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Gender and Racial Bias in Hiring

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This memo reviews the literature on gender and racial biases in hiring and other workplace evaluations and proposes remedies to reduce these biases. It contains sections that provide:

1. background data on the under representation of minorities and women among American faculty;
2. empirical evidence that cognitive biases in the evaluation of women and minority candidates contribute to their under representation;
3. a theoretical framework for understanding the mechanisms that produce biased evaluations; and
4. a series of proposed remedies derived from empirically supported theoretical accounts of how and why biases emerge and how they lead to disadvantages for women and minorities.

1. Background

The profile of American faculty remains largely white and male. In 1999, full-time faculty were 86% white and 63% male (US Department of Education, 2002). African-Americans hold approximately 5% of full-time faculty positions, almost half of which are in historically black colleges and universities. Hispanics represent approximately 3% of full-time faculty. Women appear to fare somewhat better, although the percentage of female faculty decreases with academic rank and prestige of university. For example, women make up 44% of faculty at two-year universities, but only 25% of faculty at research universities. Women hold 45% of assistant, 35% of associate, and 21% of full professor positions. Even the relatively high percentage of women assistant professors should be viewed with caution, since it is partly the result of the lower rates

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of tenure of women compared to men (Valian, 1999). The under representation of women is more extreme in some fields. In science and engineering, for example, 90% of full professors are men.

Factors contributing to the under representation of women and minorities fall under two broad categories: (1) supply-side or "pipeline" factors that result in smaller pool of minority and, in some fields, female applicants, and (2) demand-side or discrimination factors that result in lower preferences for women and minority applicants who have made it through the pipeline. We limit our attention here to the latter set of factors, highlighting the role of race and gender biases in hiring decisions. We take this approach for two reasons. First, empirical evidence, which we review below, suggests that biased evaluations of women and minorities contribute to their under representation among American faculty. Second, while it is difficult for universities to affect the supply of applicants, research suggests that organizational changes can reduce biases in hiring processes. Thus, demand-side or discrimination factors provide a more accessible target for increasing the representation of women and minority faculty.

2. Empirical Evidence

Gender
Despite reductions in blatant forms of discrimination, women continue to experience more subtle forms discrimination, such as having their input in groups ignored and having their performances devalued (Ridgeway and Correll 2004; Valian 1999). Evidence supporting this claim comes from a diverse set of studies, including self-reports of discrimination, attitudinal surveys of those who make hiring decisions, and experiments that hold the quality of applicants constant but vary their gender on application materials. For example, in a longitudinal analysis of scientists who won a prestigious postdoctoral fellowship, 72.8% of female scientists and 12.9% of male scientists reported experiencing discrimination during their careers (Sonnert and Holton 1996). A national survey of 268 managers found that they believed that men in general possessed more of the qualities of successful managers than women in general (Heilman et al. 1989). Studies by Correll and Benard (2005) and Correll and Paik (2006) show that female job applicants are penalized for being mothers, while otherwise identical male job applicants are rewarded for being fathers. In one interesting natural experiment, Goldin and Rouse (2000) found that after symphony orchestras switched from auditions where the gender of a musician was visible to a procedure where musicians auditioned behind a screen, the rate of hire of female musicians increased by approximately 25%. Studies have also found that female university faculty receive

more negative teaching evaluations than their male counterparts from both male and female students (Sinclair and Kunda 2000). Letters of recommendation for female faculty applicants have been found to be shorter, contain fewer descriptions of their research accomplishments, give more emphasis to their teaching ability, and raise more doubts compared with letters for male faculty applicants (Trix and Psenka 2003).

