

GETTING A JOB: IS THERE A MOTHERHOOD PENALTY?*

(Running head: Motherhood penalty)

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ABSTRACT: Survey research finds that mothers suffer a substantial per-child wage penalty that is not explained by human capital or occupational factors (Budig and England 2001; Anderson, Binder and Krause 2003). Despite clear documentation of this pattern, the causal mechanism producing it remains elusive because existing research has not been able to distinguish between productivity and discrimination explanations for the motherhood wage penalty. Drawing on status characteristics theory and the literature on the cultural contradictions of motherhood, we suggest that status-based discrimination may be an important factor. To evaluate this argument, we conducted a laboratory experiment in which participants evaluated application materials for a pair of same race, same gender, ostensibly real job applicants who were equally qualified but differed on parental status. The results strongly support the discrimination hypotheses. Relative to other kinds of applicants, mothers were rated as less competent, less committed, less suitable for hire, promotion, and management training, and deserving of lower salaries. Mothers were also held to higher performance and punctuality standards. Men were not penalized for being a parent, and in fact, appeared to benefit from having children on some measures. We discuss the implications of these findings for the theory presented and for enduring patterns of gender inequality in paid work.

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Mothers experience disadvantages in the workplace in addition to those commonly associated with gender. For example, two recent studies find that employed mothers in the U.S suffer a per child wage penalty of approximately five percent, on average, after controlling for the usual human capital and occupational factors that affect wages (Budig and England 2001; Anderson, Binder and Krause 2003). In a summary of economic research, Crittenden (2001) concludes that, for those under the age of 35, the pay gap between mothers and non-mothers is larger than the pay gap between men and women. As Glass notes (2004) employed mothers are the group of women that now account for most of the “gender gap” in wages.

The disadvantages are not limited to pay. Cuddy, Fiske, and Glick (2004) show that describing a consultant as a mother leads evaluators to rate her as less competent than when she is described as not having children. Similarly, other studies show that visibly pregnant women managers are judged as less committed to their jobs, less dependable, less authoritative, but warmer, more emotional and more irrational than otherwise equal women managers who are not visibly pregnant (Halpert, Wilson, and Hickman 1993; Corse 1990). The pattern is clear; the underlying mechanism remains opaque. Why would being a parent lead to disadvantages in the workplace for women? And why might similar disadvantages not occur for men?

This paper presents a laboratory experiment to evaluate the hypothesis that the “motherhood penalty” on wages and evaluations of workplace performance and suitability occurs, at least partially, because cultural understandings of the motherhood role exist *in tension* with the cultural understandings of the “ideal worker” role. We propose that this perceived tension leads evaluators to, perhaps unconsciously, expect mothers to be less competent and less committed to their jobs. To the extent that mothers are believed to be less committed to the

workplace, we argue that employers will subtly discriminate against mothers when making evaluations that affect hiring, promotion and salary decisions. We do not expect that fathers will experience these types of workplace disadvantages since understandings of what it means to be a good father are not seen in our culture as incompatible with understandings of what it means to be a good worker (Townsend 2002). By having participants rate job applicants, we expect that applicants presented as women with children will be viewed as less competent, less committed to work, will need to present evidence that they are more qualified for the job, will be rated as less promotable, and will be offered lower starting salaries compared with otherwise similar applicants presented as women without children.

In the following paragraphs we review the empirical literature on the motherhood wage penalty and existing explanations for it. We then develop our theoretical argument by drawing on status characteristics theory and the literature on cultural conceptions of motherhood. Finally, we describe an experiment designed to evaluate the argument.

WAGE PENALTY FOR MOTHERHOOD

A variety of factors have been proposed as explanations for the motherhood wage gap, including reduced investment in human capital by mothers, lower work effort by mothers compared with non-mothers, unobserved heterogeneity between mothers and non-mothers or discrimination against mothers by employers. In general, explanations for the motherhood wage penalty can be classified as those that seek to identify important differences in the traits, skills and behaviors between mothers and non-mothers (i.e. worker explanations) and those that rely on the differential preference for or treatment of mothers and non-mothers (i.e. discrimination explanations). Empirical evaluations of these explanations have largely focused on the former.

For example, Budig and England (2001) examine differences in work patterns between mothers and non-mothers and find that interruptions from work, working part-time and decreased seniority/experience collectively explain no more than about 1/3 of the motherhood penalty. They also show that ‘mother-friendly’ job characteristics (i.e. differences in the type of jobs mothers and non-mother choose) explain very little of the penalty. Similarly, Anderson et al. (2003) find that human capital, occupational and household resource variables (e.g. number of adults in the household) collectively account for 24% of the total wage penalty for one child and 44% for women with two or more children. Likewise, Waldfogel and Meyer (2000) found that occupational controls do not eliminate the penalty. As Budig and England (2001) conclude, the remaining wage gap likely arises either because employed mothers are somehow less productive at work than non-mothers or because employers discriminate against mothers (or some combination of the two processes).

Becker’s (1985) “work effort” hypothesis is perhaps the best-known productivity explanation. According to Becker, mothers may in fact be less productive at work because they have dissipated their reserve of energy caring for their children. In an indirect attempt to evaluate this claim, Anderson et al. (2003) compare the motherhood wage penalty for mothers in different educational groups—high school dropouts, high school graduates, those with some college and college graduates. They hypothesize that if jobs that require more education require more effort then the motherhood wage penalty should be greater for mothers with higher levels of education. Contrary to this prediction, Anderson and colleagues found that mothers who were high school graduates actually experienced the largest wage penalty. They interpret this non-monotonic relationship between level of education and the magnitude of the wage penalty as evidence contradicting productivity explanations of the motherhood wage penalty. However, the authors

lack direct measures of productivity, limiting their ability to definitively rule out productivity explanations.

Productivity and discrimination

A logical way to distinguish between discrimination and productivity explanations would be to compare the workplace outcomes (e.g. salaries, hiring, promotions) of employed mothers and non-mothers who have equal levels of workplace productivity. If differences in pay or promotion rates were found between groups of mothers and non-mothers whose productivity levels were equal, this finding would suggest that discrimination factors were at work. However, the datasets analyzed in the studies described above lack direct measures of worker productivity. One likely reason for the lack of workplace productivity measures is that it is inherently problematic to fully specify what makes someone a good or productive employee. This difficulty leads to another: unexplained gaps in wages between two groups (e.g. employed mothers and non-mothers) can always be attributed to unmeasured productivity differences between the two groups. For example, if the wages of attorneys were compared and productivity was measured in terms of billable hours and it was found that, controlling for this measure of productivity, female attorneys with children earned less than female attorneys without children, we could not know whether the wage gap found was the result of discrimination against employed mothers or was instead the result of some *other* unmeasured form of productivity.

To address these problems in the current study, we *experimentally* hold constant the workplace performances and other relevant characteristics of a pair of fictitious job applicants and vary only their parental status. We measure how evaluators rate the applicants in terms of perceived competence, workplace commitment, hireability, promotability and recommended salary. By experimentally holding constant workplace relevant characteristics of the applicants,

any differences between the ratings of mothers and non-mothers cannot be attributed to productivity or skill differences. While this design cannot rule out the possibility that productivity differences account for part of the wage penalty that has been shown to exist, this study will isolate a potential status-based discrimination mechanism by evaluating whether being a parent disadvantages mothers in the workplace even when no productivity differences exist between them and women without children. In the next section, we draw on status characteristics theory to develop an explanation for how motherhood status could lead to evaluative biases against employed mothers.

