

Motherhood: A Potential Source of Bias in Employment Decisions

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Results of 2 experimental studies in which job incumbents were said to be applying for promotions to traditionally male positions demonstrated bias against mothers in competence expectations and in screening recommendations. This bias occurred regardless of whether the research participants were students (Study 1) or working people (Study 2). Although anticipated job commitment, achievement striving, and dependability were rated as generally lower for parents than for nonparents, anticipated competence was uniquely low for mothers. Mediation analyses indicated that, as predicted, negativity in competence expectations, not anticipated job commitment or achievement striving, promoted the motherhood bias in screening recommendations; expected deficits in agentic behaviors, not in dependability, were found to fuel these competence expectations. These findings suggest that motherhood can indeed hinder the career advancement of women and that it is the heightened association with gender stereotypes that occurs when women are mothers that is the source of motherhood's potentially adverse consequences.

Keywords: gender stereotypes, parenthood, motherhood, motherhood bias, promotion decisions

Despite their increased integration into the workforce, in advancing their careers women continue to face formidable obstacles, many caused by biased evaluations and decision making. However, not all women are affected equally; there are circumstances that amplify or minimize the occurrence of sex-based bias in work settings. The research presented here investigates the effects of one such circumstance: motherhood. We propose that being a mother is an impediment for women who are seeking traditionally male positions in employment settings, in that it exacerbates the negativity women typically encounter by affecting how they are regarded and the decisions that are made relevant to their career progress.

As parents, working mothers tend to be viewed negatively. They are seen as more self oriented and as less dedicated to their children than are stay-at-home moms (Etaugh & Nekolny, 1990); this perception is intensified when they are believed to work because of personal choice rather than economic necessity (Bridges & Etaugh, 1995). But how are these women viewed in the work setting? We suggest not only that working has unfavorable effects on how a woman is regarded as a mother but that being a mother has unfavorable effects on how a woman is regarded as a worker. Specifically, we propose that parenthood makes women particularly vulnerable to the ill effects of gender stereotyping in work settings.

During initial impression formation, there is a tendency to categorize individuals into a more general group (see Fiske & Neuberg, 1990). In this way, stereotypes about the group are activated in a process that facilitates stereotype-consistent infer-

ences about what the person is like and how he or she is likely to behave (Hastie et al., 1980). Sex, because it is immediately evident and is such a fundamental defining characteristic, is very often the basis of categorization (Hoffman & Hurst, 1990; Swim, Borgida, Maruyama, & Myers, 1989). However, the degree to which inferences based on stereotypes about women in general are used by those forming an impression of a particular woman depends on how prototypic that woman is perceived to be, that is, on how much she is believed to epitomize the typical group member (Fiske & Taylor, 1991). As being a mother virtually embodies our cultural conception of being a woman, our culture is likely to exaggerate the association with gender-related attributes. Prior research has indeed indicated that the category "mother" is strongly associated with a high degree of female-stereotyped traits—more so than are other female category groupings (Cuddy, Fiske, & Glick, 2004)—and recent findings have shown that the information that a woman is a mother enhances perceptions of her femininity (Heilman & Okimoto, Study 3, 2007).

There is an abundance of evidence that women face occupational disadvantages as a result of perceptions based on gender stereotypes (see Swim et al., 1989, for review). If mothers are viewed as prototypes of the general stereotype of women, there are likely to be particularly deleterious consequences for mothers who pursue traditionally male careers. They are likely to be seen as being less competent to perform these jobs successfully than are working nonmothers.

Our reasoning about how stereotypes about women affect perceptions of the competence of working mothers derives from the lack of fit model (Heilman, 1983, 1995, 2001). The model proposes that there is a perceived lack of fit between the stereotypically based, nurturing, and communal attributes and behaviors associated with women (e.g., warmth, kindness, concern about others) and the agentic, instrumental "male" attributes and behaviors (e.g., independence, competitiveness, dominance) that are believed necessary for success at male-gender-typed jobs—the

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jobs that are the most powerful and sought after in organizations (Brenner, Tomkiewicz, & Schein, 1989; Heilman, Block, Martell, & Simon, 1989; Powell, Butterfield, & Parent, 2002; Willemsen, 2002). The model further proposes that this perceived incongruity gives rise to expectations that women are ill equipped to handle these positions and that the greater the perceived lack of fit, the more negative the expectations of their performance. These expectations are important; they play a key role in evaluative processes, because there is a tendency to perpetuate and confirm them. As they become the lens through which information about women is filtered, they influence both the information that is attended to and remembered and the way in which it is interpreted. Thus, the negative performance expectations that arise from perceptions of lack of fit detrimentally affect how women are regarded and how their work is evaluated when they seek or are performing traditionally male jobs.

