

Setting Occupational Sex Segregation in Motion

Demand-Side Explanations of Sex Traditional Employment

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The employment of women in female-dominated occupations and men in male-dominated occupations (sex traditional employment) is a fundamental source of economic sex inequality. Despite this, we know little about how organizational practices and policies link workers to sex traditional jobs. The author tests theoretically hypothesized determinants of sex traditional employment using data on the sex of the last hire and the sex type of his or her occupation in nearly 3,000 establishments. The results are generally consistent with deskilling and organizational staffing accounts of sex traditional employment and confirm that a different system of sex segregation operates for women and men.

Keywords: *occupational sex segregation; organizational practices*

The field has no shortage of theoretical explanations for sex traditional employment, the employment of women in female-dominated occupations and men in male-dominated occupations. Some have argued that women and men self-select into sex traditional occupations because of differences in the ways society and their families socialized them (e.g., Marini & Brinton, 1984; Marini, Fan, & Finley, 1996; see also Jacobs, 1989). Others have stressed that employers' conscious or unconscious sex preferences and stereotypes generate and maintain sex traditional employment (Glick, 1991; Glick, Zion, & Nelson, 1988; Heilman, 1983, 1995; Levinson, 1975; Reskin & Padavic, 1988; Skuratowicz & Hunter, 2004; Yoder, 1991). More recently,

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researchers have claimed that differences in women's and men's job search methods and social networks link women to positions filled with other women and men to positions filled with other men (e.g., Drentea, 1998; Hanson & Pratt, 1991; Huffman & Torres, 2001; Leicht & Marx, 1997; Marsden & Gorman, 2001; Marx & Leicht, 1992; Mencken & Winfield, 2000; Straits, 1998; Torres & Huffman, 2002).

Although these accounts of sex traditional employment have merit, they are incomplete. First, they ignore the underlying assumptions about gender-appropriate job assignments embedded in organizational design, practice, and logic that ultimately produce sex segregated workplaces (Acker, 1990, pp. 140, 147; Burton, 1991, p. 3). Likewise, they fail to recognize that gender assumptions govern organizational policies, practices, images, ideology, and power arrangements (Acker, 1990, p. 567; Burton, 1991, p. vii). This gendered structuring of organizations was evident in the recently restructured banks studied by Skuratowicz and Hunter (2004, pp. 14-15). When introducing newly created positions to bank workers, bank management used signs, photographs, and videos that depicted men as prestigious personal bankers and women as customer relations managers, positions with lower pay and no supervisory power. In this bank, management used gendered images to convey who is appropriate for which jobs. These banks are not an exception; rather, it is the norm that organizational practices and institutional policies are gendered (Steinberg, 1992, p. 576). The failure to account for the gendered structure and logic of organizations or, more important, how organizations invoke gender through their practices and structures (Britton, 2000, p. 423) limits researchers' ability to explain and ultimately reduce sex traditional employment.

A second shortcoming of theories that explain sex traditional employment in terms of sex differences in an applicant's job search methods or worker and employer preference is their silence on the specific practices that link women and men to sex traditional occupations (Reskin, 2003, p. 2). The barriers to women's and men's movement out of traditional jobs are not only supply related or linked to employers' gender bias, but recruitment and outreach practices that do not seek a broad range of potential workers also affect this movement (Federal Glass Ceiling Commission, 1995, p. 8; Sturm, 2001, p. 4). For example, research conducted with the goal of identifying whether differences in women's and men's job search strategies affect their employment cannot detect if an employer's job search practices restrict access to information about job openings to applicants of a certain sex. In addition, as Miller and Rosenbaum (1997, p. 518) explained, the unequal treatment of job applicants can arise from an employer's choice of hiring procedures rather

than from intentional biases, so studying employer attitudes and preferences may not further our understanding of sex traditional employment.

My approach to studying the determinants of sex traditional employment differs from existing research on the employment process in general and specific research on occupational sex segregation. Rather than focus on applicants' preferences and job-finding strategies or employer preferences to explain this phenomenon, I consider how organizational practices and policies—the proximate causes of employment outcomes (Reskin, 2003, p. 2)—generate variations in sex traditional employment. Even if an employer prefers to hire workers into sex traditional positions and women's and men's social networks tie them to sex traditional occupations, organizational practices and arrangements can reduce or magnify the extent to which these factors affect sex traditional occupational placement (Reskin & McBrier, 2000, p. 211). In other words, organizational practices affect employment outcomes by (a) permitting or restricting an employer's knowledge of an applicant's sex, (b) affecting the extent to which an employer can use an applicant's sex as a salient source of information about the applicant's performance or behavior, (c) limiting or allowing employer favoritism and discretion in hiring decisions, and (d) creating or dismantling employment barriers, including knowledge about job openings, for applicants of a certain sex (Perry, Davis-Blake, & Kulik, 1994, p. 796; Reskin, 2002, pp. 331-332; Reskin & Bielby, 2005, p. 76). To demonstrate, because it is characteristically casual and unregulated, recruitment via current employee referrals grants employers discretion to consider an applicant's sex when hiring and gives him or her the license to rely on sex stereotypes when evaluating the applicant. At the same time, recruitment through current employees automatically disadvantages applicants with no personal ties to a workplace. Formal recruitment and screening criteria can undermine the effect of personal networks on traditional occupational placement by opening the search to a broader applicant pool. After Home Depot implemented an automated hiring and promotion system that eliminated managerial steering of the applicants into certain jobs and reduced the use of current employees to generate referrals, the number of female managers and workers in typically male jobs at the store rose dramatically (Sturm, 2001, p. 23).

Just as practices to locate and hire workers affect employers' discretion to rely on sex stereotypes during the hiring process, so can features of workplaces. Although the actual features of workplaces do not themselves determine employment outcomes, workplace features can challenge the extent to which gendered organizational logic shapes employment outcomes

(Britton, 2000, p. 428). For example, the formal rules and policies of bureaucratic workplace settings have been found to affect employment outcomes, mainly by limiting employers' ability to act on their stereotypes and biases (Reskin, 2003, p. 13).

In this article, I investigate how informal and formal organizational practices to locate and hire workers and, to a lesser extent, additional workplace features affect the odds an employer hires a female applicant into a female-dominated occupation or a male applicant into a male-dominated occupation. I also consider whether a single system of sex traditional employment operates for female and male job applicants.¹ The answers to these questions are fundamental for researchers and policy makers because an awareness of the processes that set in motion and maintain sex segregation is likely to lead to a discovery of the practices that can reduce segregation and its concomitant inequalities. Because this article is one of the first to explicitly examine sex traditional employment with an eye toward how organizational practices and policies contribute to it, the present analyses offer a more complete investigation of sex traditional employment than previous research (for recent notable exceptions, see Johnson & Tomaskovic-Devey, 2004; Skuratowicz & Hunter, 2004).

THEORETICAL DEMAND-SIDE ACCOUNTS OF SEX TRADITIONAL EMPLOYMENT

Sex traditional employment is one of the most common features of U.S. workplaces (Jacobs, 1999, p. 125; Reskin, 1993, p. 241).² The employment of women and men in different occupations is more than a pattern of physical separation of the sexes at work; it is one of the major contributing factors to economic sex inequality. Male-dominated occupations offer higher pay, provide more benefits, greater promotion opportunities, and a broader scope of authority than equally skilled female-dominated occupations (Baron & Bielby, 1985; Baron, Davis-Blake, & Bielby, 1986; Baron & Newman, 1990; Bielby & Baron, 1986; England, 1992; Nelson & Bridges, 1999; Reskin, 1993; Tomaskovic-Devey, 1993; for contrary evidence, see Tam, 1997, 2000). In the discussion that follows, I introduce and summarize four explanations of the employment of women in female-dominated occupations and men in male-dominated occupations. The first centers on organizational practices to explain sex traditional employment, whereas the last three accounts focus on other demand-side features as explanations.

