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ABSTRACT

Recruitment and reward patterns of college faculty in 1969 were analyzed, and implications of the findings for segmented labor market research and for the analysis of stratification systems in science are discussed. Data from a 1969 Faculty Survey of the Carnegie Commission on Higher Education provided a sample of 77 universities for the recruitment equity analysis and 73 universities for the reward equity analysis. The data were weighted to make them more representative of U.S. universities in 1969. After controlling for differences in qualifications and performance, it was found that almost all universities exhibited inequity toward female faculty in the recruitment, rank, and salary attainment processes; but, in most cases, female faculty were not disadvantaged in the tenure process. On all equity dimensions, however, there were sizeable variations in the patterns exhibited. The extent of organizational equity in recruitment, rank, tenure, and salary were found to be largely unrelated to one another. It is suggested that organizational sex discrimination be treated as a multi-dimensional phenomenon, since no consistent relationships were found between the personnel recruitment and reward process regarding equity. (SW)

COMPARING THE RECRUITMENT AND REWARD EQUITY OF ORGANIZATIONS: U.S. UNIVERSