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SEX AND AUTHORITY IN THE WORKPLACE:  
THE CAUSES OF SEXUAL INEQUALITY

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## ABSTRACT

The purpose of this paper is to contribute to our understanding of the causes of the restriction of women from positions of authority in the workplace. We ascertain the extent to which the sex gap in authority can be explained by the following three factors: (1) women's qualifications, (2) the attitudes and behaviors of employers, and (3) the attitudes and behaviors of women themselves. We find that while the amount of the sex difference in authority that can be explained by women's qualifications is substantial, it is not the most important factor responsible for the restriction of women from positions of authority. Furthermore, we present strong evidence suggesting that the attitudes and behaviors of employers are much more important causes of sexual differences in authority in the workplace than are the attitudes and behaviors of the women themselves.

## Sex and Authority in the Workplace: The Causes of Sexual Inequality

Where does power originate in this society? Since the vast majority of the American population between ages 14 and 65 are employed, it follows that an individual's power and social position will ultimately flow from his/her position in an economic organization, be it large or small, public or private (Dahrendorf, 1957; Galbraith, 1957). The essential feature of power in organizations is the ability to control resources: capital, people's work, and things. Indeed, for most people, being "higher up" means precisely this--the ability to control one's work and the work process of others.

While men have obtained power through their positions in the work setting, women's power has traditionally derived from their roles in the family. It had been argued that women gained social position from the men in their lives, first from their fathers and then from their husbands (Parsons, 1955). This stems from the fact that until quite recently, women's traditional role obligations centered on marriage and childbearing, and their commitment to paid employment was viewed as secondary to their other role obligations (Myrdal and Klein, 1956; Parsons, 1942, 1955; Smuts, 1971). We argue that because in the past women presumably derived their social positions from their families, they were restricted from positions of power in the work setting. However, the traditional view of women's roles has begun to break down as more women enter paid employment and women are more likely to work throughout their lives. Women's employment, as a consequence, is becoming an integral part of the family's social position (Sampson and Rossi, 1975). Furthermore, more women are likely to head their

own families. In short, women's situations have changed, and many now rely on their own work activities as an important mechanism for obtaining power in the society.

Despite these changes, women are much less likely to be in positions of power in the workplace than are men (Wolf and Fligstein, 1978; Grimm and Stern, 1974; U.S. Bureau of the Census, 1973). Furthermore, sexual differences in power in the work setting have recently been found to be an important factor generating inequality in earnings between men and women (Roos, 1978; Robinson and Kelley, 1977). If one is interested in remedying sexual inequality in the workplace, it is essential to understand how these differences in power are generated. It is the purpose of this paper to contribute to the understanding of the allocation of men and women into positions of power in the work setting. In this paper, we are concerned with one aspect of that power: authority, which we define as control over the work process of others. While other aspects of power in the work setting could be relevant to such a discussion, authority is clearly the most salient of all aspects and the most important for locating individuals in the hierarchy of work.

What do we already know about sexual inequality in authority in the workplace? First, census data indicate that women are much less likely to be in the major occupation group, "managers and administrators, except farm," than are men.<sup>1</sup> Second, although women are highly represented in certain professional occupations (nursing, social work, schoolteaching, library work), men are overrepresented in the higher level positions within these professions (Grimm and Stern, 1974). Hence, even in the sectors of the labor force where women predominate, men tend to be in

supervisory roles. In general, women tend to be excluded from occupations which by definition involve supervising others, and they tend not to assume supervisory positions in work settings in which they dominate, let alone in mixed work groups. Recently, research has shown that: (1) women are much less likely to be in positions of authority, even when they have the same level of education and occupational status as men in such positions; and (2) that this difference cannot be explained by the fact that men are more likely to be self-employed (Wolf and Fligstein, 1978). In sum, there is evidence that there is marked sexual inequality in authority in the workplace.

No existing empirical research suggests how these sex differences in authority within economic organizations are generated. We offer and empirically assess the importance of three sets of factors for the explanation of the unequal distribution of men and women in positions of authority: (1) women's qualifications, (2) the attitudes and behaviors of employers, and (3) the attitudes and behaviors of the women themselves.

First, it is likely that women are restricted from positions of authority because they are less qualified on the bases of the following criteria: (1) their training, (2) their intermittent patterns of employment, (3) lack of sufficient tenure and commitment to the firm, and (4) restrictions on their geographic mobility as well as travel for work purposes because of their family situations (Blau and Jusenius, 1976; Oppenheimer, 1970).

Second, the restriction of females from positions of authority may be due to the attitudes and behaviors of employers. In this society, persistent sex-role socialization has led to a well-defined division of

labor within the family. This has had implications for the kinds of positions employers have thought were appropriate for women (Boulding, 1976; Bernard, 1976; Hartmann, 1976). Employers' views about women's ability to perform in positions of authority are shaped by their own attitudes about women's roles as well as by the actual behavior of women. Employers often feel women are too emotional and therefore are unfit to be in supervisory positions (Kantor, 1977; Bowman et al., 1965). There is also a strong belief among employers and workers that women should not supervise male or mixed-work groups (Caplow, 1954; Kantor, 1977; Whyte, 1949; Oppenheimer, 1970; Bowman et al., 1965; National Manpower Council, 1957). Both these attitudes, we would argue, affect the allocation of females into supervisory positions. This is, in essence, a statistical discrimination argument (Phelps, 1972; Thurow, 1975), in that an individual female may be restricted from such a position regardless of her employment history because employers believe that members of her sex, for whatever reason, are unsuited for assuming such roles.

The third argument about the lack of women in positions of authority derives from women's views of their own competence. Some women, not having been socialized into leadership roles, may view themselves as less capable of assuming such positions. And further, because women are more likely to anticipate interruptions in paid employment, they may be unwilling to make or shy away from making the long-term commitment to an employer that positions of authority often entail.