STAFFING METHODS

How employers recruit and screen applicants is particularly important for sex-based employment because staffing practices can either permit or reduce the influence of employers' and applicants' preferences and job applicant networks on job assignment (Reskin & McBrier, 2000, p. 214). Although no particular theory directly addresses the salience of staffing practices for employment outcomes, evidence from previous research suggests they play a significant role in employment outcomes (e.g., Fernandez & Fernandez-Mateo, 2004; Johnson & Tomaskovic-Devey, 2004; Reskin & McBrier, 2000).

Informal network recruitment, namely employer reliance on current employees to generate contacts, facilitates employer discretion and exposes the hiring process to the stereotyping and favoritism that tend to accompany discretion. Employers frequently use informal recruitment to locate potential workers (Fernandez, Castilla, & Moore, 2000, p. 1290; Granovetter, 1974, p. 11; Kalleberg, Marsden, Aldrich, & Cassell, 1996, p. 138; Marsden & Gorman, 2001, p. 468). Employers rely heavily on current employee contacts to find workers because the search method is relatively inexpensive (Marsden & Gorman, 2001, p. 470; Reskin & McBrier, 2000, p. 212), current employees allegedly produce better applicant-position matches than open searches (Fernandez et al., 2000, p. 1291; Mencken & Winfield, 1999, p. 203), and employers believe informal contacts are more efficient at locating potential jobholders than formal procedures (Marsden & Gorman, 2001, p. 470).

Although the reliance on current employees to generate referrals may benefit employers, this recruitment strategy can bias the hiring process against applicants in nontraditional sex groups and maintain sex traditional employment (Fernandez & Fernandez-Mateo, 2004, p. 28; Mencken & Winfield, 1999, p. 214). Because individuals tend to have same-sex contacts (McPherson, Smith-Lovin, & Cook, 2001, p. 415) and women know contacts in a smaller range of occupations than men (Campbell, 1988, p. 189), referrals from current employees in female-dominated occupations typically generate female applicants, whereas employee referrals in male-dominated occupations produce male applicants (Marsden, 1994, p. 981; Marsden, 1996, p. 135; Marsden & Gorman, 2001, p. 471; Mencken & Winfield, 1999, p. 203; Miller & Rosenbaum, 1997, pp. 514-15; Mouw, 2002, p. 507; Reskin & McBrier, 2000, p. 214; Torres & Huffman, 2002, p. 28). Thus, I expect that employers' use of informal network recruitment methods will increase the odds an employer makes a sex traditional hire. I also expect that the effect of

employers' use of informal recruitment on the odds she or he makes a sex traditional hire will depend on the share of an establishment's workforce that is already in traditional occupations. To demonstrate, if Establishment A's clerical workforce is 45% female and Establishment B's clerical workforce is 90% female, I would expect informal recruitment to generate a greater share of female referrals for female-dominated occupations in the latter establishment. In other words, the odds an employer makes a sex traditional hire will be greater in establishments with a greater share of sex traditional workers.

Formal recruitment and screening practices, on the other hand, can prevent employers from using an applicant's sex as a source of information during the hiring stage, minimize employers' differential treatment of male and female job applicants (Reskin, 2003, p. 14), and reduce an employers' ability to base hiring decisions on sex stereotypes (Perry et al., 1994, p. 805). Although formal staffing procedures cannot completely rule out employer bias in job placement, they can reduce biases by broadening the applicant pool to include nontraditional applicants (Reskin & McBrier, 2000, p. 214; Sturm, 2001, p. 23). Formal job screens can also prevent employer biases from affecting hiring decisions because they provide directly observable job-relevant information about an applicant's skills and his or her gender noncongruent traits (Glick et al., 1988, p. 184; Heilman, 1983, p. 292).³

All formal staffing practices are not equal in their effect on sex traditional occupational placement. Practices that require an employer to rely on sources outside the establishment to generate an applicant pool (e.g., employment agencies or schools) should more effectively reduce actions that reinforce sex traditional employment than open recruitment practices (e.g., accepting walk-in applicants or posting help-wanted signs). Even though open practices may broaden the applicant pool more than informal network recruitment methods can, open practices may still allow employer hiring discretion, or they can be affected by applicants' networks. Although open recruitment methods do not require any effort on an employer's part and are theoretically open to all job seekers (Marsden, 1994, p. 981), they advantage applicants with workplace ties that can notify them of current or pending job openings and coach them on how to present themselves as an ideal applicant. Given the potential for formal staffing practices to reduce employer discretion, I expect an employers' use of formal recruitment and screening methods to decrease sex traditional employment. I also anticipate that formal practices that rely on outside sources to generate applicants (e.g., obtaining referrals from unions, schools, community agencies, hiring agencies, or state employment services) will be more effective at decreasing sex traditional employment than open staffing methods.

DESKILLING

Recent declines in a position's skill requirements, deskilling, should affect the sex of the jobholder. This explanation of sex-typed employment outcomes is best described in Reskin and Roos's (1990) study documenting occupations that changed from male dominated to female dominated in the 1970s. Reskin and Roos concluded that employers have a preference for the ideal applicant and worker, generally defined by an applicant's race and sex, and they rank job applicants according to this preference. Applicants also rank order jobs according to the job's pay, prestige, and other rewards. When a position's skill and reward levels decline for any reason, the position drops in rank on applicants' queue, and they are not as likely to apply for the job. The subsequent decline in applicants forces employers to hire workers lower in their queue (also see Wright & Jacobs, 1994).⁴ Because men top most employers' queues and men tend to be less willing than women to take low-paying positions (low pay tends to occur along with deskilling; Major 1989, 1994; Major & Konar, 1984), deskilled traditionally female occupations are not likely to attract men or make men ideal candidates for these positions. However, the deskilling of male-dominated occupations may open them to women mainly because men flee from these occupations, leaving employers no choice but to hire women in their place. Hiring women for male-dominated occupations will, in turn, shift some women out of female-dominated occupations. As a result, declines in a position's skill requirements should decrease the odds an employer hires a female applicant into a female-dominated occupation but should have no effect on men's sex traditional employment.

DESIRABILITY

The desirability of a position, indicated in part by the wage level of the position, should affect both the applicant supply and an employers' rank of workers for the position (Reskin & McBrier, 2000, p. 216). The more a position pays, the more likely it will attract applicants, in particular male applicants who are unlikely to avoid traditionally female jobs if they become more attractive than traditionally male jobs (Reskin & Roos, 1990, p. 35).⁵ At the same time, the higher a position's starting wage, the more likely an employer ranks men as ideal candidates for the position. This latter process played out in Skuratowicz and Hunter's (2004, p. 74) previously mentioned bank case study. When the bank they studied restructured and created new, high-pay, high-status sales jobs, the share of men in these positions rose relative to their share in similar jobs before the bank restructuring. As a result, I expect the starting hourly pay in a position to be negatively related to the odds of men's

sex traditional occupational placement. In other words, as pay increases in a female-dominated or sex neutral occupation, the number of men applying for the position and eventually employed in the position will increase. I also expect that a rise in the starting pay of female-dominated jobs will lead to employer substitution of female labor with male labor and thereby decrease women's sex traditional employment.