PERFORMANCE EXPECTATIONS AND EVALUATIONS OF WORKPLACE COMPETENCE

Status characteristics theory

The theoretical claim to be advanced and evaluated is that motherhood is a *status characteristic* that, when salient, results in biased evaluations of competence and commitment, the use of a stricter standard for evaluating the workplace performances of mothers than non-mothers, and a bias against mothers in hiring, promotion and salary decisions. As defined by status characteristics theory, a status characteristic is a categorical distinction among people such as a personal attribute (e.g. race, gender) or a role (e.g. motherhood, manager), that has attached to it widely held beliefs in the culture that associate greater status worthiness and competence with one category of the distinction than others (Berger et al. 1977). A status characteristic becomes salient when it differentiates those in the setting or because the characteristic is believed to be directly relevant to the task at hand. The theory argues that actors then implicitly use the salient characteristic to guide their behaviors and evaluations.

The theoretical construct linking status characteristics, such as gender or race, to differences in behaviors and evaluations is *performance expectations*. According to the theory, actors implicitly expect more competent task performances from those with the more valued state of a characteristic (men, managers) compared with those with the less valued state (women, non-managers). These differentiated performance expectations operate in a self fulfilling way—since they are expected to offer more competent performances, high status actors are given more opportunities to participate, they have more influence over others in a group and, importantly for the current project, they have their performances evaluated more positively (see Correll and Ridgeway 2003). These effects are predicted except when the task or setting is one for which lower status individuals are believed to be “naturally” better, such as a task requiring nurturing ability in the case of gender. Experiments confirm that a wide variety of status characteristics, including race, gender, level of education, and physical attractiveness, systematically organize the appearance of competence, influence and deference in this manner (Ridgeway 2001; Webster and Foschi 1988).

Theory and empirical research suggest that in addition to their impact on performance evaluations, status characteristics also affect the standard individuals use to determine whether a given performance is indicative of ability (Foschi 1989). The central idea is that ability standards are stricter for those with lower performance expectations, that is, those with devalued status characteristics. The logic behind this prediction is that good performances are inconsistent with expectations for lower status actors; therefore when lower status actors perform well at a task, their performances are critically scrutinized. When higher status actors perform equally as well, their performances are consistent with expectations and are therefore less scrutinized. Since performances of lower status actors are more heavily scrutinized, their performances are judged

by a stricter standard compared with higher status actors. Therefore, the performances of low status actors—even when “objectively” equal to that of their high status counterparts—are less likely to be judged as demonstrating task ability or competence. A “double standard” benefiting high status individuals is predicted except when the task or setting is culturally associated with the low status group (e.g. a task requiring nurturing ability might advantage mothers over childless employees). Empirical evidence supports these predictions 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).

If motherhood is a devalued status in workplace settings, we predict that mothers will be judged by a harsher standard than non-mothers. They will have to present evidence of greater ability before being seen as competent. While this argument shares some similarities with economic theories of statistical discrimination (Phelps 1972; Arrow 1973; Bielby and Baron 1986), status-based discrimination differs in that it claims that the standard used to evaluate workers is systematically biased in favor of high status groups.¹

Preliminary empirical support

Recent studies provide some evidence consistent with status-based discrimination. In one experiment, participants were asked to imagine that they were clients choosing a consultant from a consulting firm (Cuddy et al. 2004). The researchers found that simply adding the phrase “has a two year old child” to the description of the consultant lead evaluators to rate the consultant as less competent than a otherwise equal consultant not presented as having a child. Likewise, Fuegen et al (2004) found that when evaluators rated fictitious applicants for an attorney position, female applicants with children were held to a slightly, although insignificantly, higher standard than female applicants without children. Fathers were actually held to a significantly

lower standard than male non-parents. Not all the results in these two studies were consistent with the authors' empirical predictions. For example, Cuddy and colleagues (2004) found no difference in the competence ratings between employed fathers and mothers, and Fuegen et al. (2004) found no reliable effects of gender and parental status on evaluators' impressions of the applicant's commitment in one of their two samples of university students. More generally, many of their results were inconsistent across their dependent variable measures. Status characteristics theory suggests potential reasons for these inconsistencies and, more importantly, allows us to generate precise predictions about when and to what extent motherhood will lead to evaluative biases.

A strength of status characteristics theory is that it delineates a set of propositions that specify the circumstances under which status characteristics have their effects and the relative strength of their impact under differing conditions. For example according to the *salience* proposition, motherhood will only lead to evaluative biases when it differentiates those in the setting (some are mothers and some are not) or if it is believed to be relevant to the task at hand. Ironically, but consistent with the salience proposition, some work-family policies that are intended to ameliorate the effects of motherhood on workplace outcomes may actually limit the career mobility and wages of women who take advantage of them by making motherhood status highly salient. Glass (2004) found that mothers employed in professional and managerial jobs who participated in programs such as telecommuting experienced lower wage growth compared with otherwise similar mothers who avoided such programs (but see also Weeden 2005). In the Fuegen et al (2004) study described above, evaluators evaluated only one applicant. Since motherhood was not a differentiating characteristic in this study, it is likely that motherhood was not salient when applicants were evaluated.

In the Cuddy et al. (2004) study evaluators did rate more than one “consultant,” and the consultants differed in parental status, thereby making parental status salient. In all conditions, an “experimental consultant” was presented as being 32 years old with an MBA and a long commute. Depending on condition, this consultant was further described as either male or female and as a parent or not. Participants also rated two “filler” consultants who had no children and a BS degree. One was described as a middle-aged woman with long commutes and the other as a young man with a short commute. Between-subject comparisons were made to compare the ratings of the experimental consultants across condition. Including the filler profiles served to make parental status salient, but it also made several other status characteristics salient simultaneously (gender, age, parental status, level of education). According to status characteristics theory, the aggregated expectations individuals form for actors in a setting are impacted by *all* of the salient status information, but additional pieces of consistent status information have a declining marginal impact on overall expectations (Berger et al. 1977). Therefore, if we first notice that a person has an MBA, and then notice that she *also* does not have children (an additional piece of positive status information) the effect of being childless on our overall expectations for her would be less than it would have been if parental status were the only salient status information in the setting. Thus, an experiment that simultaneously varies multiple status characteristics is not the most efficient for detecting whether motherhood status produces the predicted effects.

Consistent with theory presented here, we make parental status salient by having evaluators rate a pair of applicants, one parent and one non-parent. All other status information is kept constant. Before describing the experimental design in further detail, we first turn to the

literature on cultural conceptions of motherhood to provide preliminary evidence that motherhood is a status characteristic in U.S. society.