In one particularly relevant study, researchers modified an actual curriculum vita so that it either contained a female or male name and sent the CV to a random sample of university psychology departments and asked faculty members to evaluate the person on a number of dimensions (Steinpreis, Anders, and Ritzke 1999). In one set of conditions, the CV was the version the actual applicant had previously used to get a job as a new assistant professor, and in the other conditions, the CV was the (more impressive) version she used years later as a tenure candidate. The researchers found that when the new assistant professor CV had a male name, the candidate was judged by both male and female evaluators to be worthy of hire approximately 73% of the time. When the same CV had a female name, it was rated worthy of hire approximately only 45% of the time. There were no significant gender differences in ratings of the tenure version of the vitae, although participants wrote four times as many cautionary or negative comments in the margins of their rating sheets for the female applicants, such as "We would have to see her job talk," or "I would need to see evidence that she had gotten these grants or publications on her own." The fact that the male and female tenure versions of the vitae were rated more similarly than the new assistant professor versions suggests that women may be at greater risk of experiencing discrimination when information about their qualifications is ambiguous. However, having clear, unambiguous qualifications does not eliminate all forms of bias against women: other research has shown that women who appear especially competent tend to be disliked at work and are penalized in other ways when they succeed (Rudman and Glick 1999). Unlike men, women often have to choose between appearing competent and being liked at work (Rudman and Glick 1999; Valian 1999).

Race
 To the best of our knowledge, studies have not examined the effect of race in hiring for academic positions to the same extent that they have examined the effect of gender. However, researchers have examined how cognitive biases hamper African-Americans' labor market success more generally. The broad pattern that emerges from this body of work is that African-Americans continue to experience substantial employment discrimination.

Perhaps the most convincing recent evidence of this fact comes from an audit study of race and employer hiring behavior (Bertrand and Mullainathan 2003). The researchers

sent job applications to a wide variety of jobs using resumes based on those from real job seekers. They altered the resumes systematically to vary the quality and the apparent race of the applicant. Some resumes bore names commonly found on African-American birth certificates (such as "Lakisha" or "Jamal"), while others bore names commonly found on white birth certificates (such as "Emily" or "Greg"). Thus, the same resume was sometimes presented as that of an African-American job-seeker and other times, as that of a white job-seeker. They found that white applicants were called back approximately 50% more often than African-American applicants, regardless of industry or occupation. Furthermore, white applicants benefited more than African-American applicants from presenting a high quality resume, suggesting that the penalty for being African-American may be greater for higher status jobs.

A number of smaller studies converge on the conclusion that African-Americans face discrimination in the labor market and in the workplace. A study by Sinclair and Kunda (1999) showed that white and African-American managers were rated as equally skilled when they praised study participants, but African-American managers were rated as significantly less skilled than whites when they criticized participants. Spencer and colleagues (Spencer et al. 1998) similarly found that individuals negatively stereotype both African-Americans and Asian-Americans when individuals who are members of those groups criticize them, but not when they praise them. Biernat and Kobrynowicz (1997) found that African-American job applicants are held to stricter standards of competence than white applicants. In this study, participants required African-Americans to show greater evidence of leadership skills than whites before rating them as capable of excelling in the position to which they were applying. A study by Greenhaus and Parasuraman (1993) found that the achievements of black managers were less likely to be attributed to ability or effort and more likely to be attributed to help from others than were the achievements of white managers.

The studies described above illustrate that women and people of color experience discrimination in labor market settings. To reduce these effects, we must first understand how and why discrimination occurs. The next section undertakes this task.

3. Theories of Stereotyping and Cognitive Biases

Overview
In general, the empirical results presented above can be understood as follows: stereotypic beliefs about gender and race impact the relative expectations evaluators have for the workplace suitability of different categories of people, which lead to biases in their evaluations. Below we review empirically supported theoretical accounts about how stereotypes lead to racial and gender biases.

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One of the most significant and frequently replicated findings to emerge from social psychological research on stereotyping is that stereotypes are often activated outside of awareness. In other words, stereotypes can influence our thoughts, perceptions and behaviors even when we are not aware of such influence (Kunda et al. 2002; Bargh and Ferguson 2001; Bargh, Chen and Burrows 1996; Greenwald and Banaji 1995, Wilson and Brekke 1994; Devine 1989; Srull and Weyer 1979). Furthermore, research shows that stereotypes affect our behavior even when we disavow the content of the stereotype. Devine explains these findings by arguing that we learn about cultural categories like stereotypes early in childhood, before we develop the cognitive sophistication to critically analyze them, and thus the stereotypes one holds are older than one's beliefs about their veracity. As a result, stereotypes have a longer "history of activation" and are more readily accessible than the mental representations of beliefs about stereotypes (Devine 1989:8). For this reason, overriding stereotypes requires a conscious act of will, whereas simply activating stereotypes can occur automatically. Finally, stereotypes impact the behaviors and judgments of individuals regardless of their own race or gender (Valian 1999).