The level of negative performance expectations and the ensuing detrimental consequences for evaluative decisions regarding women depend on the magnitude of the perceived lack of fit between person and job. According to the lack of fit formulation, perceptions of the job and its requirements, as they contrast with perceptions of the focal woman and her attributes, determine the magnitude of perceived lack of fit. Consistent with these ideas, negativity toward women has repeatedly been found to be related to the degree of masculinity of the job's gender type, both in the laboratory (Eagly, Makhijani, & Klonsky, 1992; Swim et al., 1989) and in the field (Lyness & Heilman, 2006; Pazy & Oron, 2001). Also, and more relevant to our concerns, negativity toward women in male-gender-typed jobs has been found to be related to the degree to which gender stereotypes are associated with the woman being evaluated. Women who are more highly associated with gender stereotypes, whether because of their appearance (Heilman & Saruwatari, 1979; Heilman & Stopeck, 1985); their numerical scarcity (Heilman, 1980; Heilman & Blader, 2001); or an emphasis on affirmative action or diversity efforts (Heilman, Block, & Stathatos, 1997; Heilman & Welle, 2006), have been found to be less competent, and their work has been evaluated less favorably than that of other women. Because motherhood is likely to be highly associated with stereotypes about women and, therefore, to produce a greater perceived lack of person-job fit with male-gender-typed jobs, it, too, should increase negativity toward women, thereby causing working mothers to be seen as less competent than working nonmothers and, consequently, to be treated more harshly in decisions regarding career advancement.

Competence is not the only perceived attribute likely to be affected by parenthood. Being a parent brings distractions and conflicting demands, which can be seen as limiting the unadulterated focus on work and as causing individuals to give their job lower priority in their lives than would be the case if they were not parents. Although research indicates that women still tend to be viewed as the primary caregiver in the family (Ridgeway & Correll, 2004), the sharp increase in the number of dual-career families and the changes that have occurred in the conception of the paternal role (Cohen, 2007) make it likely that, nowadays, both male and female parents will be thought to be heavily involved in family matters. Thus, working fathers as well as working mothers are apt to be seen as less focused on their jobs than are their nonparent counterparts. Indeed, recent research has found that both mothers and fathers are perceived as less committed to their jobs

than are nonparents (Fuegen, Biernat, Haines, & Deaux, 2004). Despite these general effects of parenthood, we believe, the maternal role, more than the paternal role, will negatively affect employment decisions when a job is male gender typed, because only the maternal role has detrimental consequences for perceptions of competence.

In the following two studies, we investigated the effects of parental status on currently successful men and women who were said to have applied for an internal promotion to an upper-level, male-gender-typed position in a large work organization. Whereas we expected that being a parent generally would lead to expectations of lesser job focus, because of the strong association of motherhood with stereotypes about women, we expected that being a parent would have more unfavorable consequences for mothers than for fathers in ratings of expected competence. Consequently, we anticipated that the effects of parenthood on employment decisions would be more pronounced for women than for men. We designed the first study to determine whether the predicted bias against working mothers in fact occurs in evaluative decision making and the second study to examine the role that gender stereotypes play in mediating this bias.

Study 1

To determine whether there is bias against working mothers who seek to advance their careers, we provided participants with information about four individuals who had ostensibly applied for a promotion in the company in which they already worked. Each participant reviewed four applicants: a male parent, a female parent, a male nonparent, and a female nonparent. There were three dependent variables: job focus (operationalized as anticipated job commitment), anticipated competence, and screening recommendations. We expected the following:

Hypothesis 1: Applicants who were parents, whether mothers or fathers, would be rated as less likely to be committed to the job than would same-sex applicants who were not parents.

We also expected that

Hypothesis 2: Applicants who were mothers, but not those who were fathers, would be rated as less likely to be competent in working on the job than would same-sex applicants who were not parents.

Last, we expected evaluative employment decisions to parallel the competence judgments:

Hypothesis 3: Applicants who were mothers, but not those who were fathers, would be more harshly treated in screening recommendations than would same-sex applicants who were not parents.

Thus, we predicted a main effect of parental status for commitment ratings but an interaction between parental status and sex of applicant for competence ratings and for screening decisions.

Method

Participants and Design

Participants were 65 male and female undergraduates (72% female) who averaged 19.0 years of age ($SD = 0.91$) and who had been recruited from an introductory psychology course. They participated in exchange for partial fulfillment of course

experiment-participation requirements. The design was a 2×2 repeated-measures factorial, with sex of the applicant (male, female) and parental status (no children, children) as the two independent variables. Participants were exposed to all four experimental conditions: Each participant reviewed and evaluated two male and two female targets, with one male target and one female target depicted as parents and the other male target and female target depicted as nonparents.

Procedure

The experimenter informed participants that the study was part of a program of research that had been designed to learn more about the selection process and, specifically, to gain insight into how impressions are formed of job applicants, how decisions are made to retain or eliminate them from the applicant pool, and if there are any decision rules or rules of thumb commonly used by decision makers. The current study was said to focus on the impressions formed about individuals who have applied for a job promotion. Participants were told that the researchers were particularly interested in decisions made on the basis of the minimal information most often on hand at the beginning of the selection process and in what information types yield the most consistent evaluations of a job applicant. Participants were then told that they would be asked (a) to review the application materials of four applicants drawn from a larger applicant pool for a promotion that had been posted internally in a large company and (b) to give their impressions of the applicants and the applicants' likely job performance. All four of the applicants were said to currently occupy staff positions in the finance departments of different affiliates of the company. Participants were then given research packets that contained information about the job opening and application materials for each applicant.

The "job description summary" was a single-page description of the position opening for assistant vice president (AVP) of financial affairs. It specified the responsibilities of the job (e.g., supervising the financial affairs department, overseeing the allocation of company funds, managing financial department staff, preparing tax reports and internal audits, recommending long-term investment strategies). Through this description, as well as the information that 88% of AVPs companywide are male (which appeared in a list of other demographic information, such as the percentage of AVPs under age 40), the job was depicted as male gender typed.