Motherhood as a status characteristic

To understand how motherhood might function as a devalued status characteristic in workplace settings, it is helpful to broaden status characteristic theory's conceptualization of "performance expectations." The theory argues that since high status actors are expected to offer more *competent* performances, they are often given behavioral and evaluative advantages compared with low status actors. The logic of the theory, however, implies that any factor that increases the relative expectation about the capacity of a person to perform in a setting should advantage her/him in that setting. Expectations about performance capacity have at least two dimensions: competence (or ability) and effort (Heider 1958). From a logical point of view, it is difficult to see why taking on the mother role should affect a person's underlying ability or competence, although there is some evidence that cultural beliefs do associate motherhood with a lessening of ability (see Crittenden 2001). There is, however, considerable evidence that contemporary cultural beliefs include assumptions that employed mothers are less committed to work than non-mothers and, consequently, put less *effort* into it (for a detailed review see Ridgeway and Correll 2004). While commitment and effort are not synonymous, when evaluating potential employees, employers likely use perceived commitment as a proxy for anticipated future effort.

Contemporary cultural beliefs about the mother role include a normative expectation that mothers will and should engage in "intensive" mothering that prioritizes meeting the needs of dependent children above all other activities (Hays 1996; Kobrynowicz and Biernat 1997). The cultural norm that mothers should always be on call for their children co-exists in tension with

another widely held normative belief in our society that the “ideal worker” be unencumbered by competing demands and “always there” for his or her employer (Acker 1990; Hays 1996; Williams 2001). According to this “ideal worker” belief, the best worker is the “committed” worker who demonstrates intensive effort on the job through actions that appear to sacrifice all other concerns for work (Epstein et al. 1999; Williams 2001). Examples include a willingness to drop everything at a moment’s notice for a new work demand, to devote enormous hours to “face time” at work, and to work late nights or weekends. While it has often been observed that “face time” and long hours are not necessarily associated with actual worker performance or productivity (e.g., Epstein et al. 1999), in the contemporary organization of work, they function as a cultural sign of the effort component of performance capacity. Normative conceptions of the “ideal worker” and the “good mother” create a cultural tension between the enactment of the motherhood role and the enactment of the committed worker role. The cultural logic of “intensive” mothering in U.S. society today assumes that the “good mother” will direct her time and emotional energy toward her children without limit (Hays 1996). By this cultural definition, then, a good mother must give less effort and priority to work demands and therefore be a less committed worker.

It is important to keep in mind that the tension between these two roles occurs at the level of normative cultural assumptions, and not necessarily at the level of mothers’ own commitment to work roles. In fact, if work commitment is measured by the importance people attach to their work identities—either absolutely or relative to other identities, such as family identities—no difference is found in commitment between mothers and non-mothers (Bielby and Bielby 1984). It is the *perceived* cultural tension between these two roles that leads us to suggest that motherhood is a devalued status in workplace settings.

EMPIRICAL PREDICTIONS

Motherhood penalty

Our main empirical predictions are that job applicants who are presented as mothers will be rated as less competent, less committed to paid work, less suitable for hire and promotion and deserving of lower starting salaries compared with otherwise equal women who are not mothers. They will also be judged by a harsher standard. According to the relevance proposition of status characteristics theory, motherhood status should have a greater negative impact on evaluations of competence and appropriateness for positions of authority as the perceived time demands of the job appear more and more intensive or as workplace schedules become less flexible. Thus, in high-powered, “24/7” type jobs, like business executive, once a woman’s role as mother does become salient we would expect motherhood to evoke especially strong evaluative biases and discrimination. These “24/7” jobs are perceived by definition to require “being there” at all times, which increases the cultural tension with the “good mother” role. Working class jobs with inflexible schedules or with mandatory overtime policies should also increase the perceived cultural tension with the motherhood role and evoke strong evaluative biases.²

Additional factors affecting worker evaluations

The effect of fatherhood: Unlike the motherhood role, being a good father is not seen as culturally incompatible with being an ideal worker. In fact, as Townsend (2002) describes, being a good father and a good employee are part of the “package deal” defining what it means to be a man. Therefore, since the “good father” and “ideal worker” are not perceived to be in tension, being a parent is not predicted to lead to lower workplace evaluations for fathers.

The effects of race and gender: Since race and gender are also status characteristics, we would expect that if race and/or gender were salient when applicants were evaluated, applicants who are

female and/or African American would be rated as less hireable and promotable and offered lower salaries than white male applicants. However, participants in the experiment will evaluate a pair of applicants who differ on parental status but are the same gender and race, therefore race and gender should not be salient. It is of course possible that participants will implicitly compare the applicants to others who they imagine are being evaluated and, in so doing, that they will draw on status beliefs about gender and race, leading to biased ratings. To the extent that this occurs, it is possible that a main effect of race and gender on evaluations will be found, although these effects should be weaker and less reliable than the effects of motherhood status.

We manipulate gender so that we can evaluate the claim above that fatherhood does lead to evaluative biases. We manipulate race so that we can evaluate whether our argument holds for both white and African American applicants. We expect that mothers, both African American and white, will experience evaluative biases in workplace settings. However, given the differences in workplace histories and experiences of African American and white women, it is important to empirically evaluate whether status-based discrimination works similarly for both groups, rather than assume that race does not impact this process. Our design will allow us to assess whether the motherhood penalty accrues for both African American and white women and to compare the magnitude of any penalty found.

THE EXPERIMENT

The study aims to determine whether mothers face unique disadvantages in the labor market. A test of the hypotheses requires an evaluation setting where parental status is salient and other factors that impact employee evaluations are held constant. Paid undergraduate volunteers rated a pair of equally qualified, same gender (either male or female), same race (either African American or white) fictitious job applicants, presented as real, who differed on

parental status. Pairing application materials by race and gender generates four experimental conditions where participants rate a parent and a non-parent applicant who are either African American men, African American women, white men or white women. Male and female participants were randomly assigned to one of these four conditions, and parental status was counterbalanced across members of the applicant pair. Thus, the design consisted of three between subject factors (gender of participant, gender of applicant pair, and race of applicant pair) and one within subject factor (parental status).³ We make no predictions about the effect of participant gender on applicant ratings, although the design allows us to assess if male and female evaluators react differently to parental status. We discuss the effects of participant gender, as well as the possible implications of using undergraduate participants, in the result and conclusion sections below.

The study included 192 participants (84 men and 108 women), between 19 and 28 per condition. Four participants (2.1%) were suspicious about some aspect of the study and consequently their data were excluded prior to analysis, creating an effective sample size of 188. Rejection rules were conservative and established beforehand. All analyses were also conducted with all available data and no substantive differences were found.

Procedure

Participants came to the lab individually, read a description of a company that was purportedly hiring for a mid-level marketing position, and examined application materials for two applicants for the position who differed on parental status but were otherwise similar. They examined the applicant files one at a time and we counterbalanced which file, the parent or non-parent, they viewed first. After reviewing an applicant's file, participants immediately completed an "initial impressions" survey for that applicant, which contained items that allow us to assess

whether the participants in this study view motherhood as a status characteristic (see “dependent measures” below). On the same instrument, participants were asked to provide a list of pros and cons for each applicant. The purpose of having participants generate this list was to entice them to look more closely at the applicants’ materials before proceeding to the next stage of evaluation.