Because overriding stereotypes requires a conscious act of will, people become more likely to stereotype when they are distracted, tired, rushed, or otherwise cognitively burdened (Devine et al. 2002). In addition, social psychologists have identified several other risk factors for stereotyping of applicants and employees in organizations (Fiske et al. 1991). First, stereotyping tends to increase when members of the stereotyped group are rare in an organization. When there are few women or people of color in an organization, their gender, race, or ethnicity is more salient and thus more likely to activate stereotypes, than when organizations are more diverse. Similarly, gender and race becomes salient when women or people of color move into occupations previously dominated by white men. Second, individuals face greater levels of discrimination when traits stereotypic of their group conflict with traits stereotypic of the job they hold or to which they are applying. Third, evaluators are more likely to engage in stereotyping when the criteria they are using are ambiguous. We will say more about all of these risk factors as we discuss specific mechanisms underlying stereotyping and how to respond to them.

Stereotypes fall into two broad categories—descriptive and prescriptive—that lead to different types of evaluative biases (Burgess and Borgida 1999; Eagly and Karau 2002; Heilman 2001; Heilman, Wallen, Fuchs and Tamkins 2004). *Descriptive stereotypes* are widely accepted beliefs about the traits and abilities that different categories of people possess, while *prescriptive stereotypes* are widely accepted beliefs about what roles or behaviors are appropriate for individuals of a given category (Burgess and Borgida

1999; Eagly and Karau 2002; Heilman 2001; Heilman et al. 2004). For example, descriptive stereotypes state that women are insufficiently competent to manage an organization, while prescriptive stereotypes state that women should be at home rather than working in the labor market.

Descriptive stereotypes and employment discrimination

Descriptive stereotypes associate group membership with differing traits and abilities. In general, people in the US expect men and whites to be diffusely more competent than women and people of color in a wide range of settings (Berger et al. 1977; Conway et al. 1996; Fiske et al. 2002). While there are some domains where women or people of color are believed to be naturally more skilled (e.g., domains requiring nurturing ability for women, domains requiring athletic ability for blacks), traits that are commonly thought to be important for high status jobs, such as leadership or analytic ability, are stereotypically associated with white men (Berger 1977; Deaux and Lewis 1984; Devine 1989; Eagly and Karau 2002; Fiske et al. 2002).

As previously mentioned, stereotypes are often activated outside of awareness and can impact the behavior of even those who disavow their content. As decades worth of research in the Expectation States Theory tradition has shown, the beliefs that some categories of people (whites, men) are more competent than other categories of people (people of color, women) are important because they affect: (1) our expectations for the future performances of individuals, and (2) the extent to which we interpret their past performances as evidence of ability (Berger et al. 1997; Correll and Ridgeway 2003; Foschi 1989). As such, stereotypic beliefs have self-fulfilling effects. Because white men, as a category, are believed to be generally more competent than women or people of color, individual white men will often be given more opportunities to participate in work groups, they will have more influence over others, they will be more likely to be given credit for their ideas, and they will have their performances evaluated more positively compared with women and people of color (see Correll and Ridgeway 2003 for a recent review). Experiments confirm that race and gender, along with other characteristics such as physical attractiveness and motherhood, systematically organize the appearance of competence, influence, and deference in this manner (Correll and Benard 2005; Lovaglia et al. 1998; Ridgeway 2001; Troyer and Younts 1997). Furthermore, these processes appear nearly ubiquitous, appearing in a wide range of settings in which people evaluate others (Correll 2004; Foschi, Lai and Sigerson 1994; Lovaglia et. al 1998; Ridgeway and Correll 2004).