The application material regarding each of the four applicants was presented in the form of the initial page of a more extensive job application profile and was explained as "the first information decision makers typically see" when they review job applicants. It included routine information supplied by the applicant (e.g., name, with last name blacked out, ostensibly for reasons of confidentiality; date of birth; contact information; current occupation and responsibilities; educational background; and other filler information) as well as information about gender and parental status. All of the applicants were depicted as having both undergraduate and master's of business administration (MBA) degrees; they were said to be in their mid-30s, to be married, to hold accounting/finance positions, and to have worked at the company for 2–3 years. The description of their current job responsibilities, although varied in presentation, always included the same tasks: the preparation of reports, handling of accounts, and completion of

necessary documentation. The application material also included brief evaluative comments from the applicant's current supervisor. The supervisor's comments were always favorable; they indicated that the applicant's work quality had been high and that he or she had effectively fulfilled all department tasks and responsibilities. Because participants reviewed four applicants, we developed four sets of application materials, all of which appeared to differ but were designed to be as equivalent as possible in both descriptive information and supervisory evaluations. To eliminate possible problems with systematic error, we assembled the packets so the four versions of the application were rotated, with each version being used in every experimental condition. The order of presentation of the four stimulus targets was counterbalanced.

Following each set of application materials, there was a one-page questionnaire that asked participants for their reactions to the applicant. After they had reviewed all four of the applicants, participants completed a final questionnaire, also one page in length, which asked for comparative judgments and demographic information.

Experimental Manipulations

Sex of applicant. Information regarding applicant gender was manipulated by varying the name of the applicant (Jason or Jennifer, Alexander or Angela, Sara or Evan, Elizabeth or Michael), whether the applicant indicated "Male" or "Female" on the job application, and the gender pronouns used by the applicant's supervisor when commenting on his or her work performance.

Parental status. Information describing the target applicant as having children or not having children was provided in the application materials. In the personal information section, which was labeled as optional, applicants had indicated their parental status by circling "Children" or "No Children." This item was embedded within other demographic indicators. Two of the target applicants, one male and one female, indicated having children, and the other two indicated having no children. Both of the applicants who indicated having children indicated in response to a follow-up question that their children were living at home with them. Although real application forms do not typically request this type of demographic information, even if optional, pilot work indicated that participants in our subject population did not find its inclusion to be odd or inappropriate.

Dependent Measures

The dependent measures were ratings of anticipated job commitment, ratings of anticipated competence, and screening recommendations. The anticipated job commitment measure was a composite of responses to three 9-point scale responses ($\alpha = .91$) that assessed the likelihood that, if hired to the AVP position, the applicant would "be very committed to the company," "be willing to make sacrifices for the job," and "make work a top priority." The measure of anticipated competence was a composite of responses on three 9-point, bipolar adjective scale items ($\alpha = .95$), on which participants evaluated the applicants' expected job performance if hired to the position of AVP: "competent–not competent," "productive–not productive," and "effective–ineffective."

Screening recommendations were assessed by two measures. The first was a composite of two 9-point scale items ($\alpha = .90$) that

asked participants to rate agreement with two statements for each of the applicants: "I think this person should be considered further for the Assistant VP position" and "This person should be eliminated from consideration for the job" (reverse coded). The second measure was the participant's recommendation about which of the four applicants reviewed should be eliminated from further consideration for the job.

Results

Data Analysis

There were two types of measures in this study, composite 9-point scales and a forced-choice question. Analysis of variance (ANOVA), as well as comparisons between cell means to clarify significant interaction effects and to directly test our hypotheses, was conducted on each of the scales. Because of the within-subject nature of the manipulations, we used paired *t* tests to test intercell differences. Table 1 presents the correlations between the dependent measure scales, and Table 2 presents the means and standard deviations for each measure. Chi-square tests were used for analysis of participant recommendations about the applicant who should be eliminated from the applicant pool. Table 3 presents the frequencies of these choices.

Initial ANOVAs with participant sex included as a factor indicated no significant main effects or interactions involving participant sex on any of the dependent measure scales. Additionally, the results of the chi-square analysis of the choice measure did not differ when the responses of male and female participants were analyzed separately. Consequently, the data of male and female research participants were combined for all subsequent analyses.

Anticipated Commitment Ratings

An ANOVA of participant ratings of anticipated job commitment revealed a significant main effect for applicant sex, $F(1, 64) = 10.15, p < .005, \eta^2 = .14$, which indicated that women, regardless of parental status, were expected to be less committed to the job than were men. More relevant to our predictions was the finding of a main effect for parental status, $F(1, 64) = 99.20, p < .001, \eta^2 = .61$, which indicated that applicants with children were uniformly expected to be less committed than were applicants without children. No significant interaction was found between applicant sex and parental status, $F(1, 64) = 0.09, p = .77, \eta^2 < .01$, which indicated that the difference in reactions to parents and to nonparents was not moderated by the sex of the applicant. Indeed, paired *t*-test comparisons revealed that, both for male applicants, $t(64) = 8.80, p < .001$, and for female applicants, $t(64) = 7.40, p < .001$, being a parent had negative effects on

Table 1
Study 1: Correlations Between Dependent Measure Scales

| Variable | 1 | 2 | 3 |
|-------------------------------|------|------|---|
| 1. Anticipated job commitment | — | | |
| 2. Anticipated competence | .47* | — | |
| 3. Screening recommendations | .45* | .69* | — |

Note. * $p < .001$.