After completing an initial impressions survey for each applicant, participants were then instructed to look at the application materials more closely and complete an “applicant evaluation sheet” for each candidate. This instrument contained our ability standard and evaluation measures, described below. Before leaving the lab, participants answered a series of free response items intended to assess whether the experimental manipulations were successful and to determine if they were suspicious of some aspect of the study. After completing all items, participants were briefly interviewed as a further check on experimental manipulations and suspicion, and then they were debriefed and paid.

Cover story

Participants were told that a California-based start-up communications company was conducting an employment search for a person to head up its new East coast marketing department. They heard that the communications company was interested in receiving feedback from younger adults since young people are heavy consumers of communications technology. To further increase their task orientation, participants were told that their input would be incorporated with the other information the company collects on applicants and would impact actual hiring decisions. Participants then read about the requirements of the marketing position and the proposed salary range (\$135,000-180,000). To reduce suspicion, the study was

conducted in the School of Industrial and Labor Relations at Cornell University, which is well known for its focus on human resources and other workplace issues.

Application materials

Participants inspected an applicant file for each of the two applicants. Other than varying first names to manipulate race and gender (see below), the files were identical across condition. The files contained 3 items: a short memo, a “fact sheet,” and a resume. The memos were similar to those used by Cuddy et al. (2004) and contained a few brief notes purportedly from a human resources staff member at the hiring company who conducted a short screening interview with the applicant. The memos and the resumes were used to manipulate parental status as described below. The “fact sheet” summarized relevant information about the potential employees (such as college GPA) that was not presented on the resume. The resumes were one page in length and listed the applicant’s career goals, educational history, past work experience and other relevant activities. The resumes indicated that the applicants had a bachelor’s degree from one of two large Midwestern universities and had approximately 7 years of work experience. Both applicants were presented as highly productive by including “results” on the resume, such as “increased division sales by 10% between 2000 and 2002.” The fact sheet and the resumes were used to establish that the candidates were equally productive in their past jobs and that they had equivalent skills and backgrounds. One challenge of this study was to create two sets of materials that were of equivalent quality without being suspiciously similar.

Prior to the actual experiment, we pre-tested the two versions of the materials to assess whether they were of equivalent quality. At this stage, race, gender, and parental status information was not available to evaluators so that we could determine whether the resumes were perceived to be equal in the absence of the status manipulations to be employed in the actual

experiment. A different sample (n=60) drawn from the same population as in the actual experiment rated these two “template” resumes, one at a time, using 7-point scales ranging from “not at all” to “extremely” capable, efficient, skilled, intelligent, independent, self-confident, warm and sincere. No significant differences were found between participants’ ratings of the two resumes on any of these eight traits. Participants also indicated which of the two applicants appeared more qualified for a marketing position with a new start up company, and no significant association was found between resume template and being more qualified (chi-square=1.79, 3 df), indicating that one applicant did not appear significantly more qualified than the other. Nonetheless, to ensure that differences in resumes were not systematically impacting the results, parental status was counterbalanced in the actual experiment across the two versions of the resumes for each condition.

Race and gender manipulations

Following Bertrand and Mullainathan (2003), the race and gender of applicants were manipulated by altering first names on the applicant files. Bertrand and Mullainathan (2003) used birth certificate data to generate a list of names commonly given to white and African American children in the mid 1970s and then pretested these names to establish they evoked the race and gender attributions predicted (see Appendix A in Bertrand & Mullainathan, 2003). We used the following first names taken from this list: Allison and Sarah (white females), Ebony and Latoya (African American females), Tyrone and Jamal (African American males) and Brad and Matthew (white males). Each member of the applicant pair, regardless of race or gender, had one of two last names (Berk or Boyle). Therefore, last names were consistent across condition.

Parental status manipulation

Parental status was manipulated on the resume and on the human resources memo. The resume for the parent member of the applicant pair listed “Parent-Teacher Association coordinator” under the heading “other relevant activities.” The non-parent was instead described as fundraiser for his/her neighborhood association. Following Cuddy et al. (2004), the memo for the parent member of the pair included the following phrase: “Mother/Father to Tom and Emily. Married to John/Karen.” The non-parent was described as simply “married to John/Karen.”⁴

Dependent measures

According to the theory, if motherhood operates as a status characteristic, then mothers will be perceived as less competent or committed than non-mothers. As a result, mothers will be judged by a harsher standard than other potential employees and will be viewed as less hireable, promotable and deserving of lower starting salaries. To evaluate this argument, there are eight dependent measures: two that measure the traits of competence and commitment, two that measure the ability standard participants used to judge the applicants and four that serve as our key evaluation measures.

Competence and commitment measures: During the first phase of evaluation, participants rated applicants on a series of items, including items intended to measure the extent to which they viewed the candidates as competent. Following Cuddy et. al (2004) we created a composite competence measure by calculating a weighted average of participants’ ratings of the applicants on 7-point scales ranging from “not at all” to “extremely” capable, efficient, skilled, intelligent, independent, self-confident, aggressive and organized (Mean=5.48, Standard Deviation=0.69, alpha=.85).

To measure perceived commitment, we included a single-item question on the “applicant evaluation sheet” which asked participants how committed they thought the applicant would be relative to other employees in similar positions at the company. They were given 10 choices ranging from “more committed than 0% of other employers” to “more committed than 99% of other employees.” On average participants viewed the applicants as more committed than 74.7% of other similar employees (SD=18.0%). The main empirical prediction is that if motherhood is a status characteristic, the mean competence and commitment ratings should be lower for mothers than non-mothers.

Ability standard measures: Participants answered two items on the second phase of evaluation designed to provide ability standard measures. The first question was “in what percentile would the applicant need to score on his/her management profile exam in order for you to consider him or her for employment?” Participants were given choices ranging from the 5th to the 99th percentile. The “management profile exam” was described to participants as providing evidence about potential for advancement. The mean for the score required item was 68.7 (SD=30.3), indicating that applicants would need, on average, to score in approximately the 69th percentile or higher in order to be hired.

Participants were further asked “how many days could this applicant be late or leave early per month before you would no longer recommend him/her for management track?” The mean for the days late item is 3.43 days (SD=2.12). According to the status-based discrimination mechanism, if motherhood operates as a status characteristic, mothers will be judged by a harsher standard than non-mothers. They will be required to score in a *higher* percentile than non-mothers before being considered hireable and will be allowed *fewer* days of being late or leaving early.

Evaluation measures: Four evaluation measures were included on the applicant evaluation sheet. Participants were asked what *salary* in dollars they would recommend for each applicant if the applicant were hired. Recall that the participants were told that the proposed salary range was \$135,000-\$180,000. The mean salary recommended was \$145,000 (SD=\$22,400). Participants were also asked to estimate the likelihood that an applicant would be subsequently *promoted* if hired. Responses were on a four-point scale ranging from “most certainly will NOT be promoted” to “most certainly will be promoted,” with a mean response of 3.14 (SD=0.67) suggesting that applicants, if hired, were generally viewed as moderately promotable. Participants were further asked if they thought the applicant, if hired, should be recommended for a management-training course designed for those with strong advancement potential. Overall, 83.5% of applicants were recommended for this course. Finally, participants were asked for each applicant if they would recommend her/him for *hire*. Overall, 66.5% of applicants were recommended for hire. Since they were evaluating two applicants (one at a time), it was possible at this stage for participants to recommend hiring both applicants, although most did not—112 participants recommended only one of two applicants for hire, whereas 7 recommend none and 69 recommended both. The main empirical predictions are that mothers will be offered lower starting salaries, be rated as less promotable, be less likely to be recommend for management and be less likely to be recommend for hire.

