Workplace Attributes and Women's Labor Supply Decisions: Evidence from a Randomized Experiment

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Social norms discouraging women from working, and particularly from working with men, are prevalent in many settings with low female employment. I implement a field experiment and survey experiment with educated women via a job matching platform in Pakistan, one such setting, to elucidate the role of supervisor or employee gender on women's job search. At the job application stage, among women are reminded about job search discussions with their family, information about a male supervisor significantly decreases the job application rate by nearly 60%. However, at the stage of accepting an offer, women are willing to accept a male supervisor with sufficiently high salary, but exhibit a strong preference to work in an environment with mostly female coworkers.

JEL Codes: J16, J24, J40, D83, O10
Key Words: Job Search, Information, Supervisor Gender, Employee Gender, Gender, Development, Experiment

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1 Introduction

Women have made gains relative to men in terms of educational attainment globally, but lag in many employment outcomes (Addati et al., 2016; UNESCO, 2019a,b). Firm-side factors such as vacancies being explicitly or implicitly only open to men can constrain women's employment and wages (Gentile et al., 2023; Hyland et al., 2020; Altonji and Blank, 1999; Goldin and Rouse, 2000; Kuhn and Shen, 2013; Hangartner et al., 2021; Ozen et al., 2019; Chaturvedi et al., 2021). Social norms, lack of access to bank accounts, and psychosocial factors can also constrain women's job search and employment from the supply side (Jayachandran, 2021; Dean and Jayachandran, 2019; Field et al., 2021; Bursztyn et al., 2020; McKelway, 2023). A preference for work that conforms to own gender identity could also lead women to search for work in female-dominated occupations and workplaces (Akerlof and Kranton, 2000; Cortes and Pan, 2017). Social norms further discourage women from working in mixed-gender environments in some of the regions with the lowest levels of female labor supply (Gauri et al., 2019; Ismail et al., 2022; Zeitoun et al., 2023; Sen et al., 2022). In such settings, job search limited to female-dominated work environments could contribute to low levels of women's employment.

In this paper, I conduct a field experiment and a survey experiment on a job matching platform that serves women with post-secondary education in Lahore, Pakistan. Four times as many men as women in urban parts of Punjab province (where Lahore is located) work for pay (Pakistan Bureau of Statistics, 2017). Given social norms in this setting further discouraging women from working in mixed gender spaces, I study the impact of supervisor gender or employee gender on women's job search and employment decisions. About 75% of women report that other household members made the decision about whether they could work without input from the women themselves (Pakistan Bureau of Statistics, 2017). Across Pakistan, a quarter of women who are not working report that the reason is a lack of permission from their husband or father (Pakistan Bureau of Statistics, 2017). Thus, I also introduce experimental variation in salience of family job search discussions at the time of making job search decisions. The Middle East, North Africa, and South Asia are the regions with the lowest levels of female employment and some shared social norms, making Pakistan a relevant setting.

Via the field experiment, I study job applications. I experimentally manipulate the information environment on the job matching platform by randomizing at the individual level whether jobseekers receive information about supervisor and/or employee gender at vacancies to which they are matched on the platform. Additionally, I cross-randomize a treatment that makes family job search discussions salient at the time of the application decision. Among those for whom family job search discussion is made salient, the application rate is nearly 60% lower when jobseekers receive information about a male supervisor at the vacancy. In an alternate specification, I additionally find that information about female coworkers increases the application rate by 67% among those for whom family job search discussion is made salient.

Supervisor gender or employee gender could be constraints at the offer acceptance stage, even if they are not at the application stage. Job offers are comparatively infrequent events, so I study this margin using a survey experiment at baseline. I ask respondents to imagine two nearly identical job offers, and vary key dimensions of supervisor and/or coworker gender between the offers. I begin by having them imagine both jobs with the same stated salary, and then with a higher salary at the male-dominated position. Holding fixed female coworkers and equal salary, only 39% of respondents would choose the position with a male supervisor over one with a female supervisor. If the salary of the position with the male supervisor increases by 5000 or 10000 PKR (randomized), 59% and 74% of respondents would choose it. This elasticity of accepting an offer with a male supervisor if it comes with a higher salary suggests that the field experiment results might not be necessarily driven by social norms, but rather that a male supervisor could signal a low likelihood of getting the job offer. Women may have gleaned through family job search discussion that firms with female supervisors are more likely to hire women (Gentile et al., 2023; Chiplunkar and Goldberg, 2023).

In the remaining survey comparisons, respondents show a clear preference for a position with mostly female coworkers than mostly male coworkers. If salaries are equal, less than 20% of respondents would choose a position with mostly male coworkers over mostly female coworkers. Even if the position with mostly male coworkers pays 20-50% more, less than half of women would take that position over one with mostly female coworkers. For

most of these comparisons, women do not report making choices significantly different from what their parents would advise. The results are consistent with women preferring to work in female-majority workplaces. The motivating factor could be social norms, or other concerns raised in the literature such as safety in the workplace, or the interaction between women's labor market decisions and marriage (Folke and Rickne, 2022; Bursztyn et al., 2017; McKinnish, 2007; Svarer, 2007).

This paper contributes to three strands of the literature. First, a growing literature shows that family pressure negatively impact women's labor supply in settings with low female labor force participation (Bernhardt et al., 2018; Bursztyn et al., 2020; Dean and Jayachandran, 2019; Field et al., 2021; McKelway, 2023). Second, survey research has documented social norms discouraging women from working in mixed-gender spaces in regions with very low female labor force participation (Gauri et al., 2019; Ismail et al., 2022; Sen et al., 2022). Third, formal mobile and internet based job search and matching platforms are becoming increasingly prevalent in Pakistan and worldwide. I contribute to a growing literature studying job search on such platforms (Ben Dhia et al., 2022; Kelley et al., 2021; Jones and Sen, 2022; Wheeler et al., 2022; Belot et al., 2022, 2018; Kircher, 2020; Gee, 2019).

The two most closely related experiments tackle questions related to women's versus men's job search as a function of signaling about workplace gender, but are focused in the North American context where women's overall employment rates are relatively high and social norms discouraging women from working in mixed-gender spaces are less relevant. Neither of these papers find significant impacts of information about supervisor, coworker, or recruiter gender on women's application rates. As part of a broader experiment in 16 major cities in the US, Flory et al. (2015) introduce experimental variation in whether a job ad signals competition against male or female coworkers, and evaluation by a male or female supervisor. Here, they do not find that women apply differentially to jobs based on information received about coworker gender or supervisor gender. Castilla and Rho (2023) conduct an experiment with one project assistant position in the US over two weeks. Women's application rates do not differentially respond to recruiter gender.

This paper addresses a gap in the literature by identifying how supervisor or employee gender impacts women's job search, in a context where both overall female employment rates are low and women are discouraged from working in mixed-gender environments. Furthermore, this paper introduces experimental variation of salience of family job search discussion; this element is novel relative to the most closely related papers and is important given that women's labor supply is a household decision in this context. To the best of my knowledge, this is the first such causal estimate.

2 Field Experiment

This project was conducted on a job matching platform called Job Asaan in Lahore, Pakistan. Women at least in their final year of secondary school were eligible to use the platform, meaning that the sample comes from the population of interest: educated women who are have signed up for a job search service and thus are participating in the labor force.[1] The service is free to both jobseekers and firms; users only need a simple mobile phone to access the platform. More details regarding the platform and data are provided in Section 3.

I implemented field experiments on the Job Asaan platform over five consecutive matching rounds, spaced approximately 1.5 weeks apart, in March and April 2019. Jobseekers were separately and concurrently randomized at the jobseeker level into three different treatments (creating a total of 8 cells) prior to any of these matching rounds.[2] The first two experiments are both information experiments. Jobseekers were randomized to either receive or not receive information about supervisor gender at each vacancy they matched with. Jobseekers were also randomized to either receive or not receive information about employee gender at each vacancy they matched with.[3]

[1] This platform was created alongside the Job Talash platform; both by the research team at Centre for Economic Research Pakistan (Field and Vyborny, 2022; Field et al., 2023; Gentile et al., 2023).

