Workplace Inequalities and Remedies

Gendered Musical Chairs: Job Succession and Gender Segregation

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Abstract

Among the many sources of evidence on the phenomenon of job sex segregation is research showing that job vacancies tend to be filled by new hires who match the gender of the previous job holder. In this paper, we seek to understand how the gender composition of job vacancies is reproduced over time. Since multiple organizational processes may contribute to this pattern, this research focuses on separating the mechanisms that reproduce the gender composition of jobs. Using unique data from a retail bank, we studied the distinct steps in the hiring process for job openings produced when the previous incumbent of the job was female versus male. Our findings highlight the multifaceted nature of the processes by which gender typing of jobs is reproduced and maintained. We show that gender segregation is present at job succession not only through screeners' preferences but also through applicants' self-selecting into vacancies.

Gender segregation of jobs has taken a central role in current scholarship on gender and labor markets. Many studies have been devoted to documenting the patterns and trends of gender segregation of jobs (e.g., Jacobs 1989; Tomaskovic-Devey 1993). This attention is justified because gender segregation of jobs is an indicator of social inequality. Numerous studies have found that men earn more than women, even after controlling for human capital (e.g., England et al. 1994). However, this wage gap largely disappears when men and women do the same job (e.g., Petersen and Morgan 1995). Therefore, understanding the mechanisms that lead to gender segregation of jobs has become a high priority in current research on labor markets.

Among the many sources of evidence on gender segregation of jobs is the paper by Konrad and Pfeffer (1991), which shows that job vacancies tend to be filled by new hires who match the gender of the previous job holder. Using data from higher education institutions, they found that job openings that had previously been filled by a female incumbent are subsequently more likely to be filled by women. Like many others, this study suffers from the common methodological problem of selecting on the dependent variable (Fernandez and Weinberg 1997). While virtually all empirical research in gender segregation of jobs begins by studying people who are already hired, an important shortcoming of this approach is that it prevents us from distinguishing demand-side processes from supply-side factors involved in hiring (Fernandez and Friedrich 2011). To partially deal with this problem, Konrad and Pfeffer (1991) controlled for the gender distribution in the labor force (via the percentage of females at institutions at the national level) and for the gender distribution in the internal labor market (via the percentage of females in each institution). However, they recognized the limitations of this approach, stating: "Ideally, an examination of hiring would consider the pool of applicants available for each job opening" (Konrad and Pfeffer 1991:144).

In this study, we addressed this limitation of past research by examining how the gender composition of job vacancies is reproduced over time. Since multiple organizational processes may contribute to this pattern,

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we focused on separating the supply- and demand-side mechanisms that reproduce the gender composition of jobs. More specifically, in addition to looking at the gender composition of jobs at the end of the hiring process—as was done by Konrad and Pfeffer (1991)—we studied how supply-side sorting contributes to gender segregation of jobs. Using unique data from a retail bank, we studied the distinct steps in the hiring process for job vacancies produced when the previous incumbents of the job were female versus male. Our findings highlight the multifaceted nature of the processes by which gender typing of jobs is reproduced and maintained. We show that gender segregation is produced by both demand-side processes (i.e., screeners' choices) but also reflects supply-side processes of applicants' self-selecting into vacancies.

Data and Setting

The organization we studied for this project is a large retail bank in the western region of the United States. Since we are studying one setting, we cannot make claims regarding generalizability. Our aim in focusing on one organization is to elucidate the mechanisms by which males and females end up in different positions. As of December 1995, this retail bank employed 3,641 workers, of which 64.5% were female. In this study, we analyzed job openings during the 27-month period from January 1993 through March 1995. In that period, a total of 4,264 applications had been made for the 372 vacancies that had a previous job incumbent and were filled within the studied time period.

Table 1 provides descriptive statistics about these vacancies. A number of points are noteworthy in this table. First, as is common in organizations in the United States, there are two types of jobs: salaried and hourly. Salaried jobs are managerial jobs and therefore are exempt from overtime regulation, whereas hourly jobs are paid on an hourly basis and are not exempt from overtime laws. Second, these vacancies occur at different levels of the firm hierarchy. The firm's reporting structure has 17 levels, with the highest level (17) being the chief executive officer and entry-level jobs (1) being the lowest level. Table 1 shows that vacancies created by males are mostly composed of salaried jobs: 67.4% of male vacancies are salaried vs. 49% of female vacancies. As a result, the average level of male vacancies being created is higher than that of the female vacancies. With these descriptive statistics, we can conclude that while males primarily leave higher-level jobs, females primarily leave lower-level jobs.