RESULTS

We first address the central question of whether mothers face unique disadvantages in workplace evaluations. We then conduct ancillary analyses to see if participant gender or applicant race qualify the results. Finally, we conclude with an analysis designed to assess

whether the competence and commitment ratings of applicants mediate the effect of motherhood on workplace evaluations.

Is there a motherhood penalty?

Table 1 provides means or proportions of the participants' ratings of the applicants. At this stage we pooled the data for male and female subjects and for African American and white applicants to highlight the main comparison motivating this study—the comparison of mothers to non-mothers. In the multivariate models below, we decompose the results by subject gender and race of applicant.

Table 1 About Here

Ratings of mothers and non-mothers: The first two columns of Table 1 compare the ratings of female applicants who are mothers with those who are non-mothers. As predicted, mothers were judged as significantly less competent and committed than women without children. They were also held to harsher performance and punctuality standards. Mothers were allowed significantly *fewer* times of being late to work, and they needed a significantly *higher* score on the management exam than non-mothers before being considered hireable.

Similarly, the evaluation measures show significant and substantial penalties for motherhood. The recommended starting salary for mothers was \$11,000 (7.4%) less than that offered non-mothers, a significant and striking difference. Mothers were also rated as significantly less promotable and were less likely to be recommended for management. Finally, while participants recommend 84% of female non-mothers for hire, they recommend significantly lower 47% of mothers. Recall that when the resumes for the two applicants were pre-tested without any parental status manipulations, no significant differences were found in how they were rated. Likewise, parental status was counterbalanced across the two versions of

the resumes, suggesting that the motherhood manipulation produced the lower ratings found here.

Ratings of fathers and non-fathers: The last two columns of Table 1 compare the ratings of male applicants who are fathers with those who are non-fathers. Our theory predicted that fathers would not experience a fatherhood penalty, and our results are consistent with this prediction. In fact, fathers were actually advantaged on some of these measures. For example, applicants who were fathers were rated significantly more committed to their job than non-fathers. Fathers were allowed to be late to work significantly *more* times than non-fathers. Finally, they were offered significantly higher salaries than non-fathers.

Multivariate analysis

We now turn to multivariate models to evaluate the motherhood penalty hypothesis by estimating the effects of gender of applicant, parental status, and the interaction of gender of applicant with parental status on each of the eight dependent variables. We refer to the interactive term (gender of applicant x parental status) as the “motherhood penalty interaction.” Applicant race and participant gender are included in all models, and standard errors are clustered by participant id to take into account the non-independence of observations that results from having participants rate applicants in pairs.⁵ Linear regression models are used for the continuous dependent variables. Logistic regression models are estimated for the binary evaluation variables (recommend for management and recommend for hire). Ordered logistic regression, with the proportional odds specification, is used for the ordered categorical evaluation variable, likelihood of promotion. Parental status, gender of applicant, gender of participant and race of applicant are dummy variables, with parents, females and African Americans coded as 1.

The estimated regression coefficients are presented in Tables 2-4. For all eight dependent variables, the motherhood penalty interaction is significant and is in the predicted direction. Based on this result, we conclude that there is strong support for the main prediction that parental status negatively impacts ratings for female, but not male, applicants. We now describe more precisely the effect of motherhood status on each of the dependent variables.

Table 2 About Here

Commitment and competence: Table 2 contains estimated regression coefficients and robust standard errors for the effects of the independent variables on competence and commitment. In order to determine the magnitude of the effect of motherhood status on the dependent variables it is necessary to consider the additive effects of parental status, gender of applicant, and the motherhood penalty interaction.

Confirming our prediction, mothers are viewed as less competent than non-mothers. As shown in the left-hand column of Table 2, the motherhood penalty interaction is significant and negative, indicating that being a parent lowers the competence ratings for women, but not men. The female applicant dummy variable is significant and positive, implying that women without children are rated as *more* competent than men without children. While this finding was not predicted, one can imagine several reasons why women without children might be ranked higher than men without children in this setting. Cultural constructions of gender often include beliefs that women want (or even “need”) children to feel fulfilled. As a result, participants may assume that women who have apparently forgone childbearing to enter the labor market are extraordinarily committed to work. In contrast, because men are not expected to “need” children, this information does not carry the same impact for men. A second possibility is that participants may rate non-mothers more highly as a way to compensate for their discrimination against

mothers. Research has shown that people tend to follow an implicit strategy of maintaining “moral credentials” in which indulgence in discrimination towards one target is coupled with anti-discriminatory action towards another target (Monin and Miller 2001). Thus, because participants rated a woman without children and a woman with children simultaneously, they may have attempted to assuage potential guilt over discriminating against the mother by boosting their ratings of the non-mother. We are not able to adjudicate between these or other possible accounts with the available data. However, these accounts are empirically testable and merit consideration in future research. We also note that this result does not contradict our primary claim that mothers face evaluative biases in the workplace.

Participants also perceived mothers as less committed than other applicants: the motherhood penalty interaction is significant and negative in the model predicting commitment ratings (right column of Table 2). In this model, the female applicant coefficient is again significant and positive, providing further evidence that women without children experience what might be called a “childless bonus.” There is also a positive and significant main effect for parental status, implying that fathers are actually rated as more committed than non-fathers by about 5 percentage points. Mothers, by contrast, suffer a reduction of about 6.4 percentage points in their commitment ratings compared with childless men (sum of the main effects of parental status and applicant gender and the interactive term) or about 12.1 percentage points compared with childless women (sum of the main effect of parental status and the interactive term).

Status characteristics trigger beliefs about performance capacity, and performance capacity derives from expectations about anticipated effort and ability (competence). Our results show that mothers are not only viewed as less committed to paid work, they are also seen as

having less workplace ability. The decreased competence and commitment ratings for mothers suggest that motherhood operates as a status characteristic.

Table 3 About Here

Ability standards: According to the status-based discrimination argument, mothers will be held to stricter standards than other kinds of applicants. Table 3 contains the estimates for the effects of the independent variables on the ability standard items. Consistent with predictions, mothers were held to a stricter performance standard. The motherhood interaction is significant and positive in model predicting the required test score, while the main effects of gender of applicant and parental status are insignificant (right column of Table 3). This shows that participants would require mothers (but not fathers) to score higher on a test of management ability than other applicants before considering them for a job.

Participants were also asked how many days an applicant could be late or leave early before they would no longer consider hiring them. We expected that participants would allow mothers less flexibility than other types of employees. As can be seen in the left-hand column of Table 3, this prediction is supported by the significant and negative motherhood penalty interaction. There is also a significant, positive main effect for being a parent and for being female. Thus, childless women and fathers are allowed to be late *more* frequently without it impacting their perceived suitability for hire. However, mothers are evidently held to a higher standard of punctuality, being allowed *fewer* days of being late.