Table 2
Study 1: Means and Standard Deviations for Dependent Measure Scales

| Variable | No children | Target has children |
|----------------------------|--------------------------|--------------------------|
| Anticipated job commitment | | |
| Male target | 7.64 (1.13) _a | 5.84 (1.48) _c |
| Female target | 7.17 (1.87) _b | 5.29 (1.49) _d |
| Anticipated competence | | |
| Male target | 7.37 (1.20) _a | 7.38 (0.95) _a |
| Female target | 7.48 (1.19) _a | 6.88 (1.22) _b |
| Screening recommendations | | |
| Male target | 7.29 (1.63) _a | 7.07 (1.54) _a |
| Female target | 7.51 (1.40) _a | 6.07 (1.93) _b |

Note. Standard deviations appear in parentheses. All ratings were done on 9-point scales, and the higher the number, the more favorable the rating (the more committed, the more effective, or the better the recommendation for promotion). $n = 65$. Means for each dependent measure grouping that do not share subscripts differ significantly at $p < .05$, as indicated by paired *t* tests for comparisons between repeated-measures conditions.

ratings of anticipated commitment. These intercell comparisons indicated an additive effect of applicant sex and parental status, such that mothers were expected to be the least committed of all the job applicants and males without children were expected to be the most committed (see Table 2).

Anticipated Competence Ratings

An ANOVA of participant ratings of anticipated competence revealed a significant main effect for applicant sex, $F(1, 64) = 4.04, p < .05, \eta^2 = .06$, and for parental status, $F(1, 64) = 5.68, p < .05, \eta^2 = .08$. However, as predicted, a significant interaction between applicant sex and parental status was found, $F(1, 64) = 12.01, p < .001, \eta^2 = .16$. Paired *t*-test comparisons revealed that, consistent with our second hypothesis, female applicants who had been described as having children were expected to be significantly less competent on the job than were female applicants without children, $t(64) = 3.65, p < .001$, whereas differences between male applicants were nonsignificant, $t(64) = 0.07$. Additional paired *t*-test comparisons indicated that participants expected mothers to be less competent than fathers, $t(64) = 4.01, p < .001$, although there was no significant difference in the expectations about the competence of female and male nonparents, $t(64) = 0.82$.

Screening Recommendations

Scale ratings. An ANOVA of participant screening recommendation ratings revealed significant main effects for applicant

Table 3
Study 1: Frequencies of Target Choices for Elimination From Applicant Pool

| Elimination choice | No children | | Target has children | |
|--------------------|-------------|----|---------------------|----|
| | <i>f</i> | % | <i>f</i> | % |
| Male target | 10 | 15 | 8 | 12 |
| Female target | 7 | 11 | 40 | 62 |

sex, $F(1, 64) = 6.39, p < .05, \eta^2 = .09$, and for parental status, $F(1, 64) = 20.52, p < .001, \eta^2 = .24$. The interaction effect was again found to be significant, $F(1, 64) = 11.44, p < .001, \eta^2 = .15$. As predicted in Hypothesis 3, paired t -test comparisons indicated that female applicants with children received significantly weaker screening recommendations than did female applicants without children, $t(64) = 5.16, p < .001$, but there was no significant difference in screening recommendations made about male applicants when they did or did not have children, $t(64) = 0.96$. Additional paired t -test comparisons revealed that mothers were less enthusiastically recommended than were fathers, $t(64) = 3.65, p < .001$, but there was no significant difference in the recommendations made about male and female applicants when they were not parents, $t(64) = 1.11$.

Comparative judgments. The results of the chi-square analysis of participant recommendations regarding which applicant should be eliminated from consideration for the job indicated a significant effect, $\chi^2(3, N = 65) = 46.57, p < .001$. This result was consistent with our prediction that participants would choose to eliminate the female applicant with children significantly more often than they would the female applicant without children, whereas parental status would have no effect on decisions regarding men. In fact, as inspection of Table 3 makes clear, participants chose to eliminate the female applicant with children more often than they did the applicants in any of the other three experimental conditions, none of which differed from one another.

Summary and Discussion: Study 1

These results supported our hypotheses. Although parenthood negatively affected anticipated job commitment for both male and female parents, it affected anticipated competence only for mothers. Also, as we had expected, the screening recommendations followed the same pattern as did the anticipated competence ratings, a finding which suggests that competence judgments, more than commitment judgments, were responsible for parental bias against mothers in employment decisions. In Study 2, we sought to replicate these results with a nonstudent population and to directly test our ideas about the relationship between competence judgments and employment decisions. In addition, we sought to test our underlying theoretical assumptions by examining the mediating role of gender stereotyping in the formation of expectations of job competence for working mothers.