By empirically assessing the importance of these three factors in explaining the restriction of females from positions of authority, we will understand whether the major differences between men and women in authority

are due to factors under the control of the individual or else to factors resulting from the behavior of others in the labor market. This is valuable as it suggests the areas to which policymakers or people interested in achieving sexual equality in the workplace should direct their attention.

#### ANALYTIC STRATEGY

Our empirical analyses require some approach that allows us to divide some measured difference into components that can be attributed to the various explanations we have suggested. To do this, we begin by estimating two reduced-form equations:

$$\text{Authority}_M = f(\text{HC}, \text{F}) \quad (1)$$

$$\text{Authority}_F = f(\text{HC}, \text{F}) \quad (2)$$

where HC represents three human capital factors (education, work experience, and tenure with current employer) and F factors related to family situation, such as marital status and the presence of children. Education, work experience, and tenure are tapping different aspects of human capital accumulation. Marital status and the presence of children tap the restrictions on geographical mobility and travel for work purposes imposed on females by their family situations. The parameter estimates in these two equations are of interest, in and of themselves, in that they indicate the differential effects by sex of an individual's qualifications on the acquisition of authority. Furthermore, using these equations, we are able to determine the extent to which the gross sex difference in authority is due to women's inferior qualifications. We will decompose the gross sex difference in authority into three components: that due to composition on qualifications; that due to differential effects of these factors; and that



due to the interaction between the two (Winsborough and Dickinson, 1971; Althausser and Wrigler, 1972; see Fligstein, 1976, or Halaby, forthcoming, for an example). The percentage of the sex difference that is due to differential composition of the sexes on the five factors that we have listed represents the amount of the sex difference that is due to the fact that women have inferior qualifications (less labor force experience, education, or tenure with firm), or family situations which inhibit their assuming positions of authority. We use the reduced-form equations to derive such an estimate in order to obtain an upper bound estimate of the amount due to inferior qualifications. It is essential to identify the extent to which this explanation is operating, as women presumably could then increase their authority in the workplace by improving their qualifications. That portion of the sex difference in authority that is not attributable to composition on these characteristics is due to either of our other two explanations or to other unspecified arguments.

In order to assess the importance of the attitudes and behaviors of employers and women, we estimate the following equations.

$$\text{Authority}_M = f(\text{HC}, \text{F}, \text{J}) \quad (3)$$

$$\text{Authority}_F = f(\text{HC}, \text{F}, \text{J}) \quad (4)$$

where J represents characteristics of the job, such as sex composition of an occupation and occupational status, and the other terms have been defined previously. The parameter estimates in these equations are inherently interesting: they (1) give us a detailed mapping of how people get into positions of authority in the workplace, and (2) illustrate how the effects of the exogenous variables tapping qualifications are mediated by characteristics of jobs. Our ability to ascertain the extent to which

two factors--women's and employers' attitudes and behaviors--affect the restriction of women from supervisory positions derives from the decomposition of the effects of job characteristics in these equations. Either factor could determine that component due to composition on job characteristics. On the one hand, some women may not desire positions with a lot of responsibility over the work of others, and one might expect them to select positions which have a low probability of having any authority. For example, some women may choose jobs that are sex-labeled as "female" with the expectation that they will entail few responsibilities for controlling the work of others. On the other hand, employers, because of their beliefs about women's ability to perform in supervisory positions, may direct or track females into positions which have little likelihood of involving supervision.

The component of the sex difference in authority due to composition on job characteristics could, then, be due either to women's or employers' attitudes and behaviors. The job characteristics rates component, however, is almost entirely due to the behavior of employers. If men get different amounts of authority from women for being in a high-status occupation, given that qualifications and sex-label of the job are held constant, then these differences must be due to the fact that employers are treating men and women disparately. Although we are not able to attribute portions of the sex gap in authority uniquely to the attitudes and behaviors of employers and women, we can, through this decomposition, ascertain the relative importance of these two factors in the restriction of females from positions of authority.

In short, our regressions and subsequent decompositions will achieve two goals: (1) show the differential effects by sex of human capital, family characteristics, and job characteristics on the allocation of men and women into positions of authority, and (2) allow us to assess the importance of the three factors for the restriction of females from positions of authority.

#### DATA, VARIABLES, AND ANALYTIC TECHNIQUE

##### Data

The data are from the Wisconsin Study of Social and Psychological Factors in Socioeconomic Achievements. This is a longitudinal study of a random sample of 10,317 persons who were seniors in Wisconsin high schools in 1957 (Sewell and Hauser, 1975). A follow-up study of the members of the sample was executed during 1975; it obtained completed interviews of 9,138 respondents (or 88.5% of the original sample). The data for these analyses are drawn from the 1975 reinterviews. Using this data set means that there are no individuals with fewer than 12 years of education included in the sample. The results cannot be generalized to non-high-school graduates. Furthermore, we are investigating the distribution of authority at midlife (around age 37) and our results do not address the issue of the distribution of authority in the work setting for the total working population or for one cohort earlier or later in their life course. One could argue that by observing individuals at midlife, one does not achieve sufficient variation in the dependent variable, as people might be more likely to have authority in the work setting later in the life course. This

is not problematic, as is evidenced by the marginal distributions on the authority variables which are presented in the next few pages.

The sample includes 5,613 individuals (3,359 males and 2,254 females) (1) who were employed in the civilian labor force during the week of the survey in 1975, (2) who were not self-employed, and (3) for whom data were available on all relevant variables for the analysis. The largest sample attrition for females was due to the current-employment restriction. Although information on authority was obtained for all individuals who had worked in the last five years, we could not construct the experience or tenure variables for those who were not currently employed. It could be argued that since women move in and out of paid employment, one could obtain a clearer picture of sex differences in authority by including in the sample women who had been employed during the last five years but who were not currently employed. An inspection of the distribution of the authority variables by current-employment status for women indicates that women who are currently employed are much more likely to be in positions of power in the workplace than were women who are not currently employed but had been employed during the last five years. This suggests that our exclusion of women who were not currently employed but did have recent work experience will result in an underestimation of the female disadvantage in authority in the workplace.<sup>2</sup>

We have also excluded self-employed people. Our three hypotheses have to do with the reasons that women, as employees, do not assume positions of authority within a firm. It should be noted that there are other ways to obtain authority in the workplace. Self-employed individuals who have others working for them have authority on the job. Men are more likely to be

self-employed (U.S. Bureau of the Census, 1973; Wolf and Fligstein, 1977) and to have more authority if they are self-employed than are women. Since the processes by which an individual obtains authority as an employee are probably quite different from the mechanisms by which self-employed workers gain authority over others, we have decided to exclude self-employed people.