Table 4 About Here

Workplace evaluations: In Table 4, the motherhood penalty interaction is significant and negative across all four models, indicating that mothers, relative to other applicants, are believed to deserve lower salaries, and to be less suitable for hiring, promoting, and training for

management. In the model predicting likelihood of promotion, the main effect of parental status is marginally significant and positive, while the motherhood penalty interaction is significant and negative, indicating that the negative effect of parental status on perceptions of promotability accrues only to women.

Mothers are also less likely than other types of applicants to be recommended for management (second column of Table 4). If we convert the regression coefficient for the parental status variable to an odds ratio, fathers are 1.83 times more likely to be recommend for management than childless men, a difference that is marginally significant. For female applicants, childless women are 8.2 times more likely than mothers to be recommended for management.⁶

Being a mother also lowers the odds of an applicant being recommended for hire. The main effect of parental status is not significant, indicating that on this measure fathers are not advantaged over men without children. The main effect for being a female applicant is again highly significant. Stated as an odds ratio, childless women are 3.35 times more likely to be recommended for hire than childless men. However, childless women are especially advantaged compared to mothers, being over six times more likely to be recommended for hire.

Mothers are also offered lower starting salaries than other types of applicants, as indicated by the significant, negative coefficient for the motherhood interaction term. Using the values in Table 4 to calculate predicted values, we find that childless men were recommended an average salary of approximately \$148,000.⁷ Fathers were offered a significantly higher salary of approximately \$152,000. In the past, employers justified paying fathers a “family wage” that was higher to accommodate their supposed breadwinner role. The finding of a fatherhood bonus on salary might be understood in this way. Women without children were offered approximately

\$151,000, whereas mothers were recommended a significantly lower salary of about \$139,000, or about 7.9 % less than otherwise equal childless women.

Also of note in the salary model, African American applicants were offered approximately \$6800 lower salaries, on average, compared with those offered to whites. This difference is striking, especially since African Americans were not judged to be less competent or committed to work—they were simply offered lowered salaries. The resumes in the African American conditions were exactly the same, except for first names, as that used in the white conditions, so differences in qualifications does not explain this finding. It appears that a different mechanism of discrimination is operating for African Americans, or at least for applicants with distinctive African American first names.

In sum, across all eight dependent variables, the motherhood penalty interaction is significant, its sign is in the predicted direction and the magnitude of its effect is the largest of the independent variables included in the models. Given the strength of the effect across a diverse set of measures and the experimental control of applicant quality, we conclude that giving evidence of being a mother leads to discrimination against mothers. Being a father did not lead to similar disadvantages for men and, at times, actually led to advantages. We now turn to a brief discussion of a few additional research questions, starting with whether gender of participant impacts these results.

Does participant gender impact the size of the motherhood penalty?

The analyses presented thus far have ignored the effect of participant's gender on the motherhood penalty, which is consistent with status characteristic theory's claim that individuals are influenced by widely shared status beliefs regardless of their own group membership. It is nonetheless worth assessing this assumption in the context of the present study. The female

participant dummy variable is significant in some of the models in Tables 2-4. Compared with male participants, women required lower scores of applicants before recommending them for hire, they rated applicants as more suitable for promotion, and they were more likely to recommend applicants for hire and management, regardless of the race, gender or parental status of the applicants.

Even though female participants rated applicants higher overall on some measures, both female and male participants evaluated mothers significantly lower than non-mothers on all eight dependent variables. Only one difference was found in the magnitude of the motherhood penalty between male and female participants. In results not shown, we added the two-way interaction of participant gender and applicant gender and the three-way interaction of participant gender, applicant gender and parental status to each of the models in Tables 2-4. For models predicting how many days an applicant would be allowed to be late, the two-way interaction was marginally significant and negative and the three-way interaction was significant and positive. This means that female participants held all female applicants to a slightly harsher standard than male participants did, allowing female applicants fewer days of being late than male applicants, but they penalized mothers slightly less relative to childless women than male participants did. For all other dependent variables, the magnitude of the motherhood penalty did not differ significantly for male and female participants. We did not expect that the status-based discrimination mechanism would work differently for male and female participants and the results are largely consistent with that prediction.

Do African Americans and whites both experience a motherhood penalty?

We predicted that both white and African American mothers would experience a motherhood penalty compared with their same race, childless counterparts. To evaluate this

prediction and to compare the magnitude of the motherhood penalty for the two groups, we added the three-way interaction of applicant race, parental status, and applicant gender to each of the models described above (results not shown). The motherhood penalty interaction remains significant in each of the models when the three-way interaction is added, indicating that regardless of race, mothers experience negative biases in workplace evaluations. Further, the three-way interaction was significant in only one of the models. African American mothers were rated as less likely to be promoted than white mothers, but none of the other 3-way interactions was significant. Thus, data from the experiment suggest that African American women and white women both experience a motherhood penalty, and the magnitude of that penalty is largely the same for both groups.

Do competence and commitment ratings mediate workplace evaluations?

Finally, we attempted to assess whether our competence and commitment measures mediate the effect of motherhood status on workplace evaluations. According to the theory, employers have lower expectations for the workplace competence and commitment of mothers, and it is this lower expectation that leads them to discriminate against mothers in hiring, promotion and salary decisions. To evaluate this mechanism, the competence and commitment variables were added as independent variables to the models predicting workplace evaluations (see Table 5). Not surprisingly, higher competence ratings lead to significantly higher recommended starting salaries, higher perceptions of applicant promotability, and increased odds of recommending the applicant for management and for hire. Similarly, higher commitment ratings were associated with significantly higher perceptions of applicant promotability, and increased odds of recommending the applicant for management and for hire, although the impact of commitment rating on salary, while positive, was not significant.

Table 5 About Here

More importantly, when the competence and commitment ratings were added to the models, the negative effect of motherhood status on workplace evaluations was substantially and significantly reduced.⁸ As can be see on the last row of Table 5, the magnitude of the motherhood penalty was reduced by 46% in the salary model, by 31% in the recommend for management model, by 37% in the promotion likelihood model, and by 42% in the recommend for hire model. Consistent with theoretical predictions, competence and commitment do mediate, at least partially, the negative effect of motherhood status on workplace evaluations. To a large extent, mothers are rated as less hireable, less suitable for promotion and deserving of lower salaries because they are believed to be less competent and less committed to paid work.

The negative effects of motherhood status were not completely eliminated when the competence and commitment measures were included in the models, however. Perhaps this is not surprising given the magnitude of the motherhood penalty in the original models. While we can only speculate on why this residual effect remains, it is possible that one or more additional discriminatory mechanisms are at work. For example, some evaluators may believe that mothers should not be in the workplace, but should instead be home with their children. If so, they may view mothers as competent and committed to paid work, but still discriminate against them. That is, in addition to status-based discrimination, some evaluators may also engage in *normative* discrimination, in which they recognize the competence of mothers but believe that it is their duty to remain home with their children.