Study 2

Because the subjects in Study 1 were undergraduates and were likely to have had limited work experience, it was unclear how informative the results were about reactions to parents by those individuals actually in the work setting. We therefore decided to replicate our study using a population of people who were actively engaged in the business world. To allow for mediational analyses, we used a between-subjects rather than a within-subjects design, as we had in Study 1. We also added three dependent measures. Specifically, we included an additional measure of expectations about job focus—anticipated achievement striving—to ensure that the results concerning job focus found in Study 1 were robust and were not merely the result of idiosyncrasies of the job commitment measure. And, in an effort to further test our ideas and to determine

why mothers but not fathers were anticipated to be less competent than were same-sex nonparents, we obtained two measures of anticipated on-the-job behaviors that were potentially predictive of competence projections: anticipated likelihood of dependability and anticipated likelihood of the male-stereotypic “agentic” behaviors typically considered necessary for success at managerial jobs.

We expected, in addition to the three hypotheses of Study 1, that parents would be perceived as generally lower in achievement striving and dependability behaviors than would nonparents:

Hypothesis 4: Applicants who were parents, whether mothers or fathers, would be rated as less likely to be ambitious in their achievement striving than would same-sex applicants who were not parents.

Hypothesis 5: Applicants who were parents, whether mothers or fathers, would be rated as less likely to be dependable in their work behavior than would same-sex applicants who were not parents.

However, we expected that mothers, more than fathers, would be expected to be deficient in the male-stereotypic agentic behaviors typically viewed as essential to fulfillment of the managerial role:

Hypothesis 6: Applicants who were mothers, but not those who were fathers, would be rated as less likely to be agentic in their work behavior than would same-sex applicants who were not parents.

Thus, we expected a main effect of parental status for anticipated commitment, achievement striving, and dependability and an interaction between parental status and applicant sex for anticipated competence, screening recommendations, and anticipated agenticism. Also, tests of mediation were planned to determine whether, as we expected,

Hypothesis 7: Anticipated competence (but not anticipated work commitment or achievement striving) would mediate the effect of motherhood on screening recommendations

and

Hypothesis 8: Ratings of likely agenticism (but not of dependability) would mediate the effect of motherhood on anticipated competence ratings.

Method

Participants and Design

Participants in this study included 100 MBA student volunteers (34% female) whose average age was 28.2 years ($SD = 3.22$). All participants were full-time employees of business organizations who were in their first semester of a part-time MBA program. They reported having an average of 6.2 years ($SD = 2.88$) of full-time work experience, and 74% reported having had experience in making hiring decisions.

The design was a 2×2 between-subjects factorial, with sex of the stimulus person (male, female) and parental status (no children, children) as the two independent variables. Thus, unlike in Study 1, participants evaluated only one target applicant, and each participant was randomly assigned to one of the four experimental conditions.

Procedure and Manipulations

The procedures and stimulus materials closely followed those of Study 1. Participants were again told that the study was part of a program of research that was investigating how selection decisions are made at work and that, in this study, we were seeking to identify the type of information about a job applicant that yields the most consistent evaluations (see Study 1 *Method*). Experimental packets included a job description for the AVP position, information about the promotion applicant, and a questionnaire that assessed reactions to the applicant described.

The stimulus materials that described the applicants and experimental manipulations were the same as those used in Study 1, with one exception. Instead of presenting participants with descriptive information about the applicant (including parental status) on an application form ostensibly completed by the applicant, we gave participants a "promotion applicant information form" that listed facts and information (and supervisor comments) about the applicant they were to review. The information conveyed, however, was identical to that presented in the first study. We made this change because we were concerned that MBA students would be aware of the legal constraints against companies directly asking applicants for parental and other demographic information on a job application, which would potentially undermine the credibility of our stimulus materials.

Because each participant was exposed to only one target applicant, variations in stimulus materials were unnecessary, so the information provided about each applicant (other than for the experimental manipulations) was identical for all participants. Information regarding target sex was again manipulated by altering the names of the applicants, the gender the applicants had indicated on the applicant information form (male or female), and the gender pronouns in the supervisor's comments. Parental status was manipulated by an entry on the promotion applicant information form that indicated whether the applicant had children.

Dependent Measures

The dependent measures scales of anticipated job commitment ($\alpha = .77$) and anticipated competence ($\alpha = .86$) were identical to those used in Study 1. The scalar measure of screening recommendations also was the same as that used as in Study 1 ($\alpha = .89$). Because participants in Study 2 evaluated only one applicant, it was not possible to obtain a recommendation forcing a choice among the four applicants. Anticipated achievement striving was measured by a composite scale of three 9-point scale items ($\alpha = .95$) that assessed the likelihood that, if hired, the applicant would

"be eager to get ahead," "apply for further promotions in the future," and "have high career aspirations." Likelihood of work dependability was measured by a composite scale of two 9-point scale items ($\alpha = .72$) that assessed the likelihood that, if hired to the AVP position, the applicant would "take a lot of sick/personal days" and "arrive late for work or leave work early." Likelihood of agentic behaviors was measured by a composite scale of four 9-point scale items ($\alpha = .73$) that assessed the likelihood that, if hired, the applicant would "be a leader," "think independently," "react emotionally" (reverse coded), and "seek power."

Results

Data Analysis

ANOVAs were conducted on each of the dependent measure scales and, because the design for Study 2 was between subjects, we used Fisher's least significant difference (LSD) comparisons to test differences between cell means to clarify significant interaction effects and to directly test our hypotheses. Mediation analyses followed procedures for hierarchical linear regression, as outlined by Kenny, Kashy, and Bolger (1998). Correlations between the scales are presented in Table 4, and the means and standard deviations for each scale can be found in Table 5.