OTHER ORGANIZATIONAL FEATURES

Some organizational features beyond staffing methods can reduce or magnify both the extent to which an employer can act on his or her sex preferences and the effect of an applicant's social networks on obtaining employment (Bielby & Baron, 1984, pp. 28-29, 1986, pp. 768-769; Marsden, 1994, p. 980; Reskin & McBrier, 2000, p. 213; Tomaskovic-Devey & Skaggs, 1999, p. 164).

In particular, formalized operating procedures reduce the favoritism, subjectivity, and stereotyping that often accompanies informal practices (Anderson & Tomaskovic-Devey, 1995, p. 349; Heilman, 1995, p. 11; Moss & Tilly, 2001, p. 210; Reskin & McBrier, 2000, p. 214). Organizational features related to formalization should therefore show a connection to sex traditional employment. Although I cannot directly measure an establishment's operating procedures, I can examine the effects of organizational features related to formalization. For example, establishment size (number of employees) is positively associated with formalization because large establishments are more likely than small ones to have a personnel system or full-time human resources department to enforce equitable hiring practices that support sex equity (Dobbin, Sutton, Meyer, & Scott, 1993, p. 398; Moss & Tilly, 2001, pp. 209-210; Pfeffer, 1977, p. 557). Location in the nonprofit sector is also associated with formalization (Kalleberg et al., 1996, p. 85). At the same time, nonprofits tend to have well-developed affirmative action procedures (Moss & Tilly, 2001, pp. 236-237). I expect increased size and nonprofit status, features associated with formalization, to decrease sex traditional employment.

Finally, establishment unionization levels can affect hiring outcomes, but the nature of the effect of unionization on sex traditional employment is unclear. On one hand, unions have been known to bargain for the formal, bureaucratic hiring standards that would reduce sex traditional employment (Edelman, 1993, pp. 1549-1550; Moss & Tilly, 2001, p. 222). Alternatively, by giving members control over recruiting and hiring, union members may recruit socially similar applicants and perpetuate sex traditional employment (Cockburn, 1988; Moss & Tilly, 2001, p. 222). Unions may also resist

policies that monitor hiring practices because such policies may interfere or conflict with labors' goals (Edelman, 1993, p. 1549). Although I expect union presence to matter, I make no predictions about the effect of establishment's unionization rate on sex traditional employment.

To summarize, a number of theories offer insight into how organizational practices and the features of workplaces themselves affect sex traditional occupational placement. From these theories, I conclude that organizational practices and features affect sex traditional employment by influencing both employers' discretion and the impact of applicants' job networks on the job attainment process. In the analyses presented below, I empirically test these theoretical predictions to determine the odds that an employer hires a female applicant into a female-dominated occupation or a male applicant into a male-dominated occupation. I also consider whether the processes leading to sex traditional employment differ for women and men. To guide the reader through the hypothesized effects of these theories, I have presented the predictions and empirical evidence necessary for support of each theory in Table 1.

METHOD

DATA

Analyses use data from the Multi-City Telephone Employer Survey (MCTES), a sample of 3,510 establishments in Atlanta, Georgia; Boston, Massachusetts; Detroit, Michigan; and Los Angeles, California (Holzer, Kirschenman, Moss, & Tilly, 1998). These data were collected as part of the multicity project (see O'Connor, Tilly, & Bobo, 2000, for details) to gather demand-side information from employers of individuals in the multicity household sample. The establishment sample was drawn from two sources. Roughly one third of the establishments were identified through the household respondent, who was asked to provide the name and contact information for his or her employer. Interviewers then contacted the named employers without revealing how they learned of their name and asked to speak with the person in charge of hiring (hereafter, the hiring agent). The remainder of the sample was drawn from regional employment directories provided by Survey Sampling Incorporated (SSI).⁶ Linked establishments selected through household respondents and those sampled by SSI yield a sample of 3,510. The unit of analysis is the establishment's last hire. Roughly 66% of hiring agents answered in reference to the last employee they hired into a position

TABLE 1: Hypothesized Effects of Theories on the Odds an Employer Makes a Sex Traditional Hire

<i>Variable</i>	<i>Staffing Methods</i>	<i>Deskilling</i>	<i>Desirability</i>	<i>Additional Workplace Features</i>
Accepts current employee referrals	+			
Share of workforce in traditional positions	+			
Accept Employee Referral × Share of Traditional Workforce	+			
Posts help-wanted signs	-			
Places newspaper advertisements	-			
Accepts walk-ins	-			
Obtains state employment service referrals	-			
Obtains private agency referrals	-			
Obtains community agency referrals	-			
Obtains school referrals	-			
Obtains union referrals	-			
Requires physical exam screen	-			
Administers other formal screening tests	-			
Job skill requirements recently decreased		- (w) 0 (m)		
Starting salary (hourly \$)			- (w) - (m)	
Establishment size (log)				-
Establishment unionization rate				?
Nonprofit				-

NOTE: + = positive effect; - = negative effect; ? = unknown direction of effect; 0 = no effect; (w) = women; (m) = men.

not requiring a college degree, so the sample consists mainly of hires into low-skilled positions. I limit analyses to the hires last made in 2,824 establishments for reasons I explain below.

The *MCTES* is well suited to address my research questions because it includes data on the methods used to recruit and screen an establishment's last hire, information about the sex of the last hire, and detailed information about organizational practices for a sample of establishments large enough for multivariate analysis. To my knowledge, this is the only publicly available data set with these qualities.

VARIABLES AND MEASURES

Dependent variables. Descriptive statistics for all variables appear in Appendix A. The outcomes of interest are (a) the odds an employer's last hire was female traditional (the employment of a female applicant into a predominantly female occupation) and (b) male traditional (the employment of a male applicant into a predominantly male occupation). For both outcomes, I compare the odds of sex traditional occupational placement to nontraditional occupational placement and sex neutral occupational placement. Although both sex neutral and sex nontraditional occupational placement can yield eventual occupational sex integration, sex neutral occupational placement represents only a slight move toward workplace sex integration, whereas nontraditional occupational placement represents a larger move in that direction. I contrast sex traditional employment and sex neutral and nontraditional employment to identify whether the process leading to small or large steps toward integration differ. I constructed the outcome measures based on both the applicant's sex and the sex composition of his or her newly acquired occupation. I based my definition of sex-typed occupations (e.g., female dominated, male dominated, or sex neutral) on Allmendinger and Hackman (1995, p. 453) and Pfeffer and Davis-Blake (1987, p. 14), who both found that social and organizational dynamics weaken the gendered nature of traditionally male jobs when they approached 30% female. For women (men), a sex traditional occupation is an occupation with an average percentage female (male) of 71% or more. A nontraditional occupation for a woman (man) is one with 29% or fewer women (men). A sex neutral occupation is between 30% and 70% female.⁷ Table 2 displays categories of the outcome and examples of occupations in each sex-typed category.