Stereotypic beliefs about competence also affect the standard individuals use to determine whether a given performance is indicative of ability (Foschi 2000; Foschi, Lai, and Sigerson 1994; Foschi 1989). According to Double Standards Theory, evaluators use

a stricter standard to evaluate the performance of members of groups stereotyped as less competent, such as women and African-Americans. Being judged by a stricter standard, the performances of women and people of color—even when objectively equal to that of their white male counterparts—will be less likely to be judged as demonstrating task ability or competence. Empirical evidence supports this prediction for both gender and race, and the predictions hold both when individuals evaluate others and when they evaluate themselves (Foschi 1996; Biernat and Kobrynowicz 1997; Correll 2001; Correll 2004).

The logic behind this theory is that since evaluators, often unconsciously, expect lower levels of competence from women and minorities. They also scrutinize the performance information provided by women and minorities more extensively. This might explain why, in the study described earlier where psychology faculty evaluated vitae of male and female candidates for tenure (Steinpreis et al. 1999), evaluators wrote four times as many cautionary statements in the margins of their rating forms for the female candidate. When white men present equal performance information (e.g., very similar resumes), their performances are consistent with stereotypical expectations and are therefore less scrutinized. Evaluators in the study by Steinpreis and colleagues did not, for example, raise concerns about whether the male tenure candidate had achieved his publications or grants on his own.

In one of a series of studies designed to test Double Standards Theory, Foschi and colleagues (1994) had participants evaluate one male and one female applicant for an engineering position. In one condition of the study, the male applicant had a slightly better resume; in the other condition, the female applicant had a slightly better resume. When the male applicant's resume was superior, participants recommended him for hire more frequently. However, when the female applicant's resume was superior, she was no more likely to be recommended for hire than the lesser-qualified male applicant.

Shifting Standards Theory (Biernat 2003; Biernat and Kobrynowicz 1997; Biernat, Manis, and Nelson 1991) qualifies the theoretical argument presented above by specifying when and under what circumstances members of lower status groups (e.g., women, people of color) will be held to a stricter standard and when members of these groups will instead be judged by a more lenient standard. For example, when criteria are more subjective, women and minorities are actually judged by a more lenient standard, using stereotypical expectations for members of their own group (e.g., "She's very assertive for a woman." or "He's very articulate for an African-American."). Subjective evaluation criteria, such as those used on many written performance evaluations and mid-tenure reviews, may hide discrimination, only for it to surface later when more objective criteria come into play, such as hiring, promotion, and salary decisions. This

offers an explanation for otherwise puzzling findings such as those reported by Castilla (2005), who found that in a large firm, men and whites experience faster wage growth than women and non-whites, even when controlling for the quality of their performance evaluations. In other words, biases become obvious only when more objective (and consequential) decisions are made about hiring, promotion, and salaries.

Another important predictor of the standards to which individuals will be held is whether the evaluation concerns minimum competence standards or broad-based ability standards. Women and minority job applicants tend to be held to more lenient standards when evaluators are asked if they are "good enough" for a position, but tend to be held to stricter standards when evaluators are asked if they are likely to excel at a position (Biernat 2003; Biernat and Kobrynowicz 1997). One recent study illustrates the consequence of this shifting standard: researchers found that women and minorities were more likely to make the "shortlist" for a job opening than white men, but less likely to actually be offered a job (Biernat and Fuegen 2001).

Prescriptive stereotyping and employment discrimination
Discrimination according to prescriptive stereotypes takes the form of devaluation or hostility in the workplace. Research on prescriptive stereotyping, which has thus far focused on gender but not racial discrimination, has shown that even when women can overcome the doubts about their workplace competence, they are still subjected to discrimination based on stereotypes about beliefs about what roles or behaviors are appropriate for men and women. Heilman (2001) explains that women who violate prescriptive stereotypes by taking on stereotypically masculine roles (such as leadership roles) or behaviors (such as being assertive or self-promoting) face two kinds of reactions. First, they are derogated as interpersonally hostile—cold, deceitful, bitter, selfish, devious, and other negative attributions. Second, they are personally disliked. These assessments lead evaluators to offer them fewer organizational rewards (667-668).