[2] The randomizations were stratified on prior activity on the platform, education, and a measure of mobility. However, this led to multiple strata with fewer than 8 observations in each strata; in such a setting, strata fixed effects can lead to bias in estimation since the cross-randomization yields 8 treatment bins (Correia, 2015). Thus strata fixed effects are not included in estimation.

[3] If a jobseeker in a control group asked for information that she was not assigned to receive, the protocol was that the call center agent would tell her that Job Asaan could not disclose that information. In practice, while this

The distribution of supervisor and employee gender were not fixed in a way to maximize statistical power, but rather, are real vacancies that were open open to women with at least a secondary education in Lahore. Thus, the experiment shows how the distribution of supervisor and/or employee gender publicized in a real set of jobs advertising to women might impact women's job search. This also means that a minority of firms did not provide information about supervisor or employee gender to the platform. If jobseekers in the relevant treatment groups matched to such a vacancy, they were informed that the platform did not have that information for the given vacancy.

The third experiment was a priming experiment, designed to make family job search discussions salient at the time of deciding about job applications. At the beginning of the phone call for each matching round, immediately before expressing an interest to apply to any of the vacancies with which she matched in that round, those in the priming treatment group were asked "We are also interested in understanding how women make decisions about their jobs. Have you discussed your job search with your family in the last week?" In Pakistan and more broadly in South Asia, women's labor supply decisions are determined as a function of own and family preferences (Dean and Jayachandran, 2019). Thus, this question was designed to make previous conversations that the jobseeker had already had with her family salient in her mind at the time of making decisions about job applications. Responding to this question was not required, but of those who responded, 70% responded yes.

As shown in Table 1, the treatments are generally balanced across observable characteristics. Age and marital status are slightly imbalanced, and thus included as covariates in analysis. Table 4 confirms that results are robust to omitting these covariates.

is an aspect of a job that women are likely interested in, job postings do not usually include this information, so it was not something that jobseekers asked about.

Table 1: Balance

	(1) Age	(2) Employed	(3) Student	(4) Secondary	(5) Bachelors	(6) Post-Bachelors	(7) Married	(8) Experience	(9) BL Applications
Priming	0.031	0.009	-0.032	-0.011	-0.044	0.031	0.041	-0.270	0.007
	(0.965)	(0.889)	(0.695)	(0.768)	(0.587)	(0.700)	(0.328)	(0.428)	(0.927)
Supervisor	0.722	0.018	-0.020	-0.032	-0.024	0.017	0.166***	0.518	0.017
	(0.358)	(0.794)	(0.812)	(0.344)	(0.770)	(0.835)	(0.002)	(0.189)	(0.836)
Employee	-0.113	-0.006	0.026	-0.010	0.030	-0.020	0.057	-0.000	-0.023
	(0.875)	(0.931)	(0.763)	(0.790)	(0.731)	(0.821)	(0.242)	(0.999)	(0.788)
Employee × Priming	0.839	0.006	-0.010	0.049	-0.072	0.046	-0.012	0.585	0.044
	(0.483)	(0.944)	(0.933)	(0.378)	(0.544)	(0.701)	(0.869)	(0.294)	(0.704)
Supervisor × Priming	-1.965*	-0.051	0.067	0.076	0.128	-0.160	-0.174**	-0.721	-0.101
	(0.061)	(0.592)	(0.577)	(0.177)	(0.286)	(0.176)	(0.019)	(0.144)	(0.396)
Supervisor × Employee	-0.801	-0.036	0.016	0.022	0.015	-0.023	-0.119	-0.809	0.001
	(0.469)	(0.691)	(0.892)	(0.649)	(0.901)	(0.847)	(0.136)	(0.124)	(0.994)
Priming × Supervisor × Employee	1.047	0.003	-0.034	-0.088	-0.018	0.087	0.102	0.536	0.058
	(0.530)	(0.984)	(0.839)	(0.267)	(0.913)	(0.601)	(0.348)	(0.482)	(0.725)
Constant	23.957***	0.140***	0.672***	0.057**	0.486***	0.457***	0.047*	1.329***	0.586***
	(0.000)	(0.003)	(0.000)	(0.041)	(0.000)	(0.000)	(0.079)	(0.000)	(0.000)
Observations	582	465	515	582	582	582	542	582	582

Notes: Table reports balance across treatments. Outcome variables are baseline characteristics at the time of enrollment onto the platform. Robust standard errors are reported in parentheses. Unit of observation is the jobseeker. $^{*}\ p < .1$, $^{**} p < .05$, $^{***}\ p < .01$.

3 Context and Data

Jobseekers were enrolled onto Job Asaan in two concurrent methods. First, a state government agency conducted a media campaign in July 2018, inviting women with a high school diploma or higher levels of education to sign up for the platform. Second, Job Asaan conducted outreach events at colleges and universities in Lahore. Here, women who were in their final year of high school or college were invited to attend a Job Asaan-sponsored CV workshop. Job Asaan staff would lead the students in filling out the sign-up form for the service which also created a CV for them. In both enrollment methods, the signup instrument collected the basic information required for matching jobseekers to vacancies, their education and work history to construct a CV, and a survey experiment described further in Section 5.

The signup process yielded a total of 4,061 participants as of March 2019, when the experiment began. 1,824 completed the CV process entirely and were thus able to use the

platform.[4] Of these individuals, 599 interacted with the platform between when they completed the sign-up and when randomization took place for the experiment; meaning that they either picked up a phone call from the platform or initiated a call to the platform.[5] The final analysis sample is the 582 of these 599 individuals who matched to at least one vacancy over the course of the field experiment.[6]

Other work in this setting shows that more highly educated women in Lahore are more selective in choosing occupations for job matching and applying to jobs (Gentile et al., 2023). Thus, women with secondary and post-secondary education are the population of interest in this study. Indeed, women in the analysis sample skew much more highly educated than in Lahore overall, which reflects the intentional sampling for this project. Table 2 reports descriptive statistics for this analysis sample in columns (1) to (3), and for a representative sample of women aged 18-65 in Lahore from the 2018 Labor Force Survey. The average jobseeker is nearly 24 years old, younger than the average adult woman in Lahore who is 35 years old. Thirteen percent of jobseekers in the analysis sample are employed; 67% are currently studying. These rates are higher than in Lahore more broadly, where just under 10% of women are respectively employed and currently studying. 5.5% of jobseekers in the analysis sample have some secondary school as their highest level of education, compared to 35% of women in Lahore. 48% of jobseekers in the analysis sample have some college education, compared to 11% of women in Lahore. The remaining 45% of the analysis sample has more than a bachelors education compared to 6% of women in Lahore. Conversely, under 12% of jobseekers are married, while nearly 73% of women in Lahore are married. The average jobseeker in the analysis sample has nearly 1.3 years of work experience.

[4]Those who signed up for the service but did not complete the CV process were randomized into the information experiments described below at baseline. However, they were not able to apply for vacancies without a complete CV and are thus not in the analysis sample.

[5]For any calls from the platform, the protocol was to call at least three times over two days to attempt to reach the individual.

[6]This decrease in sample size from the initial sign-up sample has significantly reduced statistical power compared to initial projections; Section 4 includes discussion of statistical power.

Table 2: Summary Statistics: Jobseekers

	Analysis Sample			Lahore		
Variable	N (1)	Mean (2)	Std. Dev. (3)	N (4)	Mean (5)	Std. Dev. (6)
Female	582	1	0	6696	.49	.5
Age	582	23.964	5.124	3284	34.66	12.487
Employed	465	.131	.338	3284	.095	.294
Student	515	.672	.47	3284	.094	.292
Secondary	582	.055	.228	3284	.349	.477
Bachelors	582	.479	.5	3284	.11	.313
Post-Bachelors	582	.452	.498	3284	.059	.236
Married	542	.118	.323	3284	.728	.445
Experience	582	1.289	2.316	0	.	.