Survey administrators asked hiring agents, "What is the job you hired [your last hire] for?" and converted employer's answers to 1980 Census 2-, 3-, and 4-digit standard occupational codes (SOC). Using the U.S. Bureau of the Census's (1990) *Alphabetical Index of Industries and Occupations*, I con-

TABLE 2: Categories of the Dependent Variables

<i>Category</i>	<i>Female Applicant (Male Applicant)</i>
Traditional	71-100% female (0-29% male) Example: Dental hygienist, nursing aide, cashier, typist, secretary, cook, child care worker
Sex Neutral	30-70% female (30-70% male) Example: Loan officer, business service sales person, mail clerk (except post office), purchasing agent and buyer, real estate sales person
Nontraditional	0-29% female (71-100% male) Example: Financial manager, construction manager, small engine repairer, electronic repairer, electrician, truck driver, stock handler

verted the 1980 Census SOC codes into 3-digit 1990 Census occupational categories and attached the percentage female in each 3-digit 1990 Census occupation to the 1990 Census 3-digit occupation code. I acquired the 1990 occupation percentage female data from the Dictionary of Occupational Titles (Thompson, 2001).

Survey administrators did not collect job sex composition data, so analyses use job-level predictor variables (e.g., staffing methods used to fill the most recently filled job, job skill change, and job starting pay) to predict occupation-level sex composition. Because national-level occupation measures of sex composition underestimate levels of sex segregation in establishment-specific jobs (Baron & Bielby, 1985, pp. 236-37; Reskin, 1993, p. 243; Tomaskovic-Devey, 1993, pp. 177-9), it is reasonable to suspect my findings are conservative with respect to the effect of organizational practices on sex traditional employment outcomes.⁸ With a job-level sex composition measure, I would almost certainly find more robust links between predictor and outcome variables.

I dropped 586 establishments from the sample because coding errors in the original data set prevented me from converting the occupation of their last hire into a 3-digit census occupation. The final sample consists of 2,824 establishments. Appendix B includes a comparison of select characteristics of the dropped establishments and those included in analyses.⁹

Staffing methods. Models include a dichotomous measure of informal recruitment, coded 1 if a hiring agent obtained referrals from his or her current employees to select the establishment's last hire, what I call the "target position."

To test the possibility that the share of an establishment's workforce in traditional positions affects sex traditional employment, analyses include a measure of the proportion of women in clerical positions and men in sales and manual and blue-collar positions. The effect of informal recruitment on the odds an employer makes a traditional hire may depend on an establishment's share of workers already in traditional positions. To model this expectation, I include a product term for obtained referrals from current employees by share of an establishment's traditional workforce.

An employer's use of formal staffing practices should decrease sex traditional employment. Models include five dichotomous variables indicating if for the target position, a hiring agent obtained referrals from (a) state employment services, (b) private employment services or temporary agencies, (c) schools, (d) community agencies, or (e) unions. I also include three dichotomous variables, coded 1 if a hiring agent (a) placed advertisements in the newspaper, (b) posted help-wanted signs, or (c) accepted walk-in applicants. Models also include two formal screening measures. The first is a dichotomous measure that is coded 1 if a hiring agent required a physical exam and coded 0 if not. The second is a dichotomous measure that is coded 1 if a hiring agent administered other formal tests, a combination of a hiring agent's use of a general aptitude test, personality test or a job knowledge tests. I combined these into one measure that I refer to as "other formal tests" because a test of significance indicated they were not statistically different from one another.

Deskilling of target position. A decrease in a job's skill may decrease women's traditional occupational placement, so models include a dichotomous variable that is coded 1 if the skills required for the target position declined in the past 5 years.

Desirability of target position. A position's desirability might affect who applies for and eventually gets the position. I define position desirability in terms of the pay of the target position. Hiring agents reported the starting salary for the target position. If the hiring agent reported starting salary in yearly, month, or weekly units, I converted their response into starting hourly pay.

Other workplace features. Models include two indicators of establishment formalization: establishment size (the natural logarithm of the number of employees in the establishment as reported by the hiring agent) and non-profit location (a dichotomous variable coded 1 if an establishment is part of the nonprofit sector and 0 if it is for profit). I also control for establishment unionization rate, measured as the proportion of an establishment's nonprofessional and nonmanagerial employees covered by a union or collective bargaining.

ANALYTIC STRATEGY

I use multinomial logistic regression to estimate the odds a hiring agent makes a sex traditional versus nontraditional hire or a traditional versus sex neutral hire. I use regression-based multiple imputation with error components to handle missing data. This method is superior to other methods of handling missing data because it introduces random variation into the imputation process and estimates more accurate variances and covariances of variables with missing data (Allison, 2001; Schafer, 1997).¹⁰ I imputed roughly 10% of cases for the target job's starting salary variables, 7% for establishment unionization variables, and 6% for establishment (log) size variables. For the remaining variables, I statistically imputed less than 1% of cases. To facilitate interpretation of coefficients, I transformed unstandardized beta coefficients to odds ratios with the following formula:

$$(e^b - 1) \times 100$$

This transformation allows me to describe the effects of a one-unit change in a continuous independent variable, or in the case of a dichotomous independent variable, its effect relative to the omitted category on the percentage change in odds of the outcome (Allison, 1999). An exponentiated coefficient of 1 leaves the odds of the outcome unchanged, a coefficient greater than 1 increases the odds, and a coefficient less than 1 decreases the odds (Pampel, 2000, p. 22).

RESULTS

SEX TRADITIONAL EMPLOYMENT

Sex traditional employment is neither the exception nor the norm in the sampled establishments. Among hiring agents who last hired a female

TABLE 3: Summary of Logistic Regression Analysis for Variables Predicting Women's Traditional Occupational Placement (N = 1,525)

Predictor	Traditional vs. Nontraditional			Traditional vs. Neutral		
	B	SE	e ^B	B	SE	e ^B
Obtains current employee referrals	0.25	0.24	1.28	0.12	0.16	1.13
Establishment's share of traditional workers	-0.96	0.77	0.38	-0.61	0.53	0.54
Posts help-wanted signs	-0.46**	0.22	0.63	-0.09	0.13	0.91
Places newspaper ad	0.24	0.18	1.27	-0.09	0.12	0.91
Accepts walk-ins	-0.59***	0.20	0.55	-0.04	0.14	0.96
Obtains state employee service referrals	-0.10	0.22	0.90	-0.20	0.14	0.82
Obtains private agency referrals	0.23	0.22	1.26	0.01	0.15	1.01
Obtains community agency referrals	-0.04	0.25	0.96	0.03	0.15	1.03
Obtains school referrals	0.13	0.20	1.14	0.10	0.13	1.11
Obtains union referrals	-0.16	0.44	0.85	-0.32	0.27	0.73
Requires physical exam screen	0.12	0.26	1.13	0.39**	0.17	1.47
Administers other formal screens	0.22	0.24	1.25	0.03	0.16	1.03
Job skill recently decreased	-1.03	1.06	0.36	-1.23*	0.70	0.29
Starting salary (hourly \$)	0.02	0.03	1.02	0.10****	0.02	1.11
Establishment size (log)	-0.01	0.06	0.99	-0.008	0.04	0.99
Establishment unionization rate	-0.46	0.35	0.63	-0.25	0.19	0.78
Nonprofit	-0.57**	0.25	0.57	-0.10	0.14	0.90
Constant	-0.85	0.59	0.43	-0.72*	0.39	0.49
Likelihood ratio statistics						
Model χ^2	2,858.83****					
Degrees of freedom	3 × 10 ³					

SOURCE: Multi-City Study of Urban Inequality, 1992-1994 [Atlanta, Boston, Detroit, and Los Angeles], 2000.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$ (two-tailed).

applicant, 43% hired her into a sex traditional (female-dominated) occupation, whereas 45% hired her for a sex neutral occupation. The remaining 11% hired a female applicant into a nontraditional (male-dominated) occupation. Rates of traditional hires are lower for men. Just under one third, 31%, of hiring agents hired a male applicant for a sex traditional (male-dominated) occupation, 43% hired him for a neutral occupation, and 26% hired him into a nontraditional (female-dominated) occupation. I begin by discussing the determinants of women's traditional occupational placement, summarized in Table 3.