The problem for women is that the behaviors and roles that are thought to be inappropriate for women are often those same roles and behaviors that are important for getting a job or advancing in an organization. For example, Rudman (1998) found that men who promoted their own accomplishments during an interview were judged to be more competent and, consequently, were more likely to be hired than men who did not self-promote. Women who promoted their own accomplishments were also judged to be more competent than women who did not self-promote; however, they were also personally disliked, which reduced their odds of being offered a job. Similarly, Ridgeway and colleagues (1982; 1994) found that to be accepted as a leader, women had to make clear that they were subordinating their own personal needs to that of the group. Unlike their male counterparts, women leaders could not appear to

be seeking status at the expense of the group. The more competent the woman and the higher status role she occupies, the more extreme the negative reactions (Burgess and Borgida 1999; Heilman et al. 2004). Women thus appear to face a double bind—the choice to appear competent (and be disliked) or appear feminine (and be devalued at work)—and in either case, their career prospects may be hindered (Rudman and Glick 1999).

This dilemma was famously demonstrated in the 1989 United States Supreme Court case, Price Waterhouse v. Hopkins (Fiske et al. 1991). Ann Hopkins brought charges against her employer, the accounting firm Price Waterhouse on the grounds that they committed sex discrimination by failing to make her a partner, despite the fact that she was the top-billing candidate for partner in the firm and was lauded by her clients. Price Waterhouse's defense was that Hopkins lacked interpersonal skills and suggested that she needed to present herself in a more feminine manner before she could be made a partner. The court ultimately decided in favor of Hopkins, largely on the grounds that male candidates for partner were not held to the same criteria.

4. Reducing Race and Gender Bias in Hiring and Promotion

Drawing on the social psychological literature on stereotyping, we make several specific recommendations that universities can take to reduce race and gender bias in their search and hiring procedures. Two general principles are important for the policies to be effective. Recall that when people stereotype, they are taking a cognitive shortcut. Rather than fully processing all of the information made available to them, they rely on stereotypes to help organize that information. They do so often out of consciousness, and even those who disavow the content of stereotypes can have their behavior impacted by stereotypic beliefs in the larger culture. Thus, our first principle is to make organizational changes that will disrupt the tendency to use stereotypes as shortcuts when evaluating candidates.

The second principle that is crucial to the success of any organizational change is that policy changes must be clearly supported by the top levels of an organization. When top leaders clearly advocate for improvements in the representation of women and minorities, either by making a business case ("we can't afford to not consider all qualified people") or by appealing to fairness, they set the expectations and norms for the organization. Research has shown that endorsement from leaders brings credibility to diversity programs (Brown and Geis 1984) and influences attitude change (Fiske and Taylor 1991). One way organizations can signal the importance of diversity to top leaders is by publicly rewarding units, such as departments, who make improvements.

In fact, support from top management and rewards for increasing diversity have been shown to be the two key factors in determining the success of diversity programs (Rynes and Rosen 1995).

Leaders also have to be ready to respond quickly and publicly to attempts to undermine diversity initiatives. For example, one common reaction among some faculty when presented with an initiative to increase the representation of women and minorities is to make statements that espouse abstract support for the initiative, qualified by immediate suspicion, such as: "We are always looking to hire qualified women and minorities, but we cannot lower our standards." Statements such as this one seem to assume that women and minorities will be less qualified. If left unaddressed, this stereotypic type of statement can actually fuel the biasing processes that disadvantage women and minorities. Note that it also incorrectly implies that women and minorities are usually judged by a more lenient standard, when research shows that they are instead judged by a stricter standard when hiring decisions are made. Publicly responding to these types of misconceptions provides leaders with the opportunity to educate faculty and to further endorse their commitment to the initiative.

Recommendations
We now provide four recommendations for reducing biases in hiring.

1. Provide training for deans, chairs and hiring committees
As we have shown, stereotypes unconsciously bias the cognitive processes involved in evaluating applicants. Most people are unaware of these biases and are, consequently, unable to prevent themselves from being influenced by them. We recommend training for those involved in hiring, such as deans, chairs, and search committees. This training would consist of exposing those who make hiring decisions to systematic, well-designed research that documents the existence of bias processes. Research and case studies have shown that this type of training significantly reduces cognitive biases (McCracken 2000; Rudman et al. 2001). Once aware of the existence of biases, individuals tend to more carefully scrutinize their own decisions, thereby avoiding the stereotypic cognitive shortcuts that lead to biased evaluations. Exposing people to systematic research on cognitive biases is likely to more likely to be effective than an alternative model of awareness training where people discover their own, particular, biases (Rynes and Rosen 1995; Valian 1999). In several instances, the latter type approach has actually been found to increase bias (Rudman et al. 2001).

It is important to note that training will not be effective, and may be counterproductive, if individuals are not motivated to decrease bias (Devine et al. 2002; Rudman et al. 2001; Valian 1999; Wilson and Brekke 1994). Research has shown that pressuring individuals

with certain motivational profiles to make a pro-African-American hiring decision can lead to anger, frustration, and a lower willingness to hire African-American job candidates (Plant and Devine 2001). It is, therefore, important to focus training efforts on faculty members who share the organizational goal of increasing diversity. It is doubtful that any type of training program would be able to overcome bias among those who are not motivated to be fair or who are explicitly opposed to hiring women and minorities.

2. Increase accountability for those who make hiring decisions

Holding individuals accountable for their personnel decisions is another way to reduce bias in hiring and promotion (Valian 1999; Foshi 1996; Wilson and Brekke 1994; Tetlock 1983). When individuals know they will be required to justify their decisions (particularly to an impartial higher authority), they tend to engage in more complex thought processes when making evaluations. This helps people avoid making the kind of snap judgments that can lead them to apply stereotypes when making decisions (Valian 1999; Tetlock 1983). For example, a study by Foschi (1996) found that participants were less likely to hold women to a higher standard of competence than men when they were required to explain their responses to a partner in a subsequent task. Requiring those responsible for making hiring decisions to be able to explain those decisions to a disinterested third party helps pre-empt the introduction of bias into hiring decisions before it happens.

Increasing accountability was a hallmark of the highly successful efforts of the consulting firm Deloitte & Touche to increase its retention of women executives (McCracken 2000). The firm began by announcing the initiative with a press conference so that the public could hold them accountable. Going a step further, Deloitte & Touche appointed an external advisory council to oversee the effort and make recommendations for improvement. Once the initiative was in place, they maintained accountability by asking area offices to report the progress they were making in implementing the initiative (for example, by asking for reports of the distributions of high-prestige assignments by gender). Offices that resisted this measure received a personal telephone call from the CEO emphasizing the importance of the initiative to the firm.

Universities could also follow this approach, making "increasing the representation of women and minorities among faculty" a university-wide initiative that they publicize to their peers and the media. Search committees, department chairs, and deans should be prepared to report on their progress. Search committees should be asked to describe the criteria they used in making hiring decisions and to describe why the chose to make the offer(s) that they did.

3. Make hiring procedures more transparent

Increasing the transparency with which hiring and promotion decisions are made is another opportunity for organizations to decrease gender and race discrimination. The logic underlying this argument derives from the Shifting Standards Theory. Transparent criteria for hiring and promotion—criteria that are as objective and explicit as possible—reduce bias by ensuring that all employees are held to the same standards. Subjective criteria allow bias to be hidden because the standard by which evaluations are made is unclear. Furthermore, transparency facilitates accountability by making it easier for organizations to monitor the distribution of rewards by race and gender.

In terms of academic hiring, members of search committees should state explicitly what criteria they are using to evaluate candidates, and they should be vigilant to the possibility that their criteria are shifting as they evaluate different types of applicants. For example, is past teaching and service brought up more frequently when discussing female applicants? Are we more likely to see potential when a male applicant has only a few publications than when a female applicant has the same record? In examining their own hiring procedures, Deloitte & Touche found that women were more likely to be evaluated on their performance, men on their potential. Cleary articulating a set of criteria and consistently applying those criteria should decrease the tendency to apply different standards when evaluating different categories of people.