Notes: Columns 1-3 are from the analysis sample; Columns 4-6 are the author's calculations from the 2018 Labour Force Survey for Pakistan, restricted to Lahore. All but the first row in Columns 4-6 restrict to only women. The Labour Force Survey does not ask about work experience.

The platform enrolled firms on a rolling basis from a stratified random sampling across administrative zones of the Lahore metropolitan area, described the Job Asaan service, and offered firms the opportunity to enroll in the service at no cost. Firms interested in listing vacancies provided information regarding the basic educational and experience qualifications for the position, salary, gender composition of the firm, supervisor gender for the open position, and how flexible the hours would be for the open position. In addition to the set of jobs listed through the random sampling procedure, vacancies were also listed through targeted approaches to firms in neighborhoods or industries (such as banking, education, high-end retail, and healthcare), which were likely to have vacancies open to women with secondary or tertiary education.[7]

The combined process yielded a total of 64 vacancies that Job Asaan jobseekers

[7]Firms that sought to hire men could post job postings through a related job matching platform which facilitated job search across gender (see Field et al. (2023); Gentile et al. (2023)).

matched to in March-April 2019. The most common occupations were teaching, management, sales, enumerator/call center agent, accountant, and writing/research. By construction, all of these vacancies were willing to hire women. The median salary was 18,000 PKR/month, against a minimum wage of 15,000 PKR/month (approximately $150 USD). Forty-five of the vacancies (70%) allowed some amount of flexibility with work hours. Seventeen vacancies (27%) were at firms with majority female employees and 29 vacancies (45%) were at firms with majority male employees. Four vacancies reported an even split of male and female employees; a further 14 vacancies (22%) were at firms that did not provide employee gender composition. Twenty vacancies (31%) had a female supervisor, 41 vacancies (64%) had a male supervisor, and three vacancies (5%) did not report supervisor gender.[8]

Nearly weekly, the platform matched jobseekers to these vacancies based on whether they had the appropriate level of education and experience that the firm required for the job, whether the firm was willing to receive applications from women, and whether the job posting was for an occupation that the jobseeker asked to be matched with.[9] The platform notified jobseekers of matches via a text message (SMS) and phone call to facilitate a job application. Both the SMS and phone call contained the same information: the jobseeker's name, and characteristics of the vacancy: job title, firm name, salary, location, whether the position has flexible working hours, and a statement clarifying that the position was open to women. Jobseekers matched on average to 9.3 vacancies over the course of the experiment. Matches are determined by jobseeker characteristics: education, experience, and which occupations they wanted to be matched to, prior to randomization, and thus matches should not be affected by the treatment assignment. Indeed, Appendix Table A.6 confirms that matches to vacancies with male supervisors, female supervisors, male employees, and female employees, are balanced across treatment arms.[10] The control mean application rate overall is 0.07. This application rate is higher than for women overall (0.008) and for women with some tertiary education (0.004) from a nearly representative sample for Lahore (Gentile et al., 2023). This control group

[8] Appendix Table A.1 reports summary statistics about the vacancies, at the jobseeker-vacancy match level.

[9] In practice in Lahore, firms often advertise whether they are looking for male or female applicants (Gentile et al., 2023).

[10] Available upon request, the total number of matches per jobseeker is also balanced across treatments.

application rate translates to approximately 0.6 applications per user per month. The monthly application rate falls in the middle of a wide range for platforms that cater to jobseekers with at least secondary education in low- and middle- income countries. The monthly application rate is higher than in South Africa (0.03) and Nigeria (0.12), but lower than in Chile (1.22) and India (1.25) (Wheeler et al., 2022; Archibong et al., 2022; Banfi et al., 2019; Kelley et al., 2021). Unlike my setting, these other samples of jobseekers are not restricted by gender, and the platforms are internet-based requiring a smartphone or computer, thus catering to a population at a higher socio-economic level.

I use two types of administrative data in this project. First, jobseekers interested in the service completed a short enrollment form which collected the basic information necessary for matching jobseekers to vacancies: work experience, educational attainment, occupations they were interested in being matched with, contact information, and age.[11] The enrollment form also asked questions to construct their CV, including details about degrees, trainings, and details of their work history.

The second type of administrative data comes from the matching rounds. Over the course of the experiment, 64 vacancies were advertised via the platform. Based on education, work experience, and interest in the occupation, Job Asaan determined which jobseekers matched to which of these vacancies. For each matched jobseeker-vacancy pair, in addition to the treatment status and other jobseeker-level characteristics, I observe characteristics of the job, such as salary, location, whether the job allowed flexible working hours, and occupation. I observe which jobseekers matched with which vacancies, and whether the jobseeker applied to and was interviewed for each vacancy to which she was matched.

A baseline survey complements the administrative data. In the baseline survey, the jobseeker provided basic demographic information, and completed a series of vignettes to measure willingness to accept a male supervisor and/or male coworkers when choosing between two jobs. These are described in more detail in Section 5.

[11] Age was required to confirm that jobseekers were above the age of 18 or had parental permission.

4 Job Applications

The main analysis seeks to identify how information about supervisor gender or employee gender impacts job application decisions, including among women for whom family job search discussions are made salient at the time of application. The main specification, Equation 1, fully interacts indicators for all three field experiment treatments. P_i denotes whether the jobseeker was randomized to receive the priming treatment on each matching round, S_i denotes whether the jobseeker was randomized to receive information about supervisor gender of each match, and E_i denotes whether the jobseeker was randomized to receive information about employee gender at each match. The vector W_{ik} includes age and marital status since these were slightly imbalanced at baseline, and the number of vacancies that jobseeker i matched to in round k. The vector D_v includes vacancy characteristics: salary, whether the position has flexible working hours, indicators for the most frequent occupations, and fixed effects for the neighborhood of the job within Lahore. I estimate Equation 1 on separate subsamples: matches to vacancies with respectively a male supervisor, a female supervisor, male employees, and female employees, to ascertain the impact of receiving each type of information. Standard errors are clustered on jobseeker, which is the unit of randomization, and vacancy, which is the unit at which the information content of the information treatments varies.

$$Y_{ivk} = \beta_0 + \beta_1 P_i + \beta_2 S_i + \beta_3 E_i + \beta_4 S_i P_i + \beta_5 E_i P_i + \beta_6 S_i E_i + \beta_7 P_i S_i E_i + \Lambda W_{ik} + \Gamma D_v + \varepsilon_{ivk} \quad (1)$$

In studying the impact of information about supervisor gender, the coefficients of interest are β_2, the direct effect of information about supervisor gender on the application rate, and $\beta_2 + \beta_4$, the effect of information about supervisor gender when family job search discussion is made salient at the time of application. Table 3, Panel A, Column 1, reports the results of Equation 1 on the sample of matches to vacancies with a male supervisor.[12] The minimum detectable effect size is less than 0.065 for β_2, at a significance level of 0.05. β_2,

[12] All panels and columns of Table 3 include jobseekers across all 8 cells of the experiment, as is necessary for Equation 1 to be identified.

denoting the overall effect of information about a male supervisor on the application decision, is -0.029 (33% decrease in the application rate), but not statistically significant. The effect of information about a male supervisor among those primed to think about family job search discussion, $\beta_2 + \beta_4$, is -0.050 (57% decrease), and statistically significant at the 5% level. When family job search discussion is salient, jobseekers are significantly less likely to apply to vacancies they are informed have a male supervisor. This pattern could be due to social norms, which in turn could be a result of concerns about sexual harassment in the workplace, or about perceptions about how their employment decisions might interact with their marriage, either current or prospective (Folke and Rickne, 2022; McKinnish, 2007; Svarer, 2007; Bursztyn et al., 2017). The pattern could alternatively be due to jobseekers' families, who have more experience with the labor market, advising that male supervisors are less likely to hire a female applicant (Chiplunkar and Goldberg, 2023; Gentile et al., 2023). I revisit these potential mechanisms in Section 5.