WOMEN'S SEX TRADITIONAL OCCUPATIONAL PLACEMENT

Staffing methods. Informal network recruiting is common practice among hiring agents in the sample, as 82% of hiring agents reported using this technique to locate their last hire. This practice does not significantly affect women's occupational placement, however. I predicted that an establishment's share of workers in traditional positions would moderate the effect of informal recruitment on the odds an employer makes a traditional hire. In other words, if a hiring agent used his or her current employees to generate referrals and these employees mostly held traditional positions, I expected that these employees would also generate sex traditional referrals and applicants. An interaction testing this moderating effect was not significant, suggesting that differences in the odds of a female traditional hire across varying levels of an establishment's traditional workforce are too small to rule out the possibility that they arose from a random process. Consequently, I dropped the interaction term from the model.

I hypothesized that formal staffing practices would lower the odds of a female hire into a predominantly female occupation. Analyses show modest support for this theoretical prediction. For example, posting help-wanted signs to recruit job applicants, a practice in which 27% of hiring agents engaged, yields lower net odds of women's sex traditional occupational placement. The odds a hiring agent who posted help-wanted signs hired a female for a predominantly female occupation versus a nontraditional one are a net 37% lower than hiring agents who did not use this recruitment method. Sixty-seven percent of hiring agents accepted walk-in applicants, a practice also associated with lower odds of female traditional occupational placement. In this case, a hiring agent's acceptance of walk-in applicants, an open method technically available to all job seekers and void of hiring agent influence yet highly subject to applicant social network influence (Marsden, 1994, p. 981), decreased women's sex traditional employment. Compared to hiring agents who did not use this method, the odds that those that did accept walk-ins hired a female applicant into a traditional versus nontraditional occupation were 45% lower. Although hypothesized to operate differently, physical exam screens increased women's sex traditional versus sex neutral occupational placement. Although the use of other formal recruitment and screening practices is slight, ranging from 7% of hiring agents obtaining referrals from unions to 36% obtaining school referrals, no other measured recruitment or testing method significantly affected women's sex traditional occupational placement.¹¹

Deskilling of target position. Reskin and Roos's (1990) deskilling theory posits that recent declines in a position's skill requirements would open non-traditional occupations to women (and reduce women's odds of traditional occupational placement). The data provide modest support for this prediction. The odds an employer hires a female applicant for a traditional versus neutral occupation are 71% lower if the position she is being hired for recently experienced a decline in skill requirements.

Desirability of target position. I hypothesized that the higher a position's wages, the more likely it is to attract male applicants and, in turn, male workers. Alternatively, a rise in the starting pay of female-dominated jobs might decrease women's sex traditional employment because it may lead employers to hire men instead of women for the position. Data suggest that the opposite is true. For every unit increase in the starting salary of the target position, the odds an employer placed a female applicant into a traditional versus sex neutral job increased by a net 11%.

Other workplace practices and policies. I hypothesized that formalized operating procedures would curb employer discretion and reliance on stereotypes and reduce the effect of an applicant's social networks on sex traditional employment. One institutional arrangement, an establishment's non-profit status, was related to women's sex traditional occupational placement. Twenty percent of the establishment sample operated in the nonprofit sector. Compared to their for-profit counterparts, the odds a hiring agent in a nonprofit hired a female applicant for a traditional versus a nontraditional occupation were a net 43% lower.

MEN'S SEX TRADITIONAL OCCUPATIONAL PLACEMENT

Staffing methods. The processes by which hiring agents place women and men into sex traditional occupations differ. Similar to female applicants, male applicants' occupational placement is not influenced by informal network hiring.¹² For male applicants, however, an increase in the share of an establishment's sex traditional workforce yielded a moderate net decrease in men's odds of sex traditional employment (see Table 4). At the same time, a hiring agent's use of formal screens significantly reduced men's traditional employment. A hiring agent's use of physical exam screens reduced men's traditional employment relative to his employment in neutral and nontraditional occupations. The administration of other formal screening tests also reduced men's traditional versus neutral occupational placement. Compared

TABLE 4: Summary of Logistic Regression Analysis for Variables Predicting Men's Traditional Occupational Placement (N = 1,299)

Predictor	Traditional vs. Nontraditional			Traditional vs. Neutral		
	B	SE	e ^B	B	SE	e ^B
Obtains current employee referrals	0.40	0.28	1.49	0.46	0.32	1.58
Establishment's share of traditional workers	-0.43	0.27	0.65	-0.79*	0.34	0.45
Posts help-wanted signs	0.12	0.23	1.13	-0.14	0.24	0.87
Places newspaper ad	0.02	0.12	1.02	-0.13	0.12	0.88
Accepts walk-ins	-0.14	0.13	0.87	-0.03	0.17	0.97
Obtains state employee service referrals	-0.05	0.22	0.95	0.05	0.17	1.05
Obtains private agency referrals	0.21	0.13	1.23	0.15	0.20	1.16
Obtains community agency referrals	0.02	0.20	1.02	0.10	0.21	1.11
Obtains school referrals	0.02	0.14	1.02	-0.05	0.13	0.95
Obtains union referrals	-0.12	0.22	0.87	-0.18	0.25	0.84
Requires physical exam screen	-0.52***	0.18	0.59	-0.73****	0.16	0.48
Administers other formal screens	-0.13	0.12	0.88	-0.34**	0.15	0.71
Job skill recently decreased	0.40	0.28	1.49	0.46	0.32	1.58
Starting salary (hourly \$)	-0.03**	0.02	0.97	0.009	0.01	1.01
Establishment size (log)	0.04	0.04	1.04	-0.002	0.06	0.99
Establishment unionization rate	-0.16	0.20	0.85	-0.05	0.25	0.95
Nonprofit	0.45**	0.19	1.57	0.16	0.24	1.17
Constant	0.66***	0.31	1.93	1.24***	0.41	3.46
Likelihood ratio statistics						
Model χ^2			2,390.58****			
Degrees of freedom			3 × 10 ³			

SOURCE: Multi-City Study of Urban Inequality, 1992-1994 [Atlanta, Boston, Detroit, and Los Angeles], 2000.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$ (two-tailed).

to hiring agents who did not administer other screens, the odds of placing a male applicant into a sex traditional versus sex neutral occupation were 29% lower among those that administered such screens.

Deskilling of target position. Results for male traditional employment are consistent with Reskin and Roos's (1990) theory. Deskilling does not affect men's employment in traditionally male occupations.

Desirability of target position. I hypothesized that men are more willing to leave traditional occupations for nontraditional ones and that employers are more willing to give men nontraditional positions when the position's pay increases. Findings support this hypothesis. An increase in the starting hourly wage of the target position decreases the odds of men's traditional versus nontraditional employment.