As with Study 1, initial ANOVAs with participant sex included as a factor indicated no significant main effects or interactions involving participant sex on any of the dependent measure scales. The data of male and female participants were therefore combined for all subsequent analyses.

Anticipated Job Commitment

An ANOVA of participants' ratings on the job commitment scale revealed a significant main effect for parental status, $F(1, 96) = 21.16, p < .001, \eta^2 = .18$. As predicted and consistent with the results of Study 1, parents were expected to be less committed to their jobs than were nonparents. No significant effects were found for sex of applicant, $F(1, 96) = 0.06, \eta^2 < .01$, or for the interaction between applicant sex and parental status, $F(1, 96) = 1.01, \eta^2 = .01$.

Anticipated Achievement Striving

An ANOVA of participant ratings of anticipated achievement striving of the target applicants revealed, as predicted, a significant main effect for parental status, $F(1, 96) = 9.23, p < .005, \eta^2 = .09$. Less achievement striving was expected when applicants had

Table 4
Study 2: Correlations Between Dependent Measure Scales

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------------------|------|------|------|-----|------|---|
| 1. Anticipated job commitment | — | | | | | |
| 2. Anticipated achievement striving | .65* | — | | | | |
| 3. Anticipated competence | .33* | .51* | — | | | |
| 4. Expected dependability | .50* | .39* | .24* | — | | |
| 5. Expected agentic behavior | .24* | .57* | .49* | .17 | — | |
| 6. Screening recommendations | .08 | .23* | .61* | .13 | .55* | — |

Note. * $p < .05$.

Table 5
Study 2: Means and Standard Deviations for Dependent Measure Scales

| Variable | No children | Target has children |
|----------------------------------|---------------------------|--------------------------|
| Anticipated commitment | | |
| Male target | 7.04 (1.10) _a | 6.16 (1.23) _b |
| Female target | 7.35 (0.92) _a | 5.97 (1.57) _b |
| Anticipated achievement striving | | |
| Male target | 7.35 (1.48) _{ab} | 7.04 (1.41) _b |
| Female target | 7.88 (0.82) _a | 6.56 (1.52) _b |
| Anticipated competence | | |
| Male target | 6.45 (1.09) _a | 6.51 (1.25) _a |
| Female target | 6.80 (1.37) _a | 5.67 (1.52) _b |
| Expected dependability | | |
| Male target | 6.42 (1.47) _{ab} | 5.72 (1.69) _b |
| Female target | 7.10 (0.99) _a | 5.84 (1.69) _b |
| Expected agentic behavior | | |
| Male target | 5.58 (1.19) _a | 5.69 (1.07) _a |
| Female target | 5.94 (1.20) _a | 4.83 (1.19) _b |
| Screening recommendations | | |
| Male target | 6.50 (2.01) _a | 6.44 (2.04) _a |
| Female target | 6.48 (1.94) _a | 4.38 (2.15) _b |

Note. Standard deviations appear in parentheses. All ratings were done on 9-point scales, and the higher the number, the more favorable the rating (the more committed, the more favorable job behaviors, or the better the recommendation for promotion). $n = 25$ per cell. Means for each dependent measure grouping that do not share subscripts differ significantly at $p < .05$, as indicated by planned Fisher's least significant difference comparisons.

children than when they did not. No significant effects were found for applicant sex, $F(1, 96) = 0.01$, $\eta^2 < .01$, or for the interaction between applicant sex and parental status, $F(1, 96) = 3.58$, $\eta^2 = .04$.

Anticipated Competence

An ANOVA of participants' anticipated competence ratings revealed no significant main effect for sex of target, $F(1, 96) = 0.88$, $\eta^2 = .01$. A significant effect was, however, found for parental status, $F(1, 96) = 4.19$, $p < .05$, $\eta^2 = .04$, as well as for the interaction between applicant sex and parental status, $F(1, 96) = 5.06$, $p < .05$, $\eta^2 = .05$. Planned LSD comparisons supported our predictions, indicating that female applicants with children were rated as significantly less likely to be competent than were female applicants without children, $t(48) = 2.77$, $p < .01$, whereas competence ratings of male applicants with and without children did not differ significantly, $t(48) = 0.16$. Additionally, LSD comparisons indicated that mothers were expected to be less competent than were fathers, $t(48) = 2.13$, $p < .05$, although competence expectations of male and female nonparents did not differ, $t(48) = 0.99$, *ns*. These results are almost identical to those found in Study 1.

Expected Work Behaviors

Dependability. Analysis of the ratings of expected dependability revealed a significant main effect for parental status, $F(1, 96) = 10.84$, $p < .001$, $\eta^2 = .10$, such that parents were viewed as likely to be less dependable than were nonparents. No significant main effects for sex of applicant, $F(1, 96) = 1.81$, $\eta^2 = .02$, and no

significant interaction between applicant sex and parental status were found, $F(1, 96) = 0.88$, $\eta^2 = .01$.