TABLE 1
Descriptive Information About Vacancies

	All vacancies	Male vacancies	Female vacancies
Salaried jobs	55.4%	67.4%	49.0%
Hourly jobs	44.6%	32.6%	51.0%
Average job level*	10.44% (3.95)**	11.46% (3.78)	9.90% (3.94)
N	372	129	243

*Scale of job level is 1 to 17, with 1 being entry level.
**Standard deviations are in parentheses.

It is also worthwhile to examine the reasons for leaving the jobs. The firm's human resources (HR) records track four categories of reasons for vacating positions: leave of absence, resignation, termination, and transfer to another position within the organization. As shown in Figure 1, the reasons for vacating the positions are quite similar for males and females. Specifically, resignation is the most common reason, and transfer from one position to another is the second common reason for both male and female vacancies.

FIGURE 1
Frequency of Reasons for Leaving the Job

Analyses and Results

In our analysis, we show how gender typing of jobs is reproduced throughout the various steps of the hiring process. Table 2 shows the gender distribution of job-leavers and their replacements at the end of the hiring process. Similar to Konrad and Pfeffer (1991), these data show that vacancies created by female leavers are disproportionately replaced by females: 70% of new hires are women among female job-leavers. Interestingly, the pattern for male job-leavers is quite different. Male vacancies are slightly more likely to be filled by females than males.

TABLE 2
Extent to Which Males and Females Are Replaced by
New Hires of the Same or Different Sex at a Retail Bank

Gender of previous incumbent	Percentage of female hires	Percentage of male hires	Number of cases	Statistical significance*
Female	70.0	30.0	243	12.675 with 1 d.f.
Male	51.2 63.4	48.8 36.6	129	P < .0001

*Likelihood ratio X^2 test with 1 degree of freedom.

Because it shows the end of the hiring funnel, the patterns in Table 2 are the result of both demand- and supply-side processes. To put it in stark terms, if job candidates were applying to these openings in gender-neutral ways, then the gender skew at the end of the hiring process would reflect screeners' gendered screening of these candidates into the jobs. On the other hand, the same pattern could be obtained without any gender bias in demand-side screening at all. To the extent that there is gender segregation at the point of application, with females and males applying to these job vacancies in exact proportion to the gender of the job-leavers, then gender-neutral screening can entirely account for the pattern observed in Table 2.

To separate supply- and demand-side processes, it is important to see the initial distribution of candidates based on gender at the beginning of the hiring study. Table 3 shows the gender distribution of job applicants by gender of the job incumbent who vacated the job. Here, too, there is evidence of gender typing of jobs. However, the pattern seen here is different from the pattern observed at the end of the hiring process. Whereas female hires tend to be over-represented among female job vacancies (as shown in Table 2), at the application stage, it is males who are over-represented among male-vacated jobs: when the previous incumbent was male, 63% of applicants are male.

TABLE 3
Observed Correlation Between the Gender of the Person Vacating a Job and the Gender of the Person Applying for and Filling the Vacancy

Gender of previous incumbent	Percentage of female applicants	Percentage of male applicants	Number of cases	Statistical significance*
Female	48.4	51.6	2,341	54.434 with 1 d.f.
Male	37.1	62.9	1,923	$p < .0001$
	43.3	56.7		

This difference in outcome is due to gender differences in demand-side screening. We examined the gender composition of candidates as they progress through the hiring pipeline, from initial application to HR interview, to hiring manager (HM) interview, to offer, and finally to hire. Figure 2 shows the percentage of females in each stage through the hiring pipeline for all types of jobs. At the application stage, percentages of female and male applicants are quite similar for female-vacated jobs: 48% of applicants are female, and 52% of applicants are male. However, for male vacancies, the number of female applicants is much less than the number of male applicants. Throughout the stages, for both male and female vacancies, we see a clear pattern that the percentage of females increases. Thus, demand screening favors females for both male and female vacancies. However, it is important to note that the increase in female-vacated jobs is slightly more than that in the male-vacated jobs.