Table 3: Job Applications

Panel A: Supervisor		
	(1)	(2)
	Male Supervisor	Female Supervisor
β_1: P_i	-0.013	-0.015
	(0.025)	(0.018)
β_2: S_i	-0.029	0.017
	(0.029)	(0.025)
β_4: S_iP_i	-0.021	-0.020
	(0.036)	(0.036)
$\beta_2+\beta_4$	-0.050	-0.003
SE	(0.021)	(0.018)
P-value	[0.020]	[0.854]
Jobseekers	475	546
Vacancies	41	20
N	2758	2475
Control Mean	0.088	0.043

Panel B: Employees		
	(1)	(2)
	Male Employees	Female Employees
β_1: P_i	-0.004	-0.023
	(0.026)	(0.021)
β_3: E_i	-0.032	-0.013
	(0.026)	(0.023)
β_5: E_iP_i	0.052	0.042
	(0.041)	(0.030)
$\beta_3+\beta_5$	0.020	0.029
SE	(0.032)	(0.021)
P-value	[0.542]	[0.198]
Jobseekers	506	427
Vacancies	29	17
N	2291	1624
Control Mean	0.076	0.052

Notes: Table reports results from Equation 1. Outcome variable is whether the jobseeker applied to the vacancy. In Panel A, Column 1, the sample is restricted to matches to vacancies with a male supervisor. In Panel A, Column 2, the sample is restricted to matches to vacancies with a female supervisor. In Panel B, Column 1, the sample is restricted to matches to vacancies with mostly male employees. In Panel B, Column 2, the sample is restricted to matches to vacancies with mostly female employees. Standard errors, clustered on jobseeker, are reported in parentheses. P-values reported in square brackets. Unit of observation is the jobseeker-vacancy match. All panels and columns include jobseekers across all 8 cells of the experiment, as is necessary for Equation 1 to be identified. * $p < .1$, $^{**}p < .05$, *** $p < .01$.

Panel A Column 2 reports results from Equation 1 estimated for matches to vacancies with a female supervisor. Here, β_2 is 0.017 (96% increase), meaning that the direct effect of information about a female supervisor on the application rate is positive, though not statistically significant. The minimum detectable effect size at a significance level of 0.05 is an increase of 0.05. Within the set of jobseekers primed to think about family job search discussion, $\beta_2 + \beta_4$ has a very small magnitude (-0.003, approximately a 7% decrease) and is not statistically significant. Panel B denotes symmetric results for employee gender, with matches to vacancies with majority male employees in Column 1 and matches to vacancies with majority female employees in Column 2. Overall, the estimates are all very noisy with large standard errors. The minimum detectable effect sizes for information about male employees and female employees are 0.075 and 0.7 respectively at a significance level of 0.05. Even when primed to think about family job search discussion, the impact of information about employee gender is not statistically significant ($\beta_3 + \beta_5$).

Salience of job search discussion alone might directly decrease job applications given social norms that discourage women from working. I test this by estimating Equation 1 on the pooled sample of all matches, and report β_1 in Appendix Table A.2. The coefficient is -0.013 (a decrease of 19%), which is negative as expected, but comparatively low in magnitude relative to the information treatments and not statistically significant. The minimum detectable effect at a significance level of 0.05 is -0.04.

One concern with the estimation strategy is that the analysis is underpowered due to the cross-randomization of treatment arms and the fully interacted specification. Estimating simplified specifications that interact each information treatment with the priming experiment separately, I find a very similar pattern of results, as reported in Appendix Table A.3, though these regressions have higher statistical power due to fewer interaction terms. The direct effects of information about supervisor gender and employee gender remain statistically insignificant. However, here, as in the main results, among those primed to think about family job search discussion, information about a male supervisor significantly decreases the application rate, with a coefficient -0.037 (a 42% decrease). Additionally, among those primed to think about family

job search discussion, information about majority female employees significantly increases the job application rate by 3.5 percentage points (a 67% increase). This is similar in magnitude to the equivalent estimate from the main specification, but with higher statistical power. In Appendix Table A.4, I report results from regressing the application decision on each information treatment indicator separately, for the relevant subsamples, e.g. Column 1 regresses the decision to apply on the treatment indicator for information about supervisor gender, and the covariates from Equation 1. These specifications have higher statistical power than the main specification, with minimum detectable effect sizes between 0.025 and 0.03 at a significance level of 0.05. Most of the effects are small and insignificant. The coefficient on S_i for vacancies with a male supervisor is -0.025 (a 30% decrease), similar in magnitude to β_2 in Table 3 Panel A Column 1 for matches to vacancies with a male supervisor, and statistically significant. This suggests a negative effect of information about a male supervisor, though these results should be interpreted with caution since these specifications do not fully interact all treatment arms (Muralidharan et al., 2023).

In Table 4, I report results from a series of robustness checks on the main field experiment results. Columns (1) and (5) repeat the main results for comparison. In columns (2) and (6), I omit all control variables, including baseline characteristics that were slightly imbalanced. The results remain nearly identical. In columns (3) and (7) I omit job characteristics, and the results remain nearly identical. In columns (4) and (8), I use vacancy fixed effects rather than job characteristics, and the results remain nearly identical.

Given the application rate and relatively small number of vacancies, the field experiment is underpowered to detect employment effects. Indeed there are no statistically significant impacts on interviews (Appendix Table A.5). Thus, in the next section, I study the employment decision margin using a survey experiment.

Table 4: Robustness: Job Applications

Panel A: Supervisor								
	Male Supervisor				Female Supervisor			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Main	No Controls	No Job Char	Job FE	Main	No Controls	No Job Char	Job FE
β_1: P_i	-0.013	-0.014	-0.011	-0.013	-0.015	-0.015	-0.012	-0.015
	(0.025)	(0.027)	(0.024)	(0.025)	(0.018)	(0.019)	(0.018)	(0.017)
β_2: S_i	-0.029	-0.029	-0.029	-0.028	0.017	0.011	0.016	0.017
	(0.029)	(0.029)	(0.028)	(0.029)	(0.025)	(0.024)	(0.024)	(0.025)
β_4: S_iP_i	-0.021	-0.017	-0.023	-0.020	-0.020	-0.009	-0.018	-0.020
	(0.036)	(0.035)	(0.035)	(0.035)	(0.036)	(0.034)	(0.033)	(0.035)
$\beta_2+\beta_4$	-0.050	-0.046	-0.052	-0.048	-0.003	0.002	-0.003	-0.003
SE	(0.021)	(0.021)	(0.021)	(0.021)	(0.018)	(0.019)	(0.018)	(0.018)
P-value	[0.020]	[0.032]	[0.015]	[0.024]	[0.854]	[0.902]	[0.886]	[0.853]
Jobseekers	475	475	475	475	546	546	546	546
Vacancies	41	41	41	41	20	20	20	20
N	2758	2758	2758	2758	2475	2475	2475	2475
Control Mean	0.088	0.088	0.088	0.088	0.043	0.043	0.043	0.043

Panel B: Employees								
	Male Employees				Female Employees			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Main	No Controls	No Job Char	Job FE	Main	No Controls	No Job Char	Job FE
β_1: P_i	-0.004	-0.005	-0.001	-0.005	-0.023	-0.020	-0.017	-0.023
	(0.026)	(0.027)	(0.025)	(0.026)	(0.021)	(0.020)	(0.019)	(0.021)
β_3: E_i	-0.032	-0.027	-0.033	-0.031	-0.013	-0.010	-0.014	-0.014
	(0.026)	(0.026)	(0.025)	(0.025)	(0.023)	(0.023)	(0.023)	(0.023)
β_5: E_iP_i	0.052	0.047	0.048	0.052	0.042	0.038	0.036	0.042
	(0.041)	(0.041)	(0.040)	(0.041)	(0.030)	(0.031)	(0.029)	(0.029)
$\beta_3+\beta_5$	0.020	0.020	0.015	0.021	0.029	0.028	0.022	0.029
SE	(0.032)	(0.032)	(0.031)	(0.032)	(0.021)	(0.021)	(0.021)	(0.021)
P-value	[0.542]	[0.541]	[0.624]	[0.507]	[0.198]	[0.199]	[0.301]	[0.195]
Jobseekers	506	506	506	506	427	427	427	427
Vacancies	29	29	29	29	17	17	17	17
N	2291	2291	2291	2291	1624	1624	1624	1624
Control Mean	0.076	0.076	0.076	0.076	0.052	0.052	0.052	0.052