Agentic behavior. Analysis of the ratings of expected agentic behavior indicated no significant main effect for applicant sex, $F(1, 96) = 1.11$, $\eta^2 = .01$, but significant effects for both parental status, $F(1, 96) = 5.58$, $p < .05$, $\eta^2 = .06$, and the interaction between applicant sex and parental status, $F(1, 96) = 7.75$, $p < .01$, $\eta^2 = .08$. Subsequent LSD comparisons indicated that, as we had predicted, female applicants with children were viewed as less likely to engage in agentic behavior than were female applicants without children, $t(48) = 3.55$, $p < .001$, whereas parental status had no effect on male applicants, $t(48) = 0.31$. Additionally, LSD comparisons indicated that mothers were expected to be less agentic than were fathers, $t(48) = 2.72$, $p < .01$, although male and female nonparents did not differ in their agenticism ratings, $t(48) = 1.22$.

Screening Recommendations

An ANOVA of participants' screening recommendations ratings revealed a significant main effect for applicant sex, $F(1, 96) = 6.51$, $p < .05$, $\eta^2 = .07$, and for parental status information, $F(1, 96) = 7.02$, $p < .01$, $\eta^2 = .07$. However, as inspection of Table 5 indicates, these main effects were almost wholly driven by the interaction between applicant sex and parental status, $F(1, 96) = 6.27$, $p < .05$, $\eta^2 = .06$. Planned LSD comparisons we conducted to further clarify the interaction effect supported our predictions. They indicated that female applicants with children were given significantly more negative screening recommendations than were female applicants without children, $t(48) = 3.62$, $p < .001$, whereas recommendations about male applicants were not affected by the applicants' parental status, $t(48) = 0.11$. Additional LSD comparisons made it clear that the main effect for applicant sex was limited to applicants who were parents. Although mothers were less enthusiastically recommended than were fathers, $t(48) = 3.47$, $p < .001$, there was no difference in the strength of recommendations made about male and female applicants when they were not parents, $t(48) = 0.04$.

Mediational Analyses

We had hypothesized that anticipated competence, not anticipated job commitment or anticipated achievement striving, would mediate the relationship between motherhood and screening recommendations (Hypothesis 7). Additionally, we predicted that expectations about agentic behavior, not about dependability, would mediate the relationship between motherhood and anticipated competence (Hypothesis 8). We tested each of these mediational hypotheses in turn. To test these mediating effects, we followed procedures for hierarchical linear regression, as outlined by Kenny, Kashy, and Bolger (1998). After establishing that the variables of interest were significantly correlated (see Table 4), we tested the direct and indirect relationships between the independent and dependent variables. Note that while applicant sex, parental status, and the interaction were used as predictors in all analyses, the main effects were not significant; therefore, only statistics

relating to the manipulation interaction (which embodies the motherhood construct) are presented.

Anticipated competence as a mediator of screening recommendations (Hypothesis 7). The direct effect of the manipulation interaction on screening recommendations was significant, $\beta = -.40$, $t(95) = 2.50$, $p < .05$. We then included anticipated competence as a mediating variable. The interaction significantly predicted anticipated competence, $\beta = -.38$, $t(95) = 2.25$, $p < .05$, and anticipated competence significantly predicted screening recommendations, $\beta = .54$, $t(94) = 6.59$, $p < .001$. Supporting our mediational hypothesis, a Sobel (1982) test indicated a significant indirect effect, $z = 2.13$, $p < .05$, and partial mediation. When we controlled for anticipated competence, the direct effect of the interaction on screening recommendations was no longer significant, $\beta = -.20$, $t(94) = 1.45$.

To test the alternative explanations that either anticipated job commitment or anticipated achievement striving was responsible for screening recommendations, we examined each of these variables as potential mediators. However, neither anticipated job commitment, $\beta = -.05$, $t(95) = 0.51$, *ns*, nor anticipated achievement striving, $\beta = .14$, $t(95) = 1.43$, *ns*, predicted screening recommendations. Therefore, neither variable could have been a mediator of the relationship between the interaction and screening recommendations.

Expected agentic behavior as a mediator of anticipated competence (Hypothesis 8). As noted above, the direct effect of the manipulation interaction on anticipated competence was significant, $\beta = -.38$, $t(95) = 2.25$, $p < .05$. We then included expected agentic behavior as a mediating variable. The interaction significantly predicted expected agentic behavior, $\beta = -.46$, $t(95) = 2.78$, $p < .01$, and expected agentic behavior significantly predicted anticipated competence, $\beta = .44$, $t(94) = 6.60$, $p < .001$. Supporting our mediational hypothesis, a Sobel (1982) test indicated a significant indirect effect, $z = 2.38$, $p < .05$, and partial mediation. When we controlled for expected agentic behavior, the direct effect of the interaction on anticipated competence was no longer significant, $\beta = -.18$, $t(94) = 1.12$.

To test the alternative explanation that expected dependability was responsible for the lower anticipated competence for mothers, we examined expected dependability ratings as a potential mediator in the model. However, the interaction did not significantly predict expected dependability, $\beta = -.16$, $t(95) = 0.94$. Therefore, expected dependability could not have mediated the relationship between the interaction and anticipated competence.

Summary and Discussion: Study 2

These results were highly consistent with our predictions. We found anticipated job commitment and anticipated achievement striving to be negatively affected by parental status, regardless of the sex of the parent. But, as in Study 1, we found anticipated competence as well as screening recommendations to be negatively affected only when the parent was a mother. Moreover, our findings concerning expected work behaviors indicated that, although both fathers and mothers were expected to be less dependable than were male and female nonparents, only mothers were expected to be less engaged in the male-stereotypic agentic behaviors thought critical for work success than were their same-sex nonparent counterparts. Last, mediational analyses, which we con-

ducted to illuminate the process by which motherhood promotes bias, also provided results that were consistent with our predictions: Anticipated competence, not anticipated job commitment or achievement striving, was found to mediate screening decisions, and expectations about agenticism, not dependability, were found to mediate anticipated competence. The implications of these findings are discussed in the next section.