### Variables

The dependent variables related to authority in the workplace are derived from yes-no responses to the following set of questions:

1. I have authority to hire or fire others.
2. I can influence or set the rate of pay received by others.
3. I supervise the work of others, that is, what they produce or how much.

As earlier stated, these questions tap control over the work of others. In our analyses, we treat these questions as separate aspects of authority. Our decision was based on the conclusion that any scale combining these three aspects might mask or camouflage important sex differences in authority in the workplace. Having responsibility to hire and fire and/or pay and promote represents a much higher level of authority than does having the responsibility of supervising others. It is probably the case that the processes by which people obtain these higher levels of authority are quite different from the manner in which people obtain the lower supervisory positions. In short, it is likely that women are less discriminated against in the acquisition of positions with mere supervisory power than they are in the attainment of positions with more responsibility. Averaging these differences over level of supervision would not allow us

to discriminate these different processes. Furthermore, different scaling options created methodological problems.<sup>3</sup>

Education is measured by the number of years of formal schooling completed after high school. Experience is measured by  $1-T_0$ , where  $T_0$  is the proportion of months between high school graduation and the time of the interview when the respondent was known to be out of the civilian labor force. For males, we used detailed information on the timing of all levels of schooling, military service, and work in 1974 as a way to assign an individual's months to the category of "out of the civilian labor force." For females, additional information was used to code months out of the civilian labor force: (1) whether they worked in every relevant interval between important life cycle events;<sup>4</sup> (2) how soon (in weeks) after the beginning of the interval they returned to work; (3) how soon (in weeks) before the end of the interval they finished working; and (4) how many hours a week they worked during the interval. The use of this additional information helps construct a very good experience measure for females, but since the same information was not available, we could not provide an exact equivalent for men. The measure for males slightly overestimates labor market experience, since we must assume that men were employed when they were not in school or in the military. This is not an unreasonable assumption since a sample of predominately white males with a high school education are usually employed quite regularly throughout their life course. It should be noted that utilizing these additional data for females when it is not available for men is much preferable to the two alternatives available to us. If we had utilized the well-known formula for experience,  $AGE - SCHOOLING - 6$ , we would have found that women had slightly more

experience than men, since age is fairly constant in the sample and women obtain less schooling than men do. If we had used only the information that we had for both sexes to assign months to the category of not employed in the civilian labor market, we would have found that women had quite a bit more experience than men because of the schooling differential and the enormous sex differential in time spent in the military. Both of these options distort reality. Furthermore, since one of our goals is to attribute some of the sex difference in authority to women's employment histories, it is mandatory that we have the best available measure of experience. Our measure is clearly superior to the other alternatives available in this data set and to most of the other commonly used measures of experience for men and women.

Tenure is measured by the number of months from the time the individual first started working at the place of current employment to the time of interview, minus the number of months during this period that the individual was known not to be working.<sup>5</sup> The latter correction for time not working was made because females are more likely to have intermittent employment; it is possible that even though they started work with their current employer several years ago, they may have interrupted their employment. Thus, tenure measures the number of months worked at current place of employment.

"Currently married" is measured by a dummy variable, which assumes a value of 1 if the person is currently married and 0 otherwise. This variable taps the extent to which the presence of a spouse (and the incumbent realities of his/her work) restricts access to authority in the work setting owing to restricted geographical mobility and travel for reasons of work.

"Children" is measured by a dummy variable which assumes a value of 1 if the individual has had any live births and 0 otherwise. We dichotomized this variable because it is not the number of children but the presence of a child which might restrict mobility of females.

Sex composition of the individual's occupation is tapped by two dummy variables. "Male occupation" is a dummy variable for whether the individual was in an occupation which is 0 to 14% female; "unlabeled occupation" is a dummy variable for whether the individual was in an occupation which is 15 to 74% female; the category not included is "female occupation" (75 to 100% female). We used the 1970 Census of the Population Subject Report on Occupational Characteristics to determine the percentage female in each 3-digit occupation. There are a variety of ways to operationalize sex-label of occupation. For example, Oppenheimer (1970) considers an occupation disproportionately female when the occupation contains a higher proportion of female workers than the labor market as a whole. For these analyses, we chose to designate highly sex-segregated occupations as male and female occupations and to include an unlabeled category for which sex composition is quite heterogeneous.

Status is the occupational status (Duncan, 1961; Featherman et al., 1974) of the current job.

#### Analytical Technique

In our analyses, we use multiple regression with a dummy dependent variable as well as decomposition techniques. Since the dependent variable is a dichotomy, the estimate of the dependent variable produced by the model can be interpreted as the probability that an individual had that aspect of authority. There are problems using ordinary least squares when the dependent variable is dichotomous (Goldberger, 1964); these can be particularly



problematic when the mean probability does not range between .25 and .75. We chose to use ordinary least squares for two reasons: (1) four of the six dependent variables have mean probabilities within the .25 to .75 range; and (2) other techniques (such as logit, probit, and log-linear) presented other serious problems. One consequence of this decision is artificially low  $R^2$  values.

## RESULTS

Table 1 presents means and standard deviations on all variables in the analysis. From the first three rows, we can see the extent of the gross sex differences in authority. These sex differences are quite large: 28% of male employees have the responsibility to hire and fire others while only 8.8% of the women do. In terms of control over the pay and promotion of others the comparable figures are 37.4% (male) and 14.1% (female). Among the men, 60.7% supervise others, while only 37.8% of the women do. The absolute difference between the male and female means is about the same (.21) on all three dimensions; however, when considering the ratio of the female mean to the male mean, one finds the largest sex differences in hiring and firing and pay and promotion. In short, women have much less authority as employees in firms than men do, regardless of what aspect of authority is considered. We shall not discuss the rest of the table except to say that the means and standard deviations of the explanatory variables are as expected.<sup>6</sup>

Table 2 presents parameter estimates for equations (1) and (2), above. These parameters indicate the "total effects" of human capital factors as

Table 1

Means and Standard Deviations of Variables  
Used in the Analyses

	<u>Males (n = 3359)</u>		<u>Females (n = 2254)</u>		<u>Female Mean Male Mean</u>
	Mean	SD	Mean	SD	
Hire-Fire	.280	.449	.088	.284	.314
Pay-Promote	.374	.484	.141	.348	.377
Supervise	.607	.488	.378	.485	.623
Education	1.90	2.44	1.10	1.89	.579
Experience	.818	.156	.585	.258	.715
Tenure	90.5	60.5	47.5	53.7	.525
Currently Married	.892	.310	.789	.408	.884
Children	.870	.336	.811	.391	.932
Status	50.8	22.8	46.1	20.1	.907
Male Occupation	.633	.482	.062	.241	.098
Unlabeled Occupation	.345	.475	.370	.483	1.07

Table 2

Regression of Three Aspects of Authority on Human Capital and Family Factors, by Sex

	Hire-Fire					Pay-Promote				
	Males		Females		Sex Dif- ference	Males		Females		Sex Dif- ference
	Metric (SE)	Stan- dard- ized	Metric (SE)	Stan- dard- ized		Metric (SE)	Stan- dard- ized	Metric (SE)	Stan- dard- ized	
Education	.039* (.005)	.212*	.014* (.004)	.093*	.025* (.006)	.043* (.005)	.215*	.014* (.004)	.074*	.029* (.007)
Experience	.061 (.075)	.021	.110* (.032)	.100*	-.049 (.078)	-.035 (.080)	-.011	.216* (.039)	.160*	-.251* (.087)
Tenure	-.00028* (.00013)	-.038*	.0004* (.00014)	.075*	-.00068* (.00022)	-.00018 (.00014)	-.022	.00039* (.00017)	.061*	-.00057* (.00024)
Currently Married	.040 (.028)	.028	.018 (.017)	.027	.021 (.034)	.052 (.031)	.033	.026 (.020)	.031	.025 (.038)
Children	.114* (.026)	.085*	-.020 (.020)	-.027	.133* (.036)	.079* (.028)	.054*	.015 (.024)	.017	.064 (.040)
C	.049		-.009		-.177	.230		-.048		-.216
R <sup>2</sup>	.052		.034		.100	.057		.036		.113

\* Significantly different from zero at the .05 level.

Table 2--Continued

	Supervise				
	Males		Females		Sex Dif- ference
	Metric (SE)	Stan- dard- ized	Metric (SE)	Stan- dard- ized	Metric (SE)
Education	.050* (.005)	.248*	.056* (.005)	.219*	-.007 (.007)
Experience	-.021 (.081)	-.007	.298* (.053)	.158*	-.319* (.096)
Tenure	.00012 (.00014)	.015	.0008* (.0002)	.089*	-.00068* (.00027)
Currently Married	-.004 (.031)	-.002	.0009 (.028)	.000	-.004 (.042)
Children	.105* (.028)	.072*	.020 (.035)	.016	.085 (.044)
C	.439		.085		-.587
R <sup>2</sup>	.064		.084		.119

\* Significantly different from zero at the .05 level.

well as the effects of family characteristics on the acquisition of authority in the workplace. As expected, the parameters indicate marked sex differences. Post-high school education is an important mechanism by which both men and women obtain authority, as witnessed by the size and statistical significance of its effects. Men and women obtain quite different authority returns on these investments, at least at higher levels of authority.<sup>7</sup> In terms of gaining access to positions with the responsibility to hire and fire, pay and promote, men receive about three times the return to each year of post-high school education than women do. For example, in the hire and fire equation, a man's probability of being responsible for hiring and firing others increases about 4% for each additional year of post-high school education, whereas the comparable figure for women is 1.5. Similar patterns appear in the pay and promotion equation. Other than the fact that women get less payoff for their schooling, these differences may reflect the divergent fields of study chosen by men and women in post-high school education. For example, one would expect a man who majored in business to have greater access to a position of authority than a woman with a degree in nursing. Sex differences in returns to education do not appear in access to positions with mere supervisory power. Therefore, it appears that the lower the level of authority considered, the more egalitarian is the process of acquiring that level of authority, at least with respect to education.

The effects of experience are essentially similar across all aspects of authority. For men, experience has no effect on authority. There are two possible explanations for this lack of effect. First, the kind of interruptions in employment that could affect men's acquisition of authority

are not necessarily being tapped by our experience measure. Second, there is little variance in this variable for men in our sample and in the population of white, male, high school graduates at large. In other words, males tend to work almost continuously and the only interruptions we measure (for education and military) do not affect their acquisition of authority in the workplace. Experience has substantively important, statistically significant, positive effects on all aspects of authority for women. If a woman had been in the civilian labor market during all months from her high school graduation until the time of interview instead of none, her probability of hiring and firing others would increase by 11%, of having responsibility for pay and promotion would increase by 22%, and of supervising others would increase by 30%. The pattern suggests that experience has its largest effects on the acquisition of lower levels of supervision. Although these effects are quite large, they are not as large as they seem, since a one-unit change in experience is the full range of the variable. The experience effect for women is probably due to the facts that: (1) increased work experience results in increased on-the-job training, which makes an individual more capable of assuming positions of responsibility; and (2) employers consider past employment history as a good indicator of women's current and future commitment to work in the paid labor force.