4. Create effective searches and search committees

When committees make hiring decisions—as is the case in many academic settings—administrators can take steps to design effective hiring committees that exhibit lower levels of bias than they might in the absence of thoughtful design. These steps include: defining the search broadly, appointing a diverse group of people who are committed to the organizational goal of increasing the representation of women and people of color, allowing enough time for the search, structuring committee discussions so that diverse perspectives will be heard, being aware that supporting materials (e.g., letters of recommendation) may also include biased evaluations, holding committees accountable for their hiring decisions and allowing the process to be observed by others.

4.1. <u>Defining the search</u>. The odds that a search will be able to generate a pool that includes adequate numbers of women and people of color are increased if the position is either defined more broadly or targeted to sub-areas that contain larger numbers of women and minorities. If, instead, hiring departments or colleges employ a "build on our strengths" approach, they may inadvertently be reproducing the existing gender and racial composition of their faculty. If the applicant pool includes too few women and minorities, the biases processes described above will likely be exacerbated since

stereotyping tends to increase when members of the stereotyped group are rare. With a higher proportion of women and minorities in the pool, the gender or race of the applicants are less distinctive and less likely to lead to bias. For example, research suggests that women will be more fairly evaluated if they are at least 25% of a group (Valian 1999).

4.2. Putting together a search committee. In structuring search committees, it is important to assemble a diverse group of people (in terms of gender and race, but also from different sub-fields) who are committed to the organizational goal of increasing the representation of women and minorities on the faculty. Homogenous groups tend to have redundant knowledge and generate fewer ideas than diverse groups (Surowiecki 2004:31-39). Perhaps more importantly, recent research has shown that the positive effect of diversity on group performance has less to do with diverse actors actually bringing diverse perspectives to decision-making, but rather that the benefits occur because the presence of diverse actors impacts the expectations of others in the group. That is, people expect that those who are different from them in key ways will have different perspectives. This leads them to anticipate more deliberations in decision-making, which reduces the tendency to rely on stereotypes as cognitive shortcuts (Phillips 2003; Phillips and Loyd 2006). Thus, the mere presence of diverse others leads groups to engage in more cognitively complex problem solving, which should reduce the type of biases we describe above. As mentioned, diversity need not be solely based on race or gender. In fact, one effective strategy implied by the research on diversity would be to involve people outside the hiring department on search committees.

It is also important to place only those people committed to reducing bias on search committees. As mentioned previously, individuals who are not motivated to decrease bias have been shown to act in counterproductive ways when they feel pressured to make "diverse" hires.

4.3. Allowing adequate time. One of the simplest recommendations to avoid bias is to leave enough time to ensure that decisions will be carefully considered, rather than rushed (Valian 1999). Recall that when individuals are rushed or distracted, they are more likely to subconsciously allow stereotypes to influence their perceptions and decisions. Academic hiring committees are often presented with hundreds of applications from highly qualified candidates for a single position, many of whom appear capable of excelling in the position. To decide among them, committee members must consider a wealth of information, including number of publications, order of authorship, quality of journals, the quality of the candidates' ideas, departmental fit, content and source of recommendation letters, and so forth. If

pressured with making such a complex decision in a short timeframe, individuals often find it easier to—often unwittingly—rely on mental shortcuts and heuristics such as stereotypes to render the decision more tractable. Allowing sufficient time to make decisions can help reduce the likelihood that people will unknowingly lapse into stereotyping as a route to efficiency.

We recommend that deans and chairs be involved in scheduling search committee meetings to ensure that they are frequent enough and that they have clear agendas. Service on a faculty search committee should be publicly recognized as substantial service and should be offset by reducing other service requirements. Publicly announcing the reduction of other service requirements for those who serve on search committees signals the importance of the task and helps set the expectation that faculty members devote substantial time to it.

4.4. Structuring group discussions. In order for a search committee to function effectively, each member of the committee should have the opportunity to express his or her preferences. However, research has shown that high status members (e.g., the most senior member of the department) often have considerably more influence over group decisions than lower status members (see Correll and Ridgeway 2003 for a review). This can lead to quicker and less thoughtful decisions. To avoid this shortcut, it is a good idea to have each member of the committee first privately express her or his preferences in terms of candidates and to describe clearly the criteria they are using to arrive at their preferences. This can be accomplished by having each member of the committee prepare a short written report that is shared with the group prior to group discussion. This procedure should put the maximum number of applicant names on the table and should expose differences in the criteria being used. The committee should then discuss the criteria that they will use, being sensitive to criteria that appear arbitrary or appear to advantage one group of people over another.