Notes: Table reports robustness checks to results in Table 3. Outcome variable is whether the jobseeker applied to the vacancy. In Panel A, Columns 1-5, the sample is restricted to matches to vacancies with a male supervisor. In Panel A, Columns 6-10, the sample is restricted to matches to vacancies with a female supervisor. In Panel B, Columns 1-5, the sample is restricted to matches to vacancies with mostly male employees. In Panel B, Columns 6-10, the sample is restricted to matches to vacancies with mostly female employees. Columns 1 and 6 report the main results, as in Table 3. Columns 2 and 7 omit jobseeker-level and vacancy-level covariates ($W_i k$ and D_j from Equation 1). Columns 3 and 8 omit job-level covariates (D_j from Equation 1). Columns 4 and 9 include vacancy fixed effects instead of job-level covariates. Columns 5 and 10 cluster standard errors on both jobseeker and vacancy. Standard errors are reported in parentheses. P-values reported in square brackets. Unit of observation is the jobseeker-vacancy match. * $p < .1$, $^{**}p < .05$, *** $p < .01$.

5 Employment Decisions

The field experiment captures a revealed preference at the time of application. However, while a jobseeker can submit multiple job applications, she can only choose one job offer. I study how supervisor or employee gender influence employment decisions using a survey experiment conducted at baseline. One hundred and eighty-six jobseekers from the field experiment analysis sample completed the vignettes in the survey experiment. As noted in Appendix Table A.7, these respondents are similar to the full sample on age, years of experience, and the number of occupations to which they wanted to be matched, though they are more likely to have education beyond a bachelors degree.

In each of three cases, the respondent was asked to envision two nearly identical job offers, both in the jobseeker's ideal occupation, denoted as Company A and Company B. Company B was always male-dominated relative to Company A. If the respondent chose Company A (the female-dominated firm), then they were asked to compare the same job offers again, but now with Company B offering either 5,000 or 10,000 PKR/month more than Company A; this salary jump was randomized at the individual level and is the key randomization. Appendix Table A.8 shows that the salary jump (5,000 PKR vs 10,000 PKR) treatment is balanced across characteristics observable at baseline. The respondent was also asked how her parents would advise her in each of these binary choices. To address potential sources of survey bias, I additionally randomized at the individual level whether the survey first asked about the respondent's own choice or how they believed their family would advise. The starting salary in the initial comparison is 20,000 PKR/month for both vacancies.[13]

Equation 2 estimates the effect of the difference in salary between Company A and Company B; the constant term and indicators Δ_i^{5000} and Δ_i^{10000} respectively denote 0, 5000, and 10000 PKR difference. By controlling for and interacting all terms with F_i, which is an indicator for whether the observation refers to how the respondent thinks her parents would advise her to make the decision (versus her own response), I additionally estimate whether there are differences between what she would choose for herself, and what she believes her

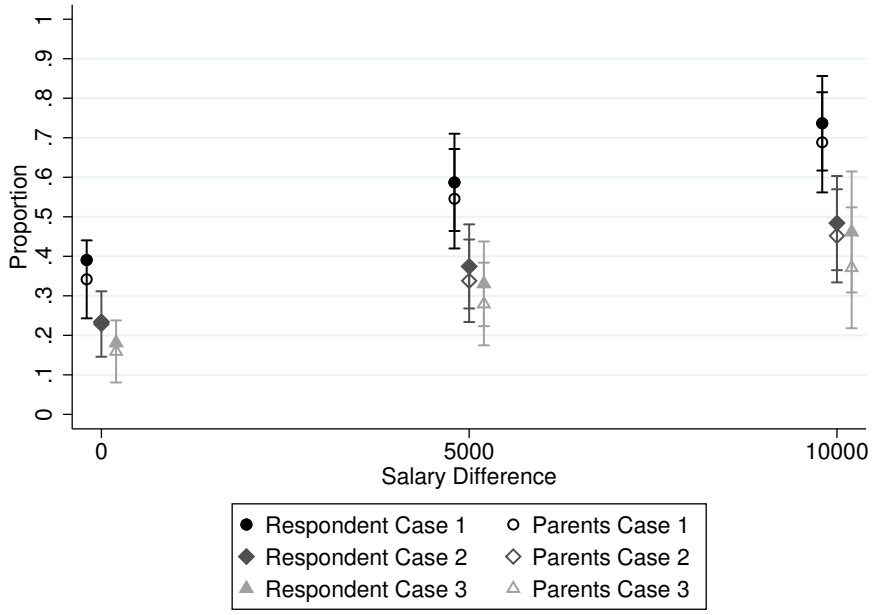
[13] Appendix 2 provides the text for how the vignettes were introduced to respondents.

parents would advise. The specification includes an indicator for whether the individual was randomized to see questions about their own choices or how their parents would advise first in ρ_i. Standard errors are clustered on individual. The outcome variable M_i indicates choosing Company B (the male-dominated firm) over Company A. [14] Figure 1 presents a coefficient plot with these results.

$$M_{ir} = \alpha_0 + \alpha_1 \Delta_i^{5000} + \alpha_2 \Delta_i^{10000} + \alpha_3 F_{ir} + \alpha_4 \Delta_i^{5000} \times F_{ir} + \alpha_5 \Delta_i^{10000} \times F_{ir} + \gamma \rho_i + \varepsilon_{ir} \quad (2)$$

[14] Respondents were ex-ante randomized to see either the 5000 or the 10000 PKR jump. However, in practice, they only saw the comparison with the increased salary for the male-dominated position (Company B) if they did not choose Company B when the salaries were equal. Thus, to bound treatment effects, I assign the respondent as having chosen Company B at the higher salary, if they chose Company B at the lower salary, assuming monotonicity of preferences. The results without this correction are very similar, as shown in Appendix Figure A.1.

Figure 1: Willingness to Accept Male Supervisor or Coworkers



Notes: Reports results from Equation 2 estimated separately for each case. Case 1 (circles) presents the choice of choosing a male supervisor over a female supervisor, holding female coworkers fixed. Case 2 (diamonds) presents the choice of choosing male coworkers over female coworkers, holding a male supervisor fixed. Case 3 (triangles) presents the choice of choosing male coworkers and a male supervisor over female coworkers and a female supervisor. In all cases, respondents were asked to consider all other attributes of the two jobs as identical. The filled-in circle, diamond, and square refer to how the respondent would choose for themselves for Cases 1, 2, and 3, respectively. The empty circle, diamond, and square refer to how the respondent thinks their family would advise them to choose for Cases 1, 2, and 3, respectively. The salary difference between the jobs represents how much more the male-dominated job pays. Standard errors are clustered on individual. N = 186 individuals. Regressions results underlying this figure are in Appendix Table A.9.

In Case 1, the comparison holds fixed female coworkers; the outcome is choosing a male supervisor over a female supervisor. When salaries were equal, 39% chose the position with the male supervisor. When asked how their parents would advise them on this decision, 34% said that their parents would tell them to choose the position with the male supervisor; this 5 percentage point difference is statistically significant. When the position with a male supervisor pays 5000 PKR more, 59% of women would choose it; if it pays 10000 PKR more, 74% of respondents would choose the position with the male supervisor. This treatment effect

of the difference in willingness to accept a male supervisor if the position paid 10000 PKR more vs 5000 PKR more is statistically significant. There is no statistically significant difference between what women say they would choose for themselves and what they report their parents would advise, when Company B (with a male supervisor) pays a higher salary, and both firms have mostly female coworkers. In the field experiment, I showed that among women primed to think about family job search discussion, information about a male supervisor decreases the job application rate by 5 percentage points. Case 1 of the survey experiment shows that the field experiment results on job applications might be driven by expectations of whether a male supervisor would hire a female applicant, rather than family pressure to avoid a workplace with a male supervisor.