Tenure with current employer has quite different effects on authority for men and women. For women, tenure has a positive, statistically significant effect on each aspect of authority; these effects are not, however, very large. A five-year increase in time with current employer increases the probability of hiring and firing or determining pay and

promotion by 24%; the comparable increase in the probability of supervising others is 48%. For men, tenure with current employer only has a negative, statistically significant effect on the probability of hiring and firing others; however, the effect is very small: a five-year increase in tenure reduces the probability of hiring and firing by .017. This small negative effect could be caused by two factors: (1) for men, highest level management positions are often filled from outside the firm rather than from within; and (2) the ambiguity of the question used to construct tenure for men who experienced upward occupational mobility and geographical mobility (see note 5). In general, access to positions of authority in economic organizations is minimally affected (if at all) by tenure with current employer for men. However, for females, tenure with current employer has small effects on access to higher-level supervisory positions and somewhat more of an effect on access to lower-level positions of authority. The effects of tenure for women have two possible explanations: (1) women receive higher returns to on-the-job firm-specific training, since higher-level female managers are often produced from within rather than brought from outside (because of a presumed lack of qualified female managers); and (2) employers use length of service as an indicator of a woman's commitment to the employer and the paid labor force.

The two other variables in the reduced-form equations of Table 2 are whether the individual is currently married and whether the individual had any children. It is possible that women are restricted from positions of authority because of their limited geographical mobility and the restrictions on work-related travel arising from the presence of a spouse and/or children. There is no evidence for this, since each of these variables

relating to a woman's family situation lacks substantively important effects on any aspects of authority. Apparently, women's family situations have little implication for their access to positions of authority. However, the presence of children has a persistent, nontrivial, positive effect on each aspect of authority for men. This result is a bit surprising (but see Cramer, 1977). One could argue that this positive effect for men has three possible causes. First, since men with children have additional financial pressures and responsibilities, they may have increased achievement motivation, drive, etc., which increases their likelihood of promotion to positions of authority. Second, it is possible that employers give males with dependents additional compensation in the form of higher earnings or a promotion because they are thought to be more stable workers. Both of these explanations are compatible with Cramer's finding (1977) that having a child positively affects a man's earnings, net of any increase in hours worked.

Table 3 presents a decomposition of the gross sex difference in different aspects of authority into three components: that due to compositional differences on human capital/family factors between the sexes; that due to differential rates of returns on human capital/family factors; and that due to an interaction between composition and rates. The purpose of this table is to indicate the extent to which the restriction of females from positions of authority is due to their inferior qualifications. The extent of the sex difference due to this factor is measured by the component due to composition. This component indicates how much of the sex difference in authority would be alleviated if women had the same amount of education, experience, tenure, and the same family situations as men did



Table 3

Decomposition of the Authority Gap  
Using Only Human Capital/Family Factors

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A. Responsibility to hire and fire others

<u>Component</u>	<u>Gross</u>	<u>%</u>
Total	.192	100.0
Composition	.055	28.6
Rates	.149	77.6
Interaction	-.012	-6.2

B. Responsibility for pay and promotion of others

<u>Component</u>	<u>Gross</u>	<u>%</u>
Total	.233	100.0
Composition	.086	36.9
Rates	.212	91.0
Interaction	-.065	-27.9

C. Responsibility to supervise others

<u>Components</u>	<u>Gross</u>	<u>%</u>
Total	.229	100.0
Composition	.147	64.2
Rates	.192	83.8
Interaction	.110	-48.0

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but still had their own returns on these characteristics. If women were as well qualified as men on these factors, 28.6% of the sex difference in the probability of hiring and firing others would disappear. The comparable figure for the sex difference in control over pay and promotion is 36.9%, and for supervising others it is 64.2%. The percentage of the sex difference in authority due to composition is nontrivial, suggesting that part of the reason that women are excluded from positions of authority is to be found in their inferior qualifications. However, with respect to all three aspects of authority in the workplace, that proportion of the sex difference due to women's inferior qualifications is smaller than that due to differential returns on individual characteristics. Thus, even though the component due to women's inferior qualifications is important, this is not the most significant reason for women's restrictions from positions of authority. Last, the percentage of the sex difference that is due to women's inferior qualifications varies depending on level of authority--the higher the level of authority the smaller the percentage of the sex difference that can be explained by women's qualifications. This implies that if women were equally well qualified on human capital and family factors as men are, women would still have very restricted access to higher-level supervisory positions.

It is necessary to assess the extent to which the component of the sex gap in authority that is due to women's inferior qualifications is over- or underestimated. There are two arguments suggesting that this component is overestimated and one suggesting that it is underestimated. First, because the decompositions are calculated from the reduced-form equations, they produce an upper bound estimation of the importance of

composition on qualifications. This is because we are tapping the total effects of these variables: clearly, some of the effects are mediated by job characteristics. Second, since work experience may be slightly overestimated for men, the component due to composition on human capital/family factors is somewhat overestimated because if there were no measurement error, the mean on experience for men would be lower. The component due to composition could, however, be underestimated, as our measure of education does not tap the differences in the major areas in which men and women receive training. That is, part of the large differences in the effects of education on authority for men and women may be due to the fact that men (more than women) may choose college majors which increase their access to positions of authority. If measures of majors were included, the rate differences between men and women for years of schooling could decrease, and the composition differences in college majors could explain more of the authority gap between men and women.

The second half of our analyses allows us to assess the extent to which sex differences in authority are caused by women's and employers' attitudes and behaviors. Table 4 presents parameter estimates from equations predicting authority in the workplace where the independent variables are not only human capital/family factors but also certain characteristics of jobs. In our discussion of this table, we shall consider the two aspects of authority which represent upper-level supervisory responsibilities together, since patterns of effects are similar across these two aspects. Our discussion of these equations centers on two main issues: (1) the extent to which the exogenous variables are mediated by the characteristics of jobs; and (2) the differential effects of job positions.

Table 4

Regressions of Three Aspects of Authority on Human Capital/Family Factors  
and Job Position Variables by Sex

	Hire-Fire					Pay-Promote				
	Males		Females		Sex dif- ference	Males		Females		Sex dif- ference
	Metric (SE)	Stan- dard- ized	Metric (SE)	Stan- dard- ized		Metric (SE)	Stan- dard- ized	Metric (SE)	Stan- dard- ized	
Education	.012* (.005)	.065*	.00038 (.0038)	.003	.012 (.007)	.015* (.005)	.078*	-.002 (.005)	-.010	.017* (.008)
Experience	.115 (.072)	.040	.085* (.031)	.078*	.029 (.076)	.021 (.077)	.007	.188* (.039)	.140*	-.167* (.084)
Tenure	-.0002 (.00013)	-.027	.0003* (.00013)	.057*	-.0005* (.0002)	-.00009 (.00014)	-.011	.0003 (.00016)	.045	-.0004 (.00024)
Currently Married	.024 (.027)	.017	.021 (.016)	.031	.003 (.033)	.035 (.030)	.023	.828 (.821)	.033	.007 (.037)
Children	.095* (.025)	.071*	-.021 (.020)	-.029	.116* (.034)	.059* (.027)	.041*	.011 (.025)	.013	.048 (.039)
Status	.006* (.0004)	.310*	.002* (.0003)	.159*	.004* (.0005)	.006* (.0004)	.291*	.003* (.0004)	.156*	.0034* (.0006)
Male	.189* (.051)	.202*	.156* (.024)	.133*	.032 (.055)	.240* (.055)	.239*	.104* (.030)	.072*	.136* (.062)
Unlabeled	.137* (.051)	.145*	.057* (.012)	.096*	.080 (.048)	.193* (.055)	.190*	.038* (.015)	.053*	.155* (.053)
C	-.399		-.110		-.074	-.284		-.158		-.110
R <sup>2</sup>	.122		.072		.160	.120		.060		.163

\*Significantly different from zero at .05 level.

Table 4--Continued

	Supervise				Sex dif- ference Metric (SE)
	Males		Females		
	Metric (SE)	Stan- dard- ized	Metric (SE)	Stan- dard- ized	
Education	.018* (.005)	.089*	.034* (.006)	.131*	-.016 (.0083)
Experience	.040 (.077)	.013	.255* (.052)	.135*	-.215* (.093)
Tenure	.00022 (.00014)	.027	.0007* (.0002)	.073*	-.00044 (.00026)
Currently Married	-.023 (.029)	-.015	-.0009 (.027)	-.0007	-.022 (.040)
Children	.085* (.027)	.058*	.010 (.033)	.008	.075 (.043)
Status	.007* (.0004)	.332*	.004* (.0005)	.175*	.003* (.0007)
Male	.092 (.054)	.091	.064 (.041)	.031	.028 (.068)
Unlabeled	.019 (.055)	.018	-.005 (.021)	-.005	.024 (.059)
C	-.045		-.041		-.012
R <sup>2</sup>	.144		.108		.173

\* Significantly different from zero at .05 level.

In the equation predicting an individual's probability of hiring and firing or having control over pay and promotion, we find marked sex differences with the addition of job characteristics. Education has a statistically significant effect for men but not for women; about 70% of the effect of post-high school education is mediated by job characteristics for men while all of the effect of education is mediated by these characteristics for women. This means that education is important in women's access to positions which involve high-level supervision only because it helps to place them in jobs that have higher likelihoods of having these responsibilities. For men, however, post-high school education is not only important because it helps locate them in certain jobs that have high probabilities of having authority, but also because, net of job characteristics, men's educational credentials give them access to additional authority in the workplace. The effects of experience and tenure for females are only partially mediated (15 to 25%) by job characteristics; that is, net of the occupational status and sex-label of the job held, experience and tenure have in three out of four cases positive, small, but statistically significant effects on the probability of having high amounts of authority. The fact that these effects persist suggests that regardless of position, additional experience and the implication of higher career commitment increase a female's probability of assuming positions with a higher level of authority.

In terms of access to positions involving high levels of supervision, the job characteristics included in the model have more pronounced influence on men than on women. A 10-point increase in occupational status produces an increase in the probability of hiring and firing or paying and promoting of 6% for men. For women, the comparable result from a 10-point

increase is 2% for the probability of hiring and firing and 3% for the probability of control over pay and promotion. Thus, in general, being in a higher-status position increases a person's probability of assuming considerable control over the work of others. However, for each additional increment in status, the authority returns are two to three times larger for men than for women. This implies that, for men, being in a high-status position often goes hand in hand with being in a position of authority, whereas for women, this is much less likely to be so. Of course, one could argue that this results from the fact that status measures different things for men and women. For evidence that this is not the case, see Bose (1973).

We can also discern a general pattern of the effects of sex-typing of occupations on access to high levels of supervision. For both males and females, being in a male-labeled job (relative to a female one) and to a lesser extent being in an unlabeled job (relative to a female one) greatly increases an individual's access to positions of authority. These effects are quite large. For example, for males, being in a male occupation increases the probability of hiring and firing by 18.9%; the comparable figure for an unlabeled occupation is 13.7%. The effects of sex label of job held are smaller for females; however, the sex differences are only statistically significant in the pay and promotion equation. These powerful effects of sex-label of occupation suggest that the concentration of females in female-labeled jobs is an important factor restricting females from positions of authority.

The difference in the processes by which the sexes gain access to positions with mere supervisory power follows the same general pattern

as was found in the other two aspects of authority; we shall just highlight the main differences. First, 60% of the effect of education on the probability of supervising is unmediated by the characteristics of job position included in this model for women, whereas only 36% of the effect for men is unmediated. While the sex differences in the effect of occupational status are still large, they are not as large as they were in the case of higher levels of supervision. These two differences suggest that access to mere supervisory power is a bit more egalitarian than access to higher-level supervisory positions. Sex-typing of occupation has no effect on the probability of supervising for either sex. Thus, the fact that women are highly concentrated in female jobs is not a good explanation for sex differences in supervision. Furthermore, these differences across dimensions of authority exemplify the necessity of inspecting each aspect separately.