SUMMARY AND CONCLUSIONS

The main contribution of this project is to isolate and experimentally evaluate a status-based discrimination mechanism that is proposed to explain some of the disadvantages mothers

experience in the paid labor market. While survey research has established that employed mothers experience a per child wage penalty, net of the usual human capital and occupational factors that affect wages, this research has been unable to assess whether discrimination is in part responsible for this wage penalty. Data from the experiment presented here strongly supported the status-based discrimination mechanism. By experimentally holding constant the qualifications and background experiences of a pair of fictitious job applicants and varying only their parental status, we found that evaluators rated mothers as less competent and committed to paid work than non mothers, and consequently, discriminated against mothers when making hiring and salary decisions. Consistent with our predictions, fathers experienced no such discrimination. In fact, fathers were advantaged over childless men in several ways, being seen as more committed to paid work and being offered higher starting salaries. One unexpected finding was that childless women were advantaged over childless men on several measures, including being seen as more competent and being more likely to be recommend for hire, although they were not offered significantly higher salaries. It is possible that evaluators perceive childless women as especially committed to paid work.

While the data supported the main hypothesis, the study has several limitations. First, the experiment evaluated the status-based discrimination mechanism for only one type of job: a high status job that appeared to require high levels of commitment. Whether mothers would experience the same kind of discrimination in lower status jobs or in jobs that are more or less gender-typed is an open question. Survey analyses have found a motherhood penalty across a wide range of occupations and jobs, and one study has shown that the magnitude of the wage gap is actually largest for those who have only a high school level education (Anderson et al. 2003). Thus, there is reason to suspect that the mechanism described here would apply in a wider range

of jobs, but experiments that vary the type of job are needed to evaluate this prediction. Second, this study examines discrimination only at the point of hire. We predict that women who give evidence of being a mother would be held to a harsher standard and suffer decreased workplace evaluations at other junctures, such as when promotion decisions or decisions to award raises are made, but whether the mechanism holds at these other crucial junctures is also an empirical question. Finally, the study examines only one avenue for getting a job. It is possible that evaluators are more or less discriminating, for example, when candidates are recommended through social networks.

It is also worth asking how the use of undergraduate students as evaluators impacted our findings. Our sample did not include real employers, so these data cannot answer the question of whether real employers would also discriminate against mothers in making hiring decisions. However, to the extent that younger adults hold more egalitarian gender beliefs, we would expect them to be less likely than older adults to discriminate against mothers. Further the undergraduate participants in this study had very little workplace experience themselves and no supervisory experience. Thus we would expect that they are far less likely than people with more extensive work experience to have had a “bad experience” with an employed mother and to generalize from this experience when evaluating other employees who are mothers. For these reasons, the lower ratings of mothers by undergraduate students might be especially surprising. The theory presented here implies that to the extent that employers share the belief that mothers are less committed to or competent in workplace settings, they too will subtly discriminate against mothers. While the literature on the cultural contradictions of motherhood would lead us to suspect that actual employers do in fact share this belief, the prediction needs to be evaluated empirically.

The results of this study have implications for understanding some of the enduring patterns of gender inequality in paid work. A gender gap in wages, for example, has persisted over the vast movement of women into paid labor in the U.S. since the early 1970s. While the magnitude of the gap decreased over much of this period (Charles and Grusky 2004; Blau and Kahn 2000), a sizeable gap remains, and the gap has widened in recent years (Institute for Women's Policy Research 2004). As Glass (2004) notes, employed mothers are the group of women who account for most of this gap. While many factors are certainly responsible for its persistence, this study suggests that cultural beliefs about the tension between the motherhood and "ideal worker" roles may play a part in reproducing this pattern of inequality. A second enduring pattern of gender inequality is the so-called "glass ceiling," a metaphor for the barriers that restrict women's movement up the career ladder to the highest positions in organizations and firms. To the extent that employers view mothers as less committed to their jobs and less "promotable," the glass ceiling women face could be, in part, a motherhood ceiling.

Writing for the National Center for Policy Analysis, Denise Venable (2002) describes an analysis from the congressional budget office that found that among people ages 27 to 33 who have never had children women's earnings approach 98 percent of men's. She concludes, "When women behave in the workplace as men do, the wage gap between them is small." Claims of unequal pay, she continues, "almost always involve comparing apples and oranges." However, since most employed men and employed women have children at some point in their lives, the most illustrative "within fruit" comparison is *not* the comparison of childless men to childless women, but the comparison of men with children to women with children. As the experiment reported here shows, when women "behave as men do," giving evidence of being a parent, they were discriminated against, while their male counterparts were often advantaged by their

parental status. Far from being an “apples to oranges” comparison, the male and female applicants who were evaluated in this experiment were exactly equal. That parental status disadvantaged only female applicants is strong evidence of discrimination.

ENDNOTES

¹ In its original formulation, the theory of statistical discrimination assumes that one group of people (e.g., African-Americans, women, or mothers) are less productive than another group (e.g., European-Americans, men, non-mothers), and that obtaining information about the productivity of individuals is prohibitively expensive (Phelps 1972). Rational employers therefore prefer to hire workers from the more productive group. While theories of statistical discrimination assume that employers apply an unbiased standard to accurate estimates of worker productivity, theories of status-based discrimination argue that the standard of evaluation is systematically biased in favor of the high-status group. In our laboratory experiment we are able to measure the ability standards evaluators use to rate applicants, allowing for an evaluation of the status-based discrimination argument.

A variation of statistical discrimination theory dispenses with the assumption that groups of workers vary in their average marginal productivity (Aigner and Cain 1977). Instead, this formulation assumes that the variance of employers' estimates of worker productivity is greater for women and minorities, and that employers are risk averse. As a result, rational employers are again presumed to disproportionately hire European-American men. The noisier signal of productivity for women and members of minority groups is assumed to obtain because 1) miscommunication is more likely to occur between members of different groups than members of the same groups, so that (usually white and male) employers receive clearer information from white male applicants than from other applicants 2) white males are more likely to use personal contacts to acquire jobs, and these contacts are assumed to pass accurate information about the applicant to the employer (Oettinger 1996). As our laboratory experiment holds the quality and

source of information about applicants constant across conditions, we are also able to eliminate this version of statistical discrimination as a possible explanation.

²While we expect the motherhood penalty to apply to a wide range of jobs (as all jobs require some degree of competence and commitment), the magnitude of the effect likely varies with the job type. Given that our study already manipulates several factors, including parent status, applicant gender, and applicant race, manipulating job type as well is impractical. Instead this study will evaluate whether there is a motherhood penalty and if it is produced via the mechanism described. Future work is needed to evaluate predictions about type of jobs.

³The primary purpose of this project is to assess the effect of parental status of the ratings and evaluations of applicant. Therefore, it is important that parental status be measured as a within-subject comparison, which is more efficient than between-pair comparisons (Cohen 1988). This efficiency rationale might suggest an alternate design, where applicant race and gender were *also* measured within subject. In this alternate design male and female participants would evaluate 8 sets of application materials—a parent and non-parent applicant from each race/sex combination. Pre-testing established that this alternate design aroused suspicion since participants were required to examine 8 sets of very similar materials. Even though between-subject comparisons are less efficient estimators they are nonetheless unbiased.

⁴While one of the applicants was presented as a parent, the application materials for the other member of the pair made no mention of children, although s/he was described as married. We use the phrases ‘non-parent’ or ‘childless’ for convenience even though it would be more correct, even if awkward, to refer to these applicants as ‘women (or men) who did not give evidence of being a parent.’