The results from Case 2 and Case 3 are similar to each other, but different from Case 1, suggesting that coworker gender is important. In Case 2, both positions have a male supervisor, but Company A has mostly female coworkers and Company B has mostly male coworkers. Holding fixed a male supervisor, only 14% of respondents would choose the position with the male coworkers, all else equal. At 5000 PKR more, 37% of women (33% of their parents) would choose the position with male employees; at 10000 PKR more, this increases statically significantly to 48% (and 45% of parents). However, these magnitudes still remain well below the equivalents from Case 1. There is no statistically significant gap between what women themselves choose and what they report that their parents across salary differences. In Case 3, Company A has mostly female employees and a female supervisor, and Company B has mostly male employees and a male supervisor. 15% of women would choose the male-dominated position at equal prices. When the salary of the male-dominated position increases by 5000 PKR, 33% of women would choose the male-dominated position; when the increase is by 10000 PKR, 46% of women would choose the male-dominated position. There is no statistically significant gap between how women respond to a 5000 vs 10000 PKR jump for these cases, or between what women themselves choose and what they report that their parents across salary differences.

Overall, these results suggest that women largely prefer to work in an environment

with mostly female coworkers, even if environments with mostly male coworkers were to pay them up to 50% more (a jump of 10000 PKR compared to the base salary comparison at 20000 PKR). For most comparisons, women don't report that their parents would advise them to choose differently from how women would choose themselves. This could be because they have already internalized their parents' preferences/social norms or that theirs and their parents' preferences do not differ on these attributes.

6 Conclusion

Women's progress in the labor market has not been commensurate with advances in educational attainment. I implement a field experiment on a job matching platform to identify the impact of information about supervisor or employee gender on women's job applications. The sample, women with a high school diploma or college education who signed up for a job matching platform in Lahore, Pakistan, is from the population of interest: educated women who are interested in job search though not employed at high rates. Magnitudes of the treatment effects are large, though many of the results are underpowered. The key results are that information about a male supervisor decreases the job application rate by nearly 60% among women for whom family job search discussion is made salient. In an alternate specification, I additionally find that among women for whom family job search discussion is made salient, information about majority female employees at a vacancy increases the job application rate by 67%.

Information about supervisor or employee gender might not have a significant impact on the application decision, as a job application does not commit the jobseeker to taking the job. Thus, I complement this analysis with survey exercises at baseline to study the employment margin. Here, I find that approximately a third of respondents would take a position with a male supervisor over a female supervisor, holding fixed all other attributes of the job, including that both positions have mostly female coworkers. If the salary of the position with the male supervisor increases by 10000 PKR compared to the one with a female supervisor, up to 70% of respondents would take it. Respondents are far less elastic to working with mostly male coworkers.

If salaries are equal, less than 20% of respondents would choose a position with mostly male coworkers over a position with mostly female coworkers. Even if the position with the mostly male coworkers pays 20-50% more, less than half of women would take that position over one with mostly female coworkers. These patterns are very similar regardless of the gender of the supervisor at these positions. These results contextualize that the field experiment results might not be driven entirely by social norms and concerns that parents wouldn't approve of a male supervisor, but could reflect that women might have been advised by family that a male supervisor is less likely to hire them even if they submit an application. In the survey exercises, they are comparing offers so this dimension is no longer relevant.

Many of the women in this experiment are finishing their education and embarking upon both career and family decisions, which in the South Asian context, are often made in consultation with their households. In devising policy to address low female labor supply in such communities, policymakers and economic agents must consider information flows within families. Providing information about more female-friendly environments, the likelihood of women versus men being hired, and perhaps amenities for women at different workplaces, could be a next step to help empower women in conversations with their families about their job search. Furthermore, this paper presents the first experimental evidence that women themselves exhibit a preference for working in gender-segregated workplaces which are common in the context.

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1 Online Appendix

Table A.1: Summary Statistics: Matches

	All			Female Supervisor			Male Supervisor			Women			Men		
Variable	Mean (1)	Std. Dev. (2)	Median (3)	Mean (4)	Std. Dev. (5)	Median (6)	Mean (7)	Std. Dev. (8)	Median (9)	Mean (10)	Std. Dev. (11)	Median (12)	Mean (13)	Std. Dev. (14)	Median (15)
Mean Salary	22273	7336	22124	21764	4122	22124	21617	7013	21500	20400	3027	22124	22164	9415	22124
Flexible Hours	.693	.461	.	.663	.473	.	.757	.429	.	.746	.435	.	.685	.465	.
Teacher	.326	.469	.	.547	.498	.	.148	.355	.	.781	.413	.	.115	.319	.
Management	.124	.33	.	.179	.383	.	.083	.276	.	0	0	.	.238	.426	.
Sales	.133	.34	.	.017	.131	.	.245	.43	.	.022	.147	.	.299	.458	.
Enumerator	.076	.265	.	.105	.306	.	0	0	.	0	0	.	.021	.142	.
Accountant	.072	.258	.	0	0	.	.14	.347	.	0	0	.	.129	.335	.
Writing	.07	.255	.	.067	.249	.	.077	.266	.	0	0	.	.021	.142	.
N	5402	.	.	2475	.	.	2758	.	.	1624	.	.	2291	.	.

Notes: Table reports summary statistics at the match-level for vacancy characteristics.

Table A.2: Job Applications - Pooled

	(1)
	all
β_1: P_i	-0.013
	(0.018)
Jobseekers	582
Vacancies	64
N	5402
Control Mean	0.070

Notes: Table reports results from Equation 1. Outcome variable is whether the jobseeker was interviewed for the vacancy. Sample is all jobseeker-vacancy matches. β_1, denoting the treatment effect of family job search discussion being made salient at the time of application, is reported. Standard errors, clustered on jobseeker, are reported in parentheses. Unit of observation is the jobseeker-vacancy match. * $p < .1$, $^{**}p < .05$, *** $p < .01$.

Table A.3: Job Applications: Cross Specification

	(1) Male Supervisor	(2) Female Supervisor	(3) Male Employees	(4) Female Employees
S_i	-0.015	0.022		
	(0.021)	(0.018)		
P_i	0.004	0.003	-0.002	-0.028
	(0.023)	(0.013)	(0.015)	(0.016)
S_iP_i	-0.022	-0.019		
	(0.028)	(0.028)		
E_i			-0.008	-0.024
			(0.014)	(0.018)
E_iP_i			0.021	0.059**
			(0.025)	(0.024)
S_i+S_iP_i	-0.037	0.002		
SE	(0.018)	(0.018)		
P-value	[0.049]	[0.894]		
E_i+E_iP_i			0.013	0.035
SE			(0.020)	(0.017)
P-value			[0.525]	[0.060]
Jobseekers	475	546	506	427
Vacancies	41	20	29	17
N	2758	2475	2291	1624
Control Mean	0.088	0.043	0.076	0.052

Notes: Table reports an alternative specification to Equation 1 with an outcome variable of whether the jobseeker applied to the vacancy. Columns 1 and 2 estimate $Y_{ivk} = \theta_0 + \theta_1 S_i + \theta_2 P_i + \theta_3 S_i P_i + \Lambda W_{ik} + \Gamma D_v + \varepsilon_{ivk}$ on matches to vacancies with male supervisors and female supervisors respectively, and report θ_1, θ_2, and θ_3. Columns 3 and 4 estimate $Y_{ivk} = \rho_0 + \rho_1 E_i + \rho_2 P_i + \rho_3 E_i P_i + \Lambda W_{ik} + \Gamma D_v + \varepsilon_{ivk}$ on matches to vacancies with mostly male employees and mostly female employees respectively, and report ρ_2, ρ_1, and ρ_3. W_{ik} and D_v defined as in Equation 1. Standard errors, clustered on jobseeker, are reported in parentheses. P-values reported in square brackets. Unit of observation is the jobseeker-vacancy match. * $p < .1$, $^{**}p < .05$, *** $p < .01$.

Table A.4: Job Applications: Simple Specification

	(1) Male Supervisor	(2) Female Supervisor	(3) Male Employees	(4) Female Employees	(5) All
S_i	-0.025*	0.013			
	(0.014)	(0.011)			
E_i			0.003	0.005	
			(0.012)	(0.013)	
P_i					-0.004
					(0.011)
Jobseekers	475	546	506	427	582
Vacancies	41	20	29	17	64
N	2758	2475	2291	1624	5402
Control Mean	0.088	0.043	0.076	0.052	0.070

Notes: Table reports an alternative specification to Equation 1 with an outcome variable of whether the jobseeker applied to the vacancy. Columns 1 and 2 estimate $Y_{ivk} = \gamma_0 + \gamma_1 S_i + \Lambda W_{ik} + \Gamma D_v + \varepsilon_{ivk}$ on matches to vacancies with male supervisors and female supervisors respectively, and report γ_1. Columns 3 and 4 estimate $Y_{ivk} = \eta_0 + \eta_1 E_i + \Lambda W_{ik} + \Gamma D_v + \varepsilon_{ivk}$ on matches to vacancies with mostly male employees and mostly female employees respectively, and report η_1. Column 5 estimates $Y_{ivk} = \zeta_0 + \zeta_1 P_i + \Lambda W_{ik} + \Gamma D_v + \varepsilon_{ivk}$ on all jobseeker-vacancy matches, and reports ζ_1. W_{ik} and D_v defined as in Equation 1. Standard errors, clustered on jobseeker, are reported in parentheses. Unit of observation is the jobseeker-vacancy match. * $p < .1$, $^{**}p < .05$, *** $p < .01$.

Table A.5: Interviews

Panel A: Supervisor		
	(1)	(2)
	Male Supervisor	Female Supervisor
β_1: P_i	-0.003	-0.003
	(0.003)	(0.003)
β_2: S_i	-0.002	-0.003
	(0.002)	(0.003)
β_4: S_iP_i	0.001	0.003
	(0.001)	(0.003)
$\beta_2+\beta_4$	-0.001	-0.000
SE	(0.001)	(0.000)
P-value	[0.323]	[0.604]
Jobseekers	474	537
Vacancies	41	20
N	2712	2405
Control Mean	0.003	0.003

Panel B: Employees		
	(1)	(2)
	Male Employees	Female Employees
β_1: P_i	0.000	-0.005
	(.)	(0.005)
β_3: E_i	0.000	-0.005
	(.)	(0.005)
β_5: E_iP_i	0.000	0.005
	(.)	(0.005)
$\beta_3+\beta_5$	0.000	-0.000
SE	(0.000)	(0.000)
P-value	[.]	[0.902]
Jobseekers	500	427
Vacancies	29	17
N	2251	1593
Control Mean	0.000	0.005

Notes: Table reports results from Equation 1. Outcome variable is whether the jobseeker was interviewed for the vacancy. In Panel A, Column 1, the sample is restricted to matches to vacancies with a male supervisor. In Panel A, Column 2, the sample is restricted to matches to vacancies with a female supervisor. In Panel B, Column 1, the sample is restricted to matches to vacancies with mostly male employees. In Panel B, Column 2, the sample is restricted to matches to vacancies with mostly female employees. Standard errors, clustered on jobseeker, are reported in parentheses. P-values reported in square brackets. Unit of observation is the jobseeker-vacancy match. * $p < .1$, $^{**}p < .05$, *** $p < .01$.

Table A.6: Balance: Supervisor and Employee Gender

	(1) Male supervisor	(2) Female supervisor	(3) Male Employees	(4) Female Employees
Priming	0.014	-0.013	0.022	-0.006
	(0.671)	(0.682)	(0.473)	(0.829)
Supervisor	0.009	-0.006	-0.001	-0.006
	(0.785)	(0.849)	(0.974)	(0.818)
Employee	0.024	-0.005	0.014	0.031
	(0.513)	(0.884)	(0.683)	(0.291)
Employee × Priming	-0.022	0.008	-0.013	-0.029
	(0.644)	(0.867)	(0.781)	(0.485)
Supervisor × Priming	-0.010	0.006	-0.036	0.017
	(0.837)	(0.907)	(0.419)	(0.699)
Supervisor × Employee	-0.032	0.014	0.007	-0.041
	(0.502)	(0.757)	(0.885)	(0.314)
Priming × Supervisor × Employee	0.038	-0.019	0.030	0.040
	(0.594)	(0.790)	(0.647)	(0.509)
Observations	5402	5402	5402	5402

Notes: Table reports results of regressions of whether each jobseeker-vacancy match is to a vacancy with respectively a male supervisor (col 1), a female supervisor (col 2), mostly male employees (col 3) or mostly female employees (col 4). Regressions include controls for age and marital status, which were slightly imbalanced at baseline, and are included as controls in the main analysis. Standard errors are clustered on jobseeker and are reported in parentheses. Unit of observation is the jobseeker-vacancy match. * $p < .1$, $^{**}p < .05$, *** $p < .01$.

Table A.7: Attrition: Survey Experiment

	(1) 0		(2) 1		(1)-(2) Pairwise t-test	
Variable	N/Clusters	Mean/(SE)	N/Clusters	Mean/(SE)	N/Clusters	P-value
Age	690	23.148	193	23.010	883	0.734
	690	(0.180)	193	(0.363)	883	
Employed	478	0.094	162	0.099	640	0.864
	478	(0.013)	162	(0.024)	640	
Student	330	0.591	193	0.813	523	0.000***
	330	(0.027)	193	(0.028)	523	
Secondary	690	0.077	193	0.047	883	0.099*
	690	(0.010)	193	(0.015)	883	
Bachelors	690	0.588	193	0.513	883	0.064*
	690	(0.019)	193	(0.036)	883	
Post-Bachelors	690	0.320	193	0.430	883	0.006***
	690	(0.018)	193	(0.036)	883	
Married	376	0.128	176	0.097	552	0.271
	376	(0.017)	176	(0.022)	552	
Experience	690	1.114	193	1.098	883	0.926
	690	(0.079)	193	(0.153)	883	
BL Applications	690	0.342	193	0.539	883	0.000***
	690	(0.018)	193	(0.036)	883	

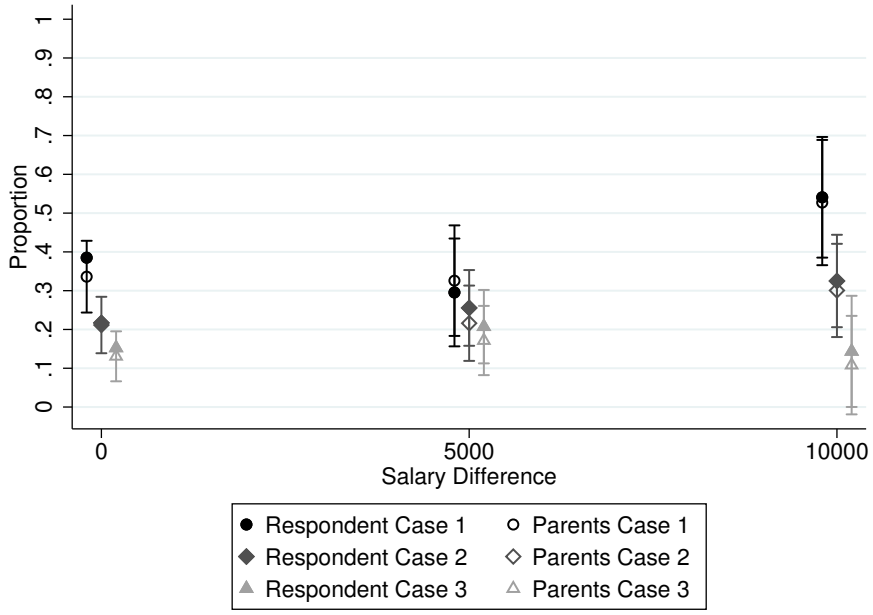
Notes: Table reports differences in baseline characteristics between respondents who completed the survey exercises at baseline and those who did not (attrited). Outcome variables are baseline characteristics at the time of enrollment onto the platform. Standard errors are reported in parentheses. Unit of observation is the individual. * $p < .1$, $^{**}p < .05$, *** $p < .01$.