General Discussion

Taken together, the data from these studies lend strong support to our ideas. The results demonstrated bias against mothers, both in anticipated competence assessments and in screening recommendations, and this bias was shown to occur regardless of whether the research participants were students or working people. These data are consistent with mounting evidence that women suffer disadvantages in the workplace when they are mothers, a problem that has been termed "the maternal wall" (Williams, 2001). Much of this work documents a wage penalty for motherhood (Budig & England, 2001; Crittenden, 2001; Waldfogel, 1998). The findings reported here add to the idea that mothers are disadvantaged in work settings by providing evidence of bias against them in career-relevant evaluative decision processes.

The findings also provide insight into the processes underlying biased evaluative decisions regarding mothers. Negativity in competence expectations was found to promote the motherhood bias in screening recommendations, and expected deficits in agentic behaviors were found to fuel these competence expectations. These findings are consistent with our ideas about lack of fit perceptions as the driving force behind the motherhood bias in male-gender-typed work contexts. They suggest that it is the heightened association with gender stereotypes that occurs when women are mothers that produces performance expectations that predispose greater negativity to be directed at mothers than at nonmothers when career advancement decisions are made. The findings further demonstrate that heightened association with gender stereotypes implies not only that mothers possess more stereotypically feminine attributes, as others have demonstrated (Cuddy et al., 2004), but that they are more deficient in stereotypically male attributes, the agentic attributes that are considered essential for success at male-gender-typed work.

Although parenthood was shown not to be a liability for men in either competence projections or screening recommendations, being a father did draw some negative reactions. Parenthood in general had unfavorable consequences for the way in which both men and women were viewed in terms of expected work focus, which were manifested in our research by lower expectations of job commitment and achievement striving. It also produced expectations of undependability. Such generally unfavorable views of parents suggest that there are negative consequences for fathers as well as mothers in the work setting, consequences that were not focused upon in this research but that are worthy of further study.

When viewing these results, it should be kept in mind that the descriptive material provided about our stimulus applicants, both in terms of age and of education, implied that they had relatively young children. This raises the question of whether the consequences of parenthood that we documented here are short lived and subside when children reach adolescence or whether they persist until children are no longer in the home or are independent

adults. Also, our studies did not make clear how many children the applicant had; it is conceivable that perceptions of both fathers and mothers are related to the size of their families. Although age and number of children may have all-around effects on expectations of parents, it seems plausible to suggest that these demographic factors will impact different outcomes differently and therefore will have different consequences for fathers and mothers. These demographic factors may, for example, be more likely to impact expectations about job focus (because of their direct relationship with the presumed level of outside distractions) and dependability (because parents are more likely to be seen as "on call" early in their children's lives) than to impact expectations of competence or agentism, neither of which seems highly contingent upon the number of children or their ages. These questions, however, remain for future research, as does the necessity of validating our results in an ongoing organizational setting, in which there is likely to be far more information available about promotion candidates than that provided here.

It is interesting to note that, in both studies, there were few instances when sex, separate from parental status, had effects on evaluations. Even when there was a significant main effect for sex, with only one exception (the ratings of anticipated job commitment in Study 1), further examination of the data generally indicated that the effect was limited to differences in reactions to mothers and to fathers. This lack of a general effect for sex in a male-gender-typed context, particularly in competence assessments and evaluative decisions, is somewhat inconsistent with a large body of research that has used similar methods of investigation and similar participant populations (e.g., Dipboye, 1985; Heilman, Martell, & Simon, 1988; Swim et al., 1989). One plausible explanation for the apparent inconsistency lies in the particulars of the descriptive materials we provided about the job applicants. Because our primary interest was in studying the effects of parenthood on evaluative decision making, it was important that our job applicants appeared to be worthy of the position to which they sought promotion. Thus, not only were all applicants depicted as highly accomplished (holders of MBA degrees) but in all cases their supervisors had signed off on their work effectiveness.

Given findings indicating that unequivocally favorable job-relevant information can attenuate bias based on sex (Cejka & Eagly, 1999; Heilman, 1995, 2001; Nieva & Gutek, 1980; Tosi & Einbinder, 1985), our materials may have inadvertently created conditions that quelled the occurrence of such bias in the nonparental conditions. Nevertheless, the lack of overall sex effects potentially makes the differences we found in reactions to male and female parents very dramatic. This finding suggests that the negative effects of motherhood may be independent of and supplemental to the negativity that can result from simply being a woman in a traditionally male setting. To explore these ideas further, future studies should investigate the biasing effects of motherhood under conditions that are less likely to constrain more general sex-based bias in reactions to women.

In sum, the two studies reported here attest to a bias against mothers in the workplace. Mothers were expected to be less competent and were less likely to be kept in the running for advancement opportunities than were other female or male applicants who were applying for the same high-level managerial position. Although men as well as women were shown to suffer negative consequences of being parents, only for women was

parental status shown to impede career progress. Motherhood, it seems, can be hazardous indeed for a woman striving to get ahead.

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