⁵ Using Mplus 3.1, robust standard errors are computed using the sandwich estimator, which takes into account non-independence of observations (Muthén and Muthén 1998-2004).

⁶ The inverse log of $0.605 - 2.716 = 0.122$. To state as the odds for childless women compared to mothers, we inverted this ratio ($1/0.122 = 8.2$). A similar calculation is made for the odds of being hired.

⁷ These predicted values are for male subjects (gender of subject=0) and white applicants (African American=0). The same pattern of predicted values is found when calculations are made with female subject and/or African American applicant data. That is, regardless of gender of subject or race of applicant, mothers are offered significantly lower starting salaries.

⁸ To calculate whether the reductions in the magnitudes of the coefficients are significant, we follow the procedures for comparing regressions coefficients between nested modes as described by Clogg, Petkova, and Haritou (1995).

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Table 1. Means or proportions of status, standards and evaluation variables by gender and parental status of applicant. (Standard deviations in parentheses).

	Female Applicants	Female Applicants	Male Applicants	Male Applicants
	Mothers	Non-mothers	Fathers	Non-fathers
Competence	5.19 (0.73)**	5.75 (0.58)	5.51 (0.68)	5.44 (0.66)
Commitment	67.0 (19.1)**	79.2 (15.2)	78.5** (16.3)	74.2 (18.6)
Days allowed late	3.16 (1.98)**	3.73 (2.01)	3.69** (2.55)	3.16 (1.85)
Percent score required on exam	72.4 (27.5)**	67.9 (27.7)	67.3 (32.7)	67.1 (33.0)
Salary recommended	\$137,000** (21,000)	\$148,000 (25,000)	\$150,000** (23,000)	\$144,000 (20,700)
Proportion recommend for management	.691++	.862	.936+	.851
Likelihood of promotion	2.74 (0.65)**	3.42 (0.54)	3.30* (0.62)	3.11 (0.70)
Proportion recommend for hire	.468++	.840	.734+	.617

* $p < .1$, test for difference in means between parent and non-parents

** $p < .05$, test for difference in means between parent and non-parents

+ $z < .1$, test for difference in proportion between parents and non-parents

++ $z < .05$, test for difference in proportion between parents and non-parents

Notes: 94 participants rated female applicants and 94 rated male applicants. For this table, the data for male and female subjects are pooled, as are the data by race of applicant.

All values reported to 3 significant digits.

See text for variable descriptions.

Table 2. Estimated regression coefficients for the effects of gender, parental status and race on applicant's perceived competence and commitment. (Robust standard errors in parentheses, clustered by participant id).

	Competence	Commitment
Independent Variables		
Parent	0.089 (0.088)	5.15 *** (1.73)
Female applicant	0.376 *** (0.104)	5.68 ** (2.51)
African American	-0.038 (0.090)	-2.01 (2.27)
Female participant	0.060 (0.094)	-2.61 (2.26)
Motherhood interaction [^]	-0.750 *** (0.132)	-17.3 *** (2.32)
Intercept	5.42 *** (0.100)	75.8 *** (2.55)

[^] Parent * Female applicant

* p<.1
 ** p<.05
 *** p<.001

Notes: N=188

All values reported to 3 significant digits.

See text for variable descriptions.

Table 3. Estimated regression coefficients for the effects of gender, parental status and race on ability standard variables. (Robust standard errors in parentheses, clustered by participant id).

	Days allowed late	Test score required (%)
Independent Variables		
Parent	0.515 *** (0.137)	1.03 (0.968)
Female applicant	0.572 ** (0.294)	1.25 (4.52)
African American	-0.361 (0.294)	-4.06 (4.38)
Female participant	0.234 (0.289)	-9.44 ** (4.30)
Motherhood interaction [^]	-1.10 *** (0.213)	3.56 *** (1.21)
Intercept	3.22 *** (0.322)	73.7 *** (4.27)

[^] Parent * Female applicant

* p<.1
 ** p<.05
 *** p<.001

Notes: N=188

All values reported to 3 significant digits.

See text for variable descriptions.

Table 4. Estimated regression coefficients for the effects of gender, parental status and race on evaluation variables. (Robust standard errors in parentheses, clustered by participant id).

	Promotion likelihood (ologit estimates)	Mgmt Training? (logit estimates)	Hire? (logit estimates)	Recommended salary in thousands of dollars (linear estimates)
Independent Variables				
Parent	1.03 * (0.545)	0.605 * (0.321)	0.570 (0.366)	4.47 *** (1.84)
Female applicant	0.256 (0.425)	1.009 *** (0.319)	1.21 *** (0.365)	2.56 (3.18)
African American	0.309 (0.299)	-0.211 (0.218)	-0.163 (0.197)	-6.80 ** (2.94)
Female participant	0.496 * (0.298)	0.526 ** (0.226)	0.606 *** (0.199)	0.691 (2.82)
Motherhood interaction [^]	-2.14 *** (0.651)	-2.72 *** (0.426)	-2.38 *** (0.548)	-15.9 *** (2.42)
Intercept	^{^^}	4.56 *** (0.601)	0.210 (0.266)	148 (2.55)

[^] Parent * Female applicant

^{^^} Since ordered logistic regression produces multiple intercepts, we do not present them here.

* p<.1
 ** p<.05
 *** p<.001

Notes: N=188

All values reported to 3 significant digits.

See text for variable descriptions.

Table 5. Estimated regression coefficients for the mediation of competence and commitment on the impact of parental status on workplace evaluations. (Robust standard errors in parentheses, clustered by participant id).

	Promotion likelihood (ologit estimates)	Mgmt Training? (logit estimates)	Hire? (logit estimates)	Recommended salary in thousands of dollars (linear estimates)
Independent Variables				
Competence	0.628 ** (0.295)	1.263 *** (0.281)	1.21 *** (0.258)	7.00 *** (1.99)
Commitment	0.237 *** (0.095)	0.206 ** (0.099)	0.308 *** (0.081)	1.08 (0.762)
Parent	0.901 * (0.558)	0.508 (0.340)	0.433 (0.426)	3.23 * (1.78)
Female applicant	-0.140 (0.426)	0.661 ** (0.332)	0.755 * (0.410)	-0.817 (3.31)
African American	0.374 (0.319)	-0.154 (0.237)	-0.092 (0.244)	-6.30 *** (2.86)
Female participant	0.557 * (0.316)	0.606 *** (0.236)	0.755 *** (0.254)	0.512 (2.81)
Motherhood interaction [^]	-1.34 ** (0.646)	-1.89 *** (0.437)	-1.39 ** (0.606)	-8.52 *** (2.66)
Intercept	^{^^}	3.64 *** (0.947)	-2.09 *** (0.702)	140 (6.37)
Percent reduction of motherhood penalty	37.4 %	30.5 %	41.6 %	46.4 %

[^] Parent * Female applicant

^{^^} Since ordered logistic regression produces multiple intercepts, we do not present them here.

* p<.1
 ** p<.05
 *** p<.001

Notes: N=188

All values reported to 3 significant digits.

See text for variable descriptions.