Table A.8: Balance: Survey Experiment

	(1) 0		(2) 1		(1)-(2) Pairwise t-test	
Variable	N/Clusters	Mean/(SE)	N/Clusters	Mean/(SE)	N/Clusters	P-value
Age	106	23.208	87	22.770	193	0.557
	106	(0.454)	87	(0.588)	193	
Employed	90	0.067	72	0.139	162	0.141
	90	(0.026)	72	(0.041)	162	
Student	106	0.811	87	0.816	193	0.933
	106	(0.038)	87	(0.042)	193	
Secondary	106	0.047	87	0.046	193	0.969
	106	(0.021)	87	(0.023)	193	
Bachelors	106	0.472	87	0.563	193	0.207
	106	(0.049)	87	(0.053)	193	
Post-Bachelors	106	0.462	87	0.391	193	0.320
	106	(0.049)	87	(0.053)	193	
Married	93	0.108	83	0.084	176	0.603
	93	(0.032)	83	(0.031)	176	
Experience	106	1.075	87	1.126	193	0.873
	106	(0.170)	87	(0.270)	193	
BL Applications	106	0.538	87	0.540	193	0.973
	106	(0.049)	87	(0.054)	193	

Notes: Table reports balance between seeing 5000 PKR jump and 10000 PKR jump for the second comparison, which is randomized at the individual level. Outcome variables are baseline characteristics at the time of enrollment onto the platform. Standard errors are reported in parentheses. Unit of observation is the individual. * $p < .1$, $^{**}p < .05$, *** $p < .01$.

Figure A.1: Willingness to Accept Male Supervisor or Coworkers - Unbounded



Notes: Reports results from Equation 2 estimated separately for each case. Case 1 (circles) presents the choice of choosing a male supervisor over a female supervisor, holding female coworkers fixed. Case 2 (diamonds) presents the choice of choosing male coworkers over female coworkers, holding a male supervisor fixed. Case 3 (triangles) presents the choice of choosing male coworkers and a male supervisor over female coworkers and a female supervisor. In all cases, respondents were asked to consider all other attributes of the two jobs as identical. The filled-in circle, diamond, and square refer to how the respondent would choose for themselves for Cases 1, 2, and 3, respectively. The empty circle, diamond, and square refer to how the respondent thinks their family would advise them to choose for Cases 1, 2, and 3, respectively. The salary difference between the jobs represents how much more the male-dominated job pays. Standard errors are clustered on individual. The sample for this analysis does not implement the correction described in footnote 14. N = 186 individuals.

Table A.9: Willingness to Accept Male Supervisor or Coworkers

	(1) Case 1	(2) Case 2	(3) Case3
α_1: Δ^{5000}	0.196***	0.140***	0.149***
	(0.046)	(0.042)	(0.044)
α_2: Δ^{10000}	0.346***	0.250***	0.281***
	(0.051)	(0.049)	(0.058)
α_3: F	-0.049**	-0.005	-0.022
	(0.024)	(0.017)	(0.015)
α_4: Δ^{5000} × F	0.007	-0.031	-0.029
	(0.030)	(0.026)	(0.030)
α_5: Δ^{10000} × F	0.001	-0.027	-0.069
	(0.034)	(0.022)	(0.045)
α_0: Respondent at 0 Diff	0.391***	0.234***	0.181***
	(0.050)	(0.043)	(0.041)
Respondent Treatment: α_2 - α_1	0.150	0.110	0.131
SE	(0.070)	(0.068)	(0.081)
P-value	[0.035]	[0.108]	[0.105]
Parent Treatment: α_5 - α_4	-0.007	0.004	-0.040
SE	(0.043)	(0.036)	(0.058)
P-value	[0.874]	[0.910]	[0.492]
Parents 5000 vs 0: α_3 + α_4	-0.041	-0.036	-0.051
SE	(0.031)	(0.029)	(0.028)
P-value	[0.183]	[0.219]	[0.074]
Parents 10000 vs 0: α_3 + α_5	-0.048	-0.032	-0.091
SE	(0.029)	(0.021)	(0.050)
P-value	[0.102]	[0.124]	[0.072]
Parents at 0 Difference: α_0+α_3	0.342	0.229	0.159
Respondent at 5000 Diff: α_0+α_1	0.587	0.374	0.330
Parents at 5000 Diff: α_0+α_1+α_3+α_4	0.546	0.338	0.279
Respondent at 10000 Diff: α_0+α_2	0.737	0.484	0.462
Parents at 10000 Diff: α_0+α_2+α_3+α_5	0.688	0.452	0.371
Individuals	185	186	185
N	705	735	664

Notes: Reports results from Equation 2 estimated separately for each case. Case 1 presents the choice of choosing a male supervisor over a female supervisor, holding female coworkers fixed. Case 2 presents the choice of choosing male coworkers over female coworkers, holding a male supervisor fixed. Case 3 presents the choice of choosing male coworkers and a male supervisor over female coworkers and a female supervisor. In all cases, respondents were asked to consider all other attributes of the two jobs as identical. The salary difference between the jobs gives how much more the male-dominated job pays. Standard errors are clustered on individual and reported in parentheses. P-values reported in square brackets. N = 186 individuals.

2 Willingness-to-Accept Survey Experiment

The following text introduced the survey experiment:

> Suppose you are actively looking for work, having recently finished your education. You are not currently employed anywhere. Through your job search, you receive offers from two potential jobs. Both jobs are natural fits for your educational background, and have the same job title, but are at two different companies: one is at Company A and one is at Company B. The type of work at both jobs is very similar and would use the skills that you learned in college. Both Company A and Company B are located in the same area, and you have reliable modes of transportation to get to both of them. Both Company A and Company B have similar hours, but neither company allows employees to have flexible working hours.
> In the questions that follow, you will learn information about whether the majority of employees at each company is female or male, whether your supervisor at each of the companys would be female or male, and the salary at each Company. At the end of receiving this information, you will be asked which offer you would take: the offer from Company A or the offer from Company B.

Randomized at the individual level whether Company B in the second comparison of case has a salary of 25,000 or 30,000 PKR/month.

Case 1:

> Company A: Mostly female employees, *female* supervisor Salary: **Rs 20,000/Month.**
> Company B: Mostly female employees, *male* supervisor Salary: **Rs 20,000/Month.**

> Company A: Mostly female employees, *female* supervisor Salary: **Rs 20,000/Month.**
> Company B: Mostly female employees, *male* supervisor Salary: **Rs X/Month.**

Case 2:

> Company A: Mostly *female* employees, *male* supervisor Salary: **Rs 20,000/Month.**
> Company B: Mostly *male* employees, *male* supervisor Salary: **Rs 20,000/Month.**

Company A: Mostly *female* employees, *male* supervisor Salary: **Rs 20,000/Month.**
Company B: Mostly *male* employees, *male* supervisor Salary: **Rs X/Month.**

Case 3:

Company A: Mostly *female* employees, *female* supervisor Salary: **Rs 20,000/Month.**
Company B: Mostly *male* employees, *male* supervisor Salary: **Rs 20,000/Month.**

Company A: Mostly *female* employees, *female* supervisor Salary: **Rs 20,000/Month.**
Company B: Mostly *male* employees, *male* supervisor Salary: **Rs X/Month.**

After each comparison, the following questions were asked, with randomization at the individual level whether they were asked first about how they themselves would choose or asked first about what their parents would recommend:

Would you take the offer from Company A or Company B?

- Company A
- Company B
- I do not wish to answer

Would your parents recommend that you take the offer from Company A or Company B?

- Company A
- Company B
- I do not wish to answer