although administrators understand the need to enact and enforce antiharassment policies, the finding that both men and women were negatively impacted by gender-based mistreatment and sexism toward women means that the job satisfaction of the entire workforce is in jeopardy when such behaviors are not adequately curtailed. Given that job satisfaction is associated with significant financial consequences for organizations (e.g., decreased productivity and increased job turnover; Sims, Drasgow, & Fitzgerald, 2005), it is in their best interest to aggressively work to eliminate gender-based mistreatment in order to improve the workplace climate for all employees, regardless of gender.

These results also have implications for those working with distressed employees, whether human resources staff, employee assistance program officers, or private therapists and counselors. First, when an employee reports distress at work, it will be important to assess the employee's perception of the workplace climate. Our research found that negative perceptions of the organization's climate were closely associated with job satisfaction for men and women. Second, when assessing the nature of an employee's presenting problem, these results suggest that clinicians need to probe beyond the employee's personal experiences and also explore what he or she may have witnessed happening to others or perceived as discriminatory. In the present study, both men and women were negatively impacted by hostility directed toward women, even without personal experiences of mistreatment. Finally, it may also be helpful to directly discuss the extent to which the employee feels isolated from colleagues because this may exacerbate the negative effect of gender-based mistreatment on job satisfaction.

Conclusion

In summary, our results indicated that women in academic science continue to perceive more negative workplace experiences than men—including personal gender discrimination, the derogation of one's own gender, and sexism toward women. In addition, our hypothesis that scholarly alienation and negative climate would mediate the relationships between gender-related mistreatment and lower job satisfaction was supported in nearly all models we tested for both women and men, suggesting that experiences of mistreatment foster poorer perceptions of the workplace, which lead to less satisfaction with one's job regardless of gender. Although women experience more gender-based mistreatment, the results of our study suggest that both women and men in organizations would benefit from proactively working to eliminate all forms of gender-based mistreatment through the institution of policies and procedures that prohibit inequitable treatment and promote clarity and transparency regarding desired organizational activities.

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