4.5. Critically analyzing supporting materials. Supporting materials, such a letters of recommendation, might also be biased by gender and race stereotypes. For example, Trix and Psenka (2003) analyzed over 300 letters of recommendation for faculty positions at a large American medical school and found that gender impacted what letter writers wrote about applicants. Letter writers used gendered pronouns more frequently in female letters, whereas male applicants were more likely to be referred to by high status labels, such as "Doctor." The frequent use of gendered pronouns draws the reader's attention to the applicant's gender, which could lead to stereotypic biases. Further, search committees should be aware that letters could potentially contain their own biases in their descriptions of applicants' qualifications. Trix and Psenka (2003) found letter writers were more significantly more likely to describe male applicants as

"successful" and to mention "accomplishments" and "achievements." Female applicants, by contrast, were more likely to be described as "compassionate" and their letters contain more mention of "her personal life." Letter writers were also more likely to draw attention to the teaching ability of female applicants and the research accomplishments of male applicants. Letters for male applicants tended to be longer and contained fewer qualifying or "doubt raising" statements.

Teaching evaluations are also subject to gender bias. Kunda and Sinclair (2000) found that when male and female students received lower grades in their classes, they gave female faculty lower teaching evaluations than male faculty who had given similarly low grades. No gender differences in teaching evaluations were found when students received good grades. A subsequent study ruled out the possibility that female teachers who gave lower grades really were worse teachers. It is more difficult to assess race patterns in teaching evaluations since most universities have very few faculty of color. However, evaluations of African-American managers follow similar patterns to the gendered patterns just described: when African-Americans managers provided negative feedback to participants, they received lower evaluations compared with white managers who provided similar negative feedback (Kunda and Sinclair 1999).

The implications for hiring are clear. Committees must be sensitive to the fact that supporting materials for applicants might be biased by gender stereotypes. Letters of recommendation are more likely to contain bias if the applicant is a rarity in their field, such as a woman in engineering. This is not to say that letters would not praise the applicant. Instead, data from the Trix and Psenka (2003) study would lead us to predict that letters would positively emphasize gender and feminine traits, such as compassion, more than the female applicant's skill as an engineer. Likewise, teaching evaluations for disciplines that routinely award lower grades (such as engineering) are more likely to be biased.

Even the vitae of scholars tend to reflect larger gender patterns. One study of a sample of over 600 men and women who had previously received a prestigious fellowship from either NSF or NRC found that men generate more publications per year than women (2.8 vs. 2.3), while women's publications tend to take on broader problems and be more heavily cited (Sonnert and Holten 1996). An earlier and larger study of biochemists by Long and colleagues (1992) found a similar pattern. The reasons for these differences are likely complex, but what it suggests for making hiring decisions is that search committees need to carefully scrutinize the academic record of applicants. Assessing applicant quality by length of vita or by simply counting number of publications instead of more carefully assessing the quality of publications and the impact of a research record will likely lead committees to disproportionately prefer men to women.

4.6. Holding committees accountable and making processes transparent. Hiring committees are often subsets of a larger department or college. We recommend that these committees be required to report back frequently to the larger unit, describing their procedures and justifying their choices. This type of accountability and transparency should reduce the extent to which stereotypic biases influence their evaluations.

While racial and gender biases in hiring are not the only reason for the shortage of women and minorities among American faculty, research suggests that universities can effectively reduce these biases and, thereby, increase the representation of women and minority on their faculty. Further, stereotypic biases occur at other evaluation junctures, such as when making tenure decisions. To the extent that these policies can also be adapted for promotion decisions, women and people of color should be better represented at higher ranks of the professoriate, making them more readily available to be a part of future search and hiring decisions.

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Note: a copy of the full decision in the 1989 Supreme Court case, Price Waterhouse v. Hopkins can be found at
http://caselaw.lp.findlaw.com/scripts/getcase.pl?court=US&vol=490&invol=228