FIGURE 2
Percentage of Females at Each Hiring Stage for All Jobs

However, as in the discussion about Table 1, females and males leave different kinds of jobs, and the analyses of gender patterns in progress through the hiring pipeline has thus far ignored the nature of the jobs being vacated. Figures 3 and 4 present the percentage of females at each hiring stage for hourly and salaried jobs, respectively. Figure 3 shows that for hourly jobs, applicants apply in gendered ways. Specifically, 70% of applicants for female-vacated jobs are women, whereas only 34% of applicants for male-vacated jobs are female. The examination of the trend through the steps of the hiring process shows that, for both female-vacated and male-vacated hourly jobs, the percentage of women is increasing. This pattern leads us to conclude that female-vacated jobs are becoming more segregated through the steps of the process, while male-vacated jobs are becoming increasingly composed of females and being desegregated by screeners across the hiring process. Thus, for hourly jobs, screeners' actions are desegregating male-vacated jobs by favoring women over men.

FIGURE 3
Percentage of Females at Each Hiring Stage for Hourly Jobs

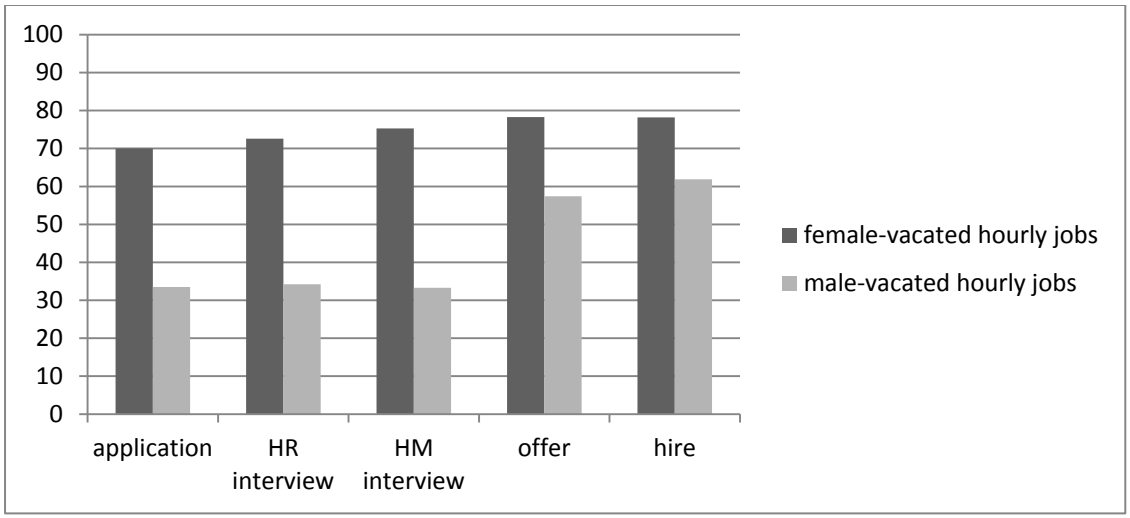
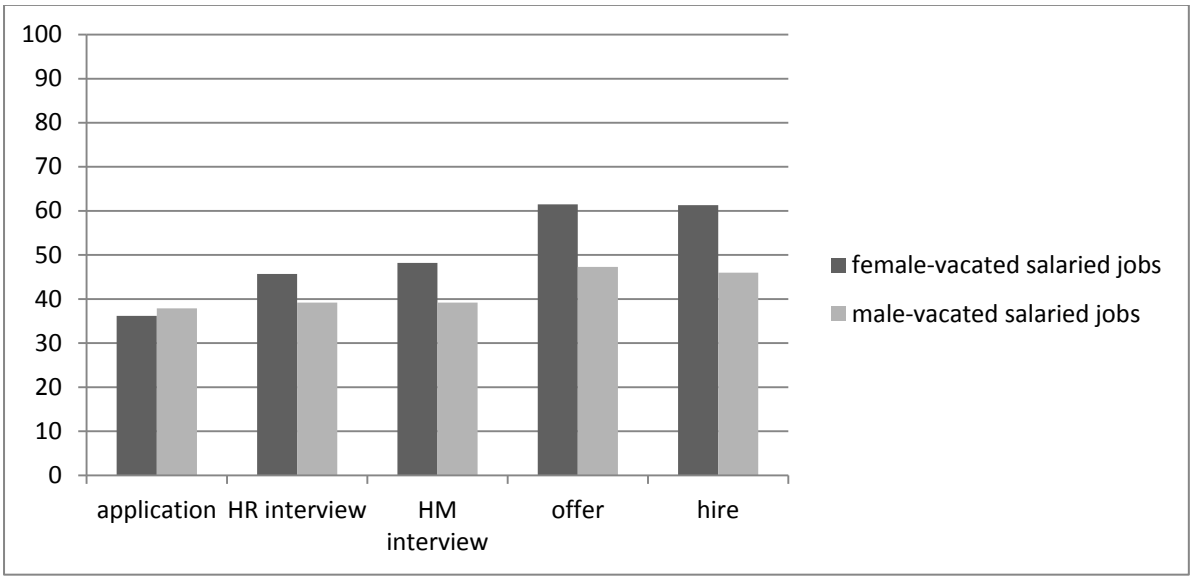