Other workplace features. I expected that the formalized operating procedures characteristic of large establishments and nonprofits would restrict an employer's discretion and knowledge of an applicant's sex and use of this information when making a hiring decision and dismantle employment barriers for applicants and, subsequently, reduce traditional employment. Establishment size was not related to men's traditional employment. However, compared to hiring agents in their for-profit counterparts, the odds a hiring agent in a nonprofit hires a male applicant for a predominantly male versus predominantly female occupation are greater. An establishment's unionization rate was not related to men's traditional occupational placement.

DISCUSSION

I presented four theoretical explanations of women's and men's sex traditional employment. By way of summary, I discuss how predictions based on each of the theories fared in the analyses.

Staffing methods. Overall, some formal practices decreased women's and men's traditional occupational placement. Hiring agents' posting of help-wanted signs, acceptance of walk-in applicants, and implementation of formal screens reduced sex traditional employment.

The use of formal screening tests and the requirement of a physical exam decreased the odds of men's traditional employment, but the latter increased women's traditional employment. I speculate that the different impact of physical exam screens on women's and men's traditional employment resulted from inaccurate or sex-biased use of this screen. Formal screens will only open jobs to nontraditional workers if they accurately measure a candidate's job-related skills in a sex-neutral manner and when hiring agents apply them equally to male and female applicants (Mittman, 1992, p. 16). A physical exam requirement for entry into a male-dominated occupation may serve as a mechanism to discourage female applicants rather than test required job skills. To test whether this is the case, I identified a subsample of occupations whose applicants were required to have a physical exam. For some of these

occupations—freight, stock, and material handler; punching and stamping press machine operator; and compressing and compacting machine operator—a physical exam seems necessary because a physical limitation could be harmful for jobholders in these occupations. For other occupations, the necessity of a physical exam is less clear. Some hiring agents required physical exams from applicants for motor vehicle sales persons and production supervisor occupations. Ideally, I would need data indicating when and for whom hiring agents required screens (e.g., do hiring agents only require screens for women applying to male-dominated occupations? men applying to female-dominated occupations?) to identify whether screens are gender neutral.

The models include several staffing methods that are conspicuous for their lack of effect. To begin, hiring agents' use of current employee referrals was not related to sex traditional employment for female or male applicants. Hiring agents' reliance on outside referral sources (e.g., private agencies and schools) was also not related to women's and men's sex traditional employment. Instead, open recruitment practices (e.g., acceptance of walk-in applicants and posting of help-wanted signs) were more effective at decreasing sex traditional employment than recruitment practices that relied on outside referral sources. These unanticipated findings about formal and open practices could indicate several things. First, as Miller and Rosenbaum (1997) explained, employers may mistrust and even disregard information from outside sources and rely on job interviews to form their impression of an applicant. If this was the case, the formal references, letters, and job-related information that a hiring agency or union might provide about an applicant may be irrelevant in the job attainment process. Second, these findings may also reflect the general profitability of the organization. Compared to placing newspaper advertisements or obtaining referrals from outside agents, open recruitment methods, such as accepting walk-in applicants or posting help-wanted signs, are relatively inexpensive. Hiring agents who use these less expensive techniques may be employed by low-paying, high-turnover organizations that are willing to hire women and men outside of traditional occupations to fill vacancies. To test the possibility that these organizations are lower paying on average than organizations that do not use open recruitment, I compared the average starting salary in establishments that do and do not accept walk-in applicants and the starting salary in establishments that do and do not post help-wanted signs. Average starting hourly wages are significantly lower in establishments that accept walk-ins (\$8.50) compared to those that do not (\$9.93) and in establishments that post help-wanted signs (\$8.77) compared to those that do not (\$9.01). Because hiring agents in establishments that engage in open recruitment have lower average starting

wages than those that do not use open recruitment methods, it is possible that these hiring agents make nontraditional hires to save money on recruiting. To determine if organizations that use open recruitment have higher vacancies than those that did not use open recruitment methods, I compared the number of vacant positions in organizations that did and did not accept walk-in applicants and those that did and did not post help-wanted signs. Organizations that used both methods have significantly more vacancies than those that do not. The average vacancy rate among organizations accepting walk-in applicants was six compared to three in those that do not, whereas organizations that posted help-wanted signs had an average of seven vacancies compared to only four in organizations that did not post signs. Data on the profitability of an organization, information about its recruitment budget, and specific information about the vacancies in the target position would be ideal to distinguish between these possible explanations.

A number of factors may explain why all staffing methods did not affect hiring outcomes. First, even hiring agents who rely on formalized recruitment and screening mechanisms, methods alleged to reduce sex traditional employment, may still use biased informal practices to recruit and screen workers (Reskin & McBrier, 2000, p. 223). Formal staffing varies widely in terms of content, implementation, and context and can even conceal loopholes that can favor one group over another (Moss & Tilly, 2001, p. 226). As Bielby (2000, p. 125) explained, job searches conducted with a candidate already in mind can also perpetuate bias despite the presence of formal search procedures. The models I present only indicate whether a hiring agent used a formal staffing procedure, not if he or she only used specific procedures. It is also possible that hiring agents rely on staffing methods that appear neutral in their effect but are already sex biased. For example, state employment referral services may appear to be a neutral means to locate workers, but as Torres, Huffman, and Velasco (1998, p. 467) explained, employment agencies generally take into account their client's preferences (e.g., an employer may request that the agency locate workers who fit with the company culture), and so their referrals may be sex biased.

A second reason why formal staffing practices did not always affect sex traditional employment is that they may not have been strong enough to thwart hiring agent bias. For workplace policies and practices to limit a hiring agent's propensity toward sex-based hiring decisions, they must be more than symbolic markers that a workplace is compliant with and attuned to non-discriminatory practices (Dobbin, Sutton, Meyer, & Scott, 1993, p. 408; Edelman, 1993, p. 1542). In other words, it is possible the implementation of formal practices is decoupled from hiring activities to maintain the power

and authority of hiring agents (Edelman, 1993, p. 1543). As Perry et al. (1994, pp. 808-811) explained, the presence of formalized hiring procedures does not ensure that hiring agents will follow them. If an establishment has no powerful personnel function to sanction noncomplying agents, hiring agents have little incentive to follow formal rules that tend to be more time consuming and expensive than informal ones (Dobbin et al., 1993, pp. 419-420). Similarly, Bielby (2000, p. 126) explained that formalized processes can only reduce hiring inequality in conjunction with a system that includes regular monitoring of an establishment's sex segregation, regular feedback from employees about perceived barriers to advancement, and evaluation of managers on their contributions to equity goals. In the absence of these checks, formalized staffing procedures may be nothing more than a nominal form of minimizing ascriptive bias. Data limitations prevent me from measuring if an establishment has a powerful enforcement function or a personnel office, so I can only speculate that the absence of enforcement of formal staffing procedures partially explains why not all methods affect hiring outcomes.

Lack of hiring agent accountability may be a third reason why formal methods did not always affect traditional occupational placement. When no system holds a hiring agent accountable for their hiring decisions, it is likely they may not comply with formal rules. Holding hiring agents accountable for their decisions can influence hiring outcomes much the same as workplace structural attempts to restrict subjectivity and bias (Perry et al., 1994, p. 809). Salancik and Pfeffer (1978, p. 253) found that individuals decreased their reliance on social cues to make decisions when held accountable for their decisions.