Table 5 presents a decomposition of sex differences in different aspects of authority within economic organizations. Appendix 1 describes how these calculations were done. As earlier stated, this particular decomposition allows us to assess the relative importance of the attitudes and behavior of women and employers for the restriction of females from positions of authority. The component of the sex difference due to all aspects of human capital/family factors is not of much interest in this respect. It is only of interest to note that in models where certain characteristics of jobs, as well as human capital/family factors, are held constant, the amount of the sex difference due to human capital/family factors is much smaller than that due to characteristics of job positions. This merely indicates that the effects of exogenous variables are mediated



Table 5

## Decomposition of the Authority Gap Using Human Capital/Family Factors and Job Characteristics

	Hire-Fire		Pay-Promote		Supervise	
	Gross	%	Gross	%	Gross	%
Total (A)	.192	100	.233	100	.229	100
Human Capital/Family Factors						
Total (B)	.128	66.67	-.020	-8.58	-.092	-40.17
Composition (C)	.023	11.98	.072	30.90	.112	48.91
Rates (D)	.092	47.92	-.040	-17.17	-.127	-50.46
Interaction (E)	.013	6.77	-.052	-22.32	-.077	-33.62
Job Characteristics						
Total (F)	.338	176.04	.376	161.37	.228	99.56
Composition (G)	.086	44.79	.085	36.48	.050	21.80
Rates (H)	.205	106.77	.217	93.13	.143	62.40
Interaction (I)	.047	24.48	.074	31.75	.035	15.35
Interaction (J)	-.274	-142.71	-.123	-52.79	.093	40.60

through characteristics of job positions. In all instances, the component due to composition on human capital/family factors is always positive, since males have higher mean levels on these exogenous variables than females. The negative rates component of human capital/family factors arises when more of the effects of exogenous variables are mediated by job positions for men than for women.

As discussed earlier, the decomposition of the influence of job characteristics allows us to ascertain the extent to which women's and employers' attitudes and behaviors affect the restriction of women from positions of authority. That component due to composition on job factors could result from either women's or employers' attitudes and behaviors. This is because women who are inhibited about taking positions of authority may choose job positions with little opportunity of obtaining authority. At the same time employers may direct women toward such job positions. The amount of the difference due to rates on job characteristics, on the other hand, is due almost entirely to the attitudes and behaviors of employers. If men get different amounts of authority than women do for being in a high-status occupation, holding constant human capital/family factors and sex-label of job held, then these differences must be due to the fact that employers are treating men and women disparately. In Table 5 we note that the component due to the differences in composition on characteristics of jobs is nontrivial.

This suggests that if women had the same mean occupational status and the same distribution on sex-label of occupation as men, 22 to 40% of the sex difference would disappear. The job characteristics rates components are positive and quite large, suggesting that most of the sex difference in

authority could be alleviated if women received the same authority returns to their job characteristics as men did. The component due to differential effects of job position factors is much larger (2 to 3 times) than that due to composition on these factors. Although this is not a unique decomposition, it implies that the attitudes and behavior of employers are a much more important explanation of the sex differences in authority than are the attitudes and behavior of women. One could argue that the rates component is due in part to women's attitudes and behaviors, in that women might get into positions of high status and income and yet not want to exercise the authority incumbent in such positions. The major implication of this is that some part of the job characteristics rates component may not be the result of the employer's attitudes and behaviors. We argue that this part is probably minimal, since women who are inhibited about assuming positions of authority would not select positions which have a high likelihood of controlling the work of others.

#### CONCLUSIONS

There are two interrelated sets of conclusions that can be drawn from our analyses. The first relates to the way men and women attain positions of authority in the workplace and the second concerns the extent to which sexual inequality in authority in the workplace is generated by the three potential explanations. Men are more likely to hire and fire, pay and promote, and supervise than women. The differential process of acquiring authority is quite complex, at least with respect to human capital/family factors. Men receive higher returns on certain human capital factors while

women receive higher returns on others. With respect to job characteristics, it is clear that men get more authority for similar levels of occupational status and sex labeling of job held than women. Further, the process of acquiring mere supervisory power is more egalitarian between the sexes than is the acquisition of higher levels of authority.

Our decompositions allowed us to ascertain the extent to which our three factors can explain the sex gap in authority. The amount of the sex gap that is due to women's qualifications is nontrivial, but is, in all cases, less important than the attitudes and behaviors of employers and women. While the subsequent decompositions do not allow us uniquely to identify the proportion of the authority gap that is due to women's and employers' attitudes and behaviors, our results suggest that the attitudes and behaviors of employers are much more important in the restriction of females from positions of authority. It should be realized that this is a first attempt to explore the sex differences in authority in the workplace. Clearly, a study of a large firm that obtained data on employers' and women's attitudes and behaviors would be a relevant step in furthering our knowledge in this area.

The implications of these results suggest certain policy recommendations in order to attempt to attain parity between men and women in the distribution of authority in economic organizations. Women should clearly be encouraged to improve their qualifications, but this is not enough to alleviate the sex gap in authority in the workplace. More important, steps must be taken to alter the attitudes and behaviors of employers before women can reach parity with men in this respect.