FIGURE 4
Percentage of Females at Each Hiring Stage for Salaried Jobs



With regard to salaried jobs (Figure 4), a similar pattern is seen through the process such that the percentage of females increases for both male-vacated and female-vacated jobs. However, it is important to note that the picture at the application stage for salaried jobs is different than the picture for hourly jobs. For salaried jobs, at the initial stage, the percentage of female applicants in female- and male-vacated jobs is quite similar (36% for female vacancies vs. 38% for male vacancies). This shows that supply-side processes are not sorting males and females in gendered ways for salaried jobs; however, segregation emerges through the actions of screeners in hiring for female-vacated jobs but not for male-vacated jobs.

To confirm our inferences we made from descriptive analysis, we estimated a series of logit regressions. The dependent variable for these regressions is job offer, coded as 1 = offer, 0 = no offer. In addressing job succession, we focused on who filled the job. However, 90% (372 of 413) of offers are accepted, and the results are not different when job offers is used as the dependent variable (cf. job offer and hire steps in Figures 2, 3, and 4), to examine the screeners' role in the job succession process, we focused on job offers, as shown in Table 4, since one has to be offered a job before one can accept it. We stratified the analyses by whether the job is vacated by males or females, and for whether the job is hourly or salaried. In all four cases, Model 1 shows that females are significantly more likely to receive job offers than are males. Moreover, among hourly jobs, the strength of the female advantage is stronger for jobs vacated by females than by males (odds-ratios of 3.191 vs. 1.663). For salaried jobs, females' advantage in job offers is stronger for female-vacated jobs than for male-vacated jobs (odds-ratios of 3.095 vs. 1.506).

TABLE 4
Odds of Job Offer, Regression Results

	Male vacancies					
	Hourly jobs			Salaried jobs		
	Model [1]	Model [2]	Model [3][a]	Model [1]	Model [2]	Model [3][a]
Female	3.191*** (3.61)	2.441* (2.56)	0.620 (-0.92)	1.506[J] (1.89)	1.322 (1.19)	1.354 (1.00)
Internal		10.793*** (5.22)	5.500* (2.27)		16.968*** (9.26)	3.064* (2.37)
Referral		6.886*** (3.70)	1.877 (0.82)		12.283*** (8.37)	2.806* (2.16)
N of cases	343	343	329	1574	1565	1539
N of groups			26			58

	Female vacancies					
	Hourly jobs			Salaried jobs		
	Model [1]	Model [2]	Model [3][a]	Model [1]	Model [2]	Model [3][a]
Female	1.663* (2.23)	1.822* (2.48)	1.702[J] (1.81)	3.095*** (5.97)	2.276*** (3.92)	1.545[J] (1.75)
Internal		3.361*** (4.36)	3.075** (2.83)		17.309*** (10.98)	10.236*** (5.77)
Referral		7.851*** (8.14)	3.776*** (3.79)		15.059*** (11.03)	5.189*** (4.78)
N of cases	842	842	807	1477	1474	1447
N of groups			84			86

[J]p < 1.0, *p <. 05, **p < 0.01, ***p < 0.001; [a]logit model, with fixed effects for hiring queues; Z scores are in parentheses.