Fourth, bureaucratization or formalization of an organization's hiring process does not automatically eliminate sex-based hiring decisions; instead, they may institutionalize women's and men's different employment options in formal job descriptions and requirements (Barnett, Baron, & Stuart, 2000, p. 132). As Sturm (2001, p. 4) explained, remedies for the differential treatment of women and men do not necessarily revise or challenge organizations' gendered culture. On the surface, these remedies can improve women's and men's workplace experiences, but they may leave intact the gendered assumptions about job appropriateness that pervade work organizations (Burton, 1991, p. xiii).

Fifth, as I noted in the introduction, supply-side processes are part of the job attainment process. The effect of hiring agents' acceptance of walk-in applicants on women's sex traditional placement hints at the operation of supply-side processes. This recruitment method requires action on the part of an applicant, so it is closely tied to an applicant's own interests or her job networks.

Finally, the staffing methods I measure may not effectively open the job to applicants of all sexes. Hiring agents' placement of newspaper advertisements to attract workers was not related to sex traditional employment. Newspaper advertisements are not automatically gender neutral. For instance, a hiring agent who places an advertisement seeking self-confident, math-oriented, or competitive applicants may unintentionally discourage female applicants. Petersen and Togstad (2003, p. 11) explained that when the Norwegian company they studied placed an advertisement seeking someone with "effective managing and optimal operation" skills, their applicant pool was only 7% female. When the company reran the advertisement excluding the words *effective* and *optimal*, the applicant pool was 50% female (Petersen & Togstad, 2003, p. 11). In this case, a formal staffing procedure thought to reduce bias was not a panacea to avoid sex-based hiring. Ideally, one would need data on the text of the job advertisement to investigate this possible explanation.

Deskilling. Deskilling theory alleged that declines in a position's skill requirements (coupled with a decline in the position's reward level) would open traditionally male occupations to women. The data provide moderate support for this theory. Recent skill declines in the target position decreased women's sex traditional employment. Job skill declines have no effect on men's traditional employment. Hiring agents appear willing to move women to male-dominated occupations if they experience a decline in skill but are not likely to move men to declining positions.

Desirability. I find modest support for the desirability of position theory. For example, a rise in the starting hourly wage of a position increased the odds of women's traditional employment but decreased men's odds of traditional employment. I do not attribute this outcome to sex differences in desire for high wages (Reskin & Roos, 1990, p. 102). Rather, it may be that women's alternatives are lower paying than their current jobs, whereas men's alternatives are higher paying. With the data at hand, I cannot compare the starting pay in the positions applicants took to pay levels in alternative positions.

Other workplace features. Only one measured workplace feature beyond staffing methods was significantly related to sex traditional occupational placement: nonprofit status. The odds of women's sex traditional employment are lower in nonprofits, whereas the odds of men's sex traditional employment are greater in nonprofit than in for-profit organizations. The data combine nonprofit organizations and government agencies. Men's sex

traditional employment may be higher in the nonprofit compared to the government sector, which operates under stricter legislation (e.g., Federal Equal Employment Opportunity Law and other non-Equal Employment Opportunity Commission enforced federal laws). Combining nonprofits and government agencies, then, may account for this unanticipated finding regarding men's sex traditional employment. Preferably, one needs separate measures of for-profit, nonprofit, and government sectors to properly address how workplace features affect employment.

Finally, I do not observe a pattern suggesting that hiring agents are more likely to hire male and female applicants for sex neutral versus nontraditional occupations. Roughly an equal number of predictor variables affected both outcomes.

CONCLUSION

The present analyses have important implications for the development of theories about occupational sex segregation and how we study sex segregation at work and suggest a note of caution for policymakers whose goal it is to reduce occupational sex segregation.

IMPLICATIONS FOR THEORY

To begin, I have shown that a different system of sex traditional employment operates for women and men. In effect, this suggests that organizational policies and practices are not gender neutral in their influence on employment outcomes. Scholars have made a strong case that gendered organizational practices play a role in shaping the context in which employers act and the extent to which an applicant's sex influences the employment process (e.g., Acker, 1990; Britton, 2000; Burton, 1991; Steinberg, 1992). To that end, the first conclusion I draw from the present analysis is that theories should question the implicit assumption that the process of sex segregation is the same for women and men.

Implications for research. Even though applicant preferences, their search methods, and employer preferences influence employment outcomes, they are only partially accountable for sex segregated employment. Some have even argued (Reskin, 2003; Wilson & Brekke, 1994) that individual's preferences are hard to empirically verify or invalidate, so studying preferences alone will not advance our understanding of the employment process. The second conclusion I draw is that empirical analyses should focus, at least

in part, on the organizational practices and policies leading to sex segregation. Not only will attention to these demand-side features provide a more complete insight into the process of sex segregation, but they will also generate empirically testable hypotheses.

Policy implications. The analyses suggest that some formal staffing practices enabled women's and men's movement out of sex traditional occupations, whereas others undermine such movement. That formal staffing practices had inconsistent effects of employment outcomes deserves attention from individuals whose responsibility it is to oversee and eliminate sex-based hiring discrimination. Findings suggest that a broad application of formal staffing techniques will not successfully eliminate occupational sex segregation. Formally advertising job openings, obtaining employment agency referrals, or using screening tests are not enough to block the mechanisms that lead to sex segregated employment. My third conclusion is that for policymakers, Equal Employment Opportunity officers, and employers to make policies that are more effective at generating sex equity at work, they must gain a better sense of organizational dynamics (Steinberg, 1992, p. 581) and scrutinize the staffing policies, not just require their presence.

In closing, I draw attention to the limitations of the present study to help guide and improve future research in this area. First, I cannot control for the sex of the previous jobholder. Cohen, Broschak, and Haveman (1998, p. 718) explained that because the sex-typing of jobs becomes institutionalized throughout time, the sex of the current jobholder is an accurate indicator of the extent to which a position is open to women or men. Moreover, if the previous jobholder was female (male), hiring a female (male) replacement may be more likely because being a female (male) is not unique. An applicant's sex is one of his or her most visible and salient characteristics, but being unusual, such as when a female applies to a job that has never been held by a female, makes one's sex even more salient (Heilman, 1995, p. 10). When a man or woman is the first of his or her sex to apply for a position, hiring agents may immediately notice and take into account his or her sex because of its novelty.

Second, because the sample consists of primarily low-skilled occupations (66% of occupations last filled are low skilled), I must use caution when generalizing my findings to high-skilled occupations. It is possible that I underestimate the determinants of sex traditional employment in high-skill, high-paying positions because filling these positions entails greater risk. Hiring agents try to eliminate such risk by relying on the familiar who, in this case, is a sex traditional applicant (Reskin & McBrier, 2000, p. 212).

Third, predictor variables measure job-level dynamics and attributes (e.g., job-level recruitment methods and job-level starting pay), but the outcome captures occupation-level sex composition. Occupations span establishments, but jobs are specific to establishments. A job in a female-dominated occupation in one establishment may be sex-neutral or even male-dominated in another. To demonstrate, the occupation of secretary is female-dominated in the United States, but Establishment A may employ five female secretaries and five male secretaries and have a sex-balanced secretarial workforce. Meanwhile, Establishment B may employ nine female secretaries and one male secretary and have a female-dominated secretarial workforce. I suspect that changes in job features (e.g., job pay or skill levels) affect job-level sex composition. A mismatch between predictor and outcome workplace units likely results in inaccurate theoretical conclusions. Namely, because job-level changes may produce results that are scarcely discernible at the occupation level, the present analyses may fail to show support for theories even when the theory may hold up. To avoid similar errors in the future, researchers must collect job sex composition data along with information about the attributes of jobs and the organizational practices hiring agents use to fill them.