## APPENDIX 1: Calculation of Decomposition for Table 5

Given that:

$$\bar{A}_M = a_M + \sum_{i=1}^5 (b_{i(HM)} \bar{X}_{i(HM)}) + \sum_{j=1}^3 (b_{j(JM)} \bar{X}_{j(JM)}) \quad (1)$$

$$\bar{A}_F = a_F + \sum_{i=1}^5 (b_{i(HF)} \bar{X}_{i(HF)}) + \sum_{j=1}^3 (b_{j(JF)} \bar{X}_{j(JF)}) \quad (2)$$

where  $\bar{A}_M$  and  $\bar{A}_F$  are the means on authority for males and females;  $a_M$  and  $a_F$  are the intercepts for males and females;  $b_{i(HM)}$  and  $b_{i(HF)}$  are the parameter estimates (metric) for the effects of the human capital/family factors on authority for males and females;  $\bar{X}_{i(HM)}$  and  $\bar{X}_{i(HF)}$  are the means of the human capital/family factors for males and females;  $b_{j(JM)}$  and  $b_{j(JF)}$  are the parameter estimates (metric) for the effects of characteristics of jobs on authority for males and females; and  $\bar{X}_{j(JM)}$  and  $\bar{X}_{j(JF)}$  are the means of the characteristics of jobs for men and women.

The total difference to be composed (A) is:

$$\bar{A}_M - \bar{A}_F \quad (3)$$

The human capital/family total component (B) is:

$$(a_F + \sum_{i=1}^5 (b_{i(HM)} \bar{X}_{i(HM)}) + \sum_{j=1}^3 (b_{j(JF)} \bar{X}_{j(JF)})) - \bar{A}_F. \quad (4)$$

The human capital/family composition component (C) is:

$$(a_F + \sum_{i=1}^5 (b_{i(HF)} \bar{X}_{i(HM)}) + \sum_{j=1}^3 (b_{j(JF)} \bar{X}_{j(JF)})) - \bar{A}_F. \quad (5)$$

The human capital/family rate component (D) is:

$$(a_F + \sum_{i=1}^5 (b_{i(HM)} \bar{X}_{i(HF)}) + \sum_{j=1}^3 (b_{j(JF)} \bar{X}_{j(JF)})) - \bar{A}_F. \quad (6)$$

The human capital/family interaction component (E) is:

$$B - (C + D) \quad (7)$$

The job characteristics total component (F) is:

$$(a_F + \sum_{i=1}^5 (b_{i(HF)} \bar{X}_{i(HF)}) + \sum_{j=1}^3 (b_{j(JM)} \bar{X}_{j(JM)}) - \bar{A}_F) \quad (8)$$

The job characteristics composition component (G) is:

$$(a_F + \sum_{i=1}^5 (b_{i(HF)} \bar{X}_{i(HF)}) + \sum_{j=1}^3 (b_{j(JF)} \bar{X}_{j(JF)}) - \bar{A}_F) \quad (9)$$

The job characteristics rate component (H) is:

$$(a_F + \sum_{i=1}^5 (b_{i(HF)} \bar{X}_{i(HF)}) + \sum_{j=1}^3 (b_{j(JM)} \bar{X}_{j(JF)}) - \bar{A}_F) \quad (10)$$

The job characteristics interaction component is:

$$F - (G + H) \quad (11)$$

The overall interaction component is:

$$A - (B + F) \quad (12)$$

It should be obvious that whether one considers the intercept as part of the rates of human capital/family factors or characteristics of jobs is a totally arbitrary choice. Since there were dummy variables in each set of variables, the intercept is the amount of authority a not currently married, childless individual in a female occupation has. Since the choice of rate seemed arbitrary, the intercept difference is, by default, included in the Total Interaction term.

## NOTES

<sup>1</sup>Although most job titles that are in the major group "managers and administrators except farm" do involve control of others, a small number of titles do not. Some examples of this latter group are: railroad conductor, juror, bookmaker.

<sup>2</sup>It is also possible that the process of acquiring authority in the workplace differs for currently employed and those who are not currently employed but had worked in the last five years. In short, we may have a censoring problem (see Heckman, 1974, and Fligstein and Wolf, 1978, for discussion of this problem). It is reasonable to argue, however, that if those not currently employed but employed within the last five years were included, the parameters for the sexes would be more divergent than they are in our current analysis.

<sup>3</sup>Although these three variables form a Guttman scale, one could not assume that the scale was an interval one. Scales derived from factor analysis were problematic because of the interpretation of standardized and metric coefficients. Interpreting metric coefficients is problematic since a one-unit change in the dependent variable has little intuitive meaning. Similar kinds of problems arise with the interpretation of standardized coefficients, especially when comparing across populations (i.e., the sexes).

<sup>4</sup>The intervals were (depending on the number of live births): marriage to first birth, first birth to second birth, second birth to third birth, third birth to fourth birth, next to last to last birth (if more than four own children). We also have information on the interval end of last period

to time of interview, where end of last period was marriage for those with no children, and the last live birth for those with children.

<sup>5</sup>The tenure question harbors some ambiguities. The question is "In what month or year did you start working there?" It appeared directly following a question concerning the name and place where he/she worked. The problem is that the word "there" lacks a referent. That is, it is unclear whether it refers to a geographical location or a parent firm. This ambiguity is not problematic for females, as their geographic mobility is restricted by their families and is therefore unlikely to occur. For men, upward occupational mobility is often accompanied by geographic mobility from one establishment to another within a parent firm. If some men conceive of "there" as referring to local establishment, it is possible that time "there" (tenure) would be negatively related to positions of high authority, and tenure at firm may be underestimated. It is hard to judge the extent of this problem. However, it is reassuring to note that men's tenure levels are much higher than females'. Further, this ambiguity may only arise for a small number of men.

<sup>6</sup>The sex differences in education are larger than are obtained from national cross-sectional samples (Treiman and Terrell, 1975; McClendon, 1976; Featherman and Hauser, 1976). This results from the fact that our sample includes only high school graduates. Women are more likely to finish high school but are less likely to complete each subsequent year (Folger and Nam, 1967).

<sup>7</sup>By higher levels of authority, we mean ability to hire, fire, pay and promote. We discuss these together as these two equations appear remarkably similar for each sex. Clearly, our measures do not tap the "highest" levels of authority--the ability to make decisions concerning the creation and discontinuation of actual positions.



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