The question remains whether the higher rate of progress through the hiring steps we observed for females is due to screeners' preference for females or due to unobserved factors. Since this is an observational study, we did not have the benefit of random assignment and therefore cannot settle this issue definitively. However, we sought to shorten the list of possible confounds in subsequent analyses. Past research on hiring has found across a variety of settings that having been an employee referral (Fernandez, Castilla, and Moore 2000; Petersen, Saporta, and Seidel 2000; Fernandez and Galperin 2013; Fernandez and Greenberg 2013) or an internal transfer (Fernandez and Weinberg 1997; Fernandez and Sosa 2005; Fernandez and Mors 2008) are important predictors of hiring success. In the regression analyses presented in Model 2, we include two important control variables: whether the hire was internal, and whether the hire was referred. For all four populations, both these variables are strong predictors of job offer. Although the gender differences are somewhat weaker in Model 2 than Model 1, with the exception of salaried job vacated by males, a statistically significant preference for females in screening remains.

In Model 3, we present fixed effect logit models with fixed effects for queues (for a similar approach, see Fernandez and Mors 2008). Whereas the results up to now estimate the average effect of females across multiple job opening, the fixed effect analyses provide estimates of the within-queue effects of the independent variables on the odds of getting offer. This estimation strategy therefore purges all between-queue factors—both observed and unobserved—associated with queues. However, it cannot eliminate the influence of possibly confounding unobserved variables. For example, male–female differences in human capital are factors that are likely to influence screeners as they chose among candidates, but in this case were not observed by us as analysts.

The fixed-effect logit results show that for male-vacated jobs, controlling for internal and referred candidates, being female does not significantly predict getting an offer for both hourly and salaried jobs. However, the picture is different for female-vacated jobs. Although we were hampered by the modest sample sizes, for both hourly and salaried female-vacated jobs, being female significantly predicts job offer, controlling for internal and referred candidates.

Within the limits of the design of this study, these results suggest that screeners contribute to gender segregation in job succession for female-vacated jobs, but that is not the case for male-vacated jobs. Although female applicants flow into the pool of those being considered for female vacancies in a gender-neutral way (Table 3), they wind up being disproportionately selected across steps of the hiring process in ways that reinforce the gender segregation of those jobs. In contrast, for male-vacated jobs, the candidates are disproportionately male at the start of the hiring process. But compared to this baseline, males fill fewer jobs at the end of the process. Thus, females are disproportionately selected to fill both male-vacated and female-vacated jobs. However, the fixed-effect logit results suggest the female advantage in screening is much attenuated within job queues. That is, females are not strongly preferred by screeners of male-vacated jobs when males and females are being considered for the same job opening. Thus, the observed outcome where male-vacated jobs are filled in a relatively gender neutral pattern is due to *between-queue* differences in rates of female hiring. As shown in Table 1, females disproportionately fill lower level vacancies, which is also the case among male-vacated jobs. While males tend to fill fewer male-vacated jobs than do females, the ones that they do fill tend to be of a higher level than those filled by females.

Conclusion

Using unique data from a retail bank, we showed that gender segregation of jobs is reproduced at job succession. Specifically, our results indicated that when the incumbent who is leaving the position is female, it is more likely that the new hire for that position will be a female. Moreover, by specifying job types as hourly and salaried, we showed that the pattern of gender segregation of jobs occurs in a different way for each job type.

This paper makes a simple point: gender-typing of jobs can occur by both demand-side processes and supply-side factors. While there has been a widespread assumption that gender segregation of jobs is largely a function of employers' actions (Okamoto and England 1999), these analyses suggested that applicants' sorting themselves into jobs can also be an important contributor to job sex segregation (Fernandez and Sosa 2005;

Fernandez and Mors 2008; Fernandez and Friedrich 2011). Following the metaphor of the children's game of musical chairs, our results imply that the new job incumbents come to fill the empty jobs in gendered ways not simply as a result of screeners' preconceptions, but that this gendered outcome also reflects the actions of males and females seeking out different "chairs."

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