Despite these limitations, I have shown that different organizational practices and features can influence women's and men's entry into sex traditional occupations. Knowing how employers place women and men into traditional occupations will eventually help us understand what practices might undo sex traditional occupational placement. Ideally, to find these answers requires data that includes demand-side, supply-side, and contextual labor market measures. Indeed, some of the unexpected findings I present here suggest that unmeasured supply-side factors affect sex traditional employment. I know of no publicly available data sets that have these measures and the detailed staffing measures found in the MCTES. As others before me have also recommended (e.g., Mencken & Winfield, 2000, p. 862; Torres & Huffman, 2002, p. 39), I concur that we must collect data with detailed measures of organizational practices, establishment context, and applicants' supply-side information. To that end, our understanding of the hiring process in general and specifically how hiring agents link women and men to sex traditional occupations must remain a central concern of future data collection and research efforts.

APPENDIX A: Weighted Descriptive Statistics (N = 2,824)

	M	SD	Range
Proportion of female applicants hired into traditional occupations	0.43	—	0 to 1
Proportion of female applicants hired into neutral occupations	0.45	—	0 to 1
Proportion of female applicants hired into nontraditional occupations	0.11	—	0 to 1
Proportion of male applicants hired into traditional occupations	0.31	—	0 to 1
Proportion of male applicants hired into neutral occupations	0.43	—	0 to 1
Proportion of male applicants hired into nontraditional occupations	0.26	—	0 to 1
Accepts current employee referrals	0.83	0.38	0, 1
Job skill requirements recently decreased	0.02	0.12	0, 1
Posts help-wanted signs	0.27	0.44	0, 1
Places newspaper advertisements	0.49	0.50	0, 1
Accepts walk-ins	0.67	0.47	0, 1
Obtains state employment service referrals	0.35	0.47	0, 1
Obtains private agency referrals	0.21	0.41	0, 1
Obtains community agency referrals	0.27	0.44	0, 1
Obtains school referrals	0.36	0.48	0, 1
Obtains union referrals	0.07	0.25	0, 1
Requires physical exam screen	0.48	0.50	0, 1
Administers other formal screening tests	0.24	0.42	0, 1
Starting salary in target job (hourly \$)	9.19	4.51	2.12 to 36.07
Proportion of workforce in traditional positions	0.55	0.46	0 to 1
Establishment size (log)	4.07	1.83	0 to 12.21
Establishment proportion unionized	0.16	0.33	0 to 1
Nonprofit	0.20	0.40	0, 1

SOURCE: Multi-City Study of Urban Inequality, 1992-1994 [Atlanta, Boston, Detroit, and Los Angeles], 2000.

APPENDIX B: Comparison of Characteristics of Establishments Dropped From and Retained in Analyses

<i>Characteristic</i>	<i>Establishments in Analyses (n = 2,824)</i>	<i>Establishments Dropped From Analyses (n = 586)</i>	<i>Significantly Different at p < .05 Level?</i>
Accepts current employee referrals	0.83	0.80	Yes
Skills recently decreased	0.02	0.02	No

(continued)

APPENDIX B (continued)

<i>Characteristic</i>	<i>Establishments in Analyses (n = 2,824)</i>	<i>Establishments Dropped From Analyses (n = 586)</i>	<i>Significantly Different at p < .05 Level?</i>
Workforce in traditional positions	0.43	0.37	NA ^a
Posts help-wanted signs	0.27	0.23	Yes
Places newspaper ads	0.49	0.41	Yes
Accepts walk-ins	0.67	0.68	No
Obtains state employee service referrals	0.35	0.37	No
Obtains private agency referrals	0.21	0.21	No
Obtains community agency referrals	0.27	0.28	No
Obtains school referrals	0.36	0.39	Yes
Obtains union referrals	0.07	0.09	Yes
Requires physical exam screen	0.51	0.53	No
Administers other tests	0.24	0.26	Yes
Starting salary (hourly \$)	9.19	9.63	NA ^a
Establishment size (log)	4.06	4.08	Yes
Establishment unionization	0.16	0.17	Yes
Nonprofit	0.20	0.15	Yes

SOURCE: Multi-City Study of Urban Inequality, 1992-1994 [Atlanta, Boston, Detroit, and Los Angeles], 2000.

a. Cell size was too small to determine significance.

NOTES

1. The analyses in this article are not concerned with the macrolevel processes leading to the sex-typing of an occupation but are concerned with the microlevel processes that lead to women's and men's employment in sex traditional occupations. See Reskin and Roos (1990) and Cohn (1985) for a comprehensive discussion of the former.

2. Occupational sex segregation refers to the concentration of women and men in different occupations (Reskin, 1993, p. 242). The term *sex traditional employment* refers to women's employment in female-dominated occupations and men's employment in male-dominated occupations. The terms refer to the same concept: the concentration of women (men) in occupations whose incumbents are also female (male).

3. If formal screens do not relate to the qualifications of the job, however, they may perpetuate sex traditional employment (Nelson & Bridges, 1999, p. 30).

4. Although this explanation invokes employer preference in its account of sex traditional employment, it is not entirely an employer preference explanation because change in a position's skill and pay along with the size of the applicant pool influence an employer's eventual hire.

5. I am not arguing that the preferences of female and male job seekers differ. As Reskin and Ross (1990, p. 120) pointed out, both women and men desire high-paying positions.

6. The SSI sample is a stratified probability sample drawn 25% from establishments with 1 to 19 employees, 50% from establishments with 20 to 99 employees, and 25% from establishments with 100 or more employees.

7. I estimated analogous models using Kanter's (1977, p. 209) definitions of sex-typed groups: (a) female dominated = 65% or more female, (b) sex neutral = 35% to 64% female, and (c) male dominated = less than 35% female. I do not present the results because the basic substantive conclusions are similar to those from models using different definitions of sex-typed jobs.

8. Tomaskovic-Devey and Skaggs (2002) and Tam (1997) found that similar processes occur at the job level.

9. The dropped establishments were, on average, somewhat different than those I retained for analysis. Hiring agents in establishments dropped from the sample were less likely to accept current employee referrals and to use help-wanted signs or place newspaper ads for recruitment, but they were more likely to use other formal tests and school and union referrals than employers in the sample. The establishments not included in the analyses were significantly larger, more likely nonprofit, and more unionized than those used for analyses. These differences are not likely to affect my findings because these features are not significantly related to the outcomes of interest. Only the use of help-wanted signs is related to the outcome, so my findings may understate the effect of this recruitment method.

10. The results of analyses not shown found that identical models using marginal mean imputation to handle missing data were not substantively different.

11. In analyses not shown, I excluded controls for establishment features associated with formalization (e.g., size and nonprofit status) in the event that they explain some of the effects of formal staffing procedures. Findings did not change substantively with the exclusion of these measures.

12. An interaction testing whether use of current employee referrals depends on an establishment's share of workers already in traditional positions was not significant, so I dropped the interaction term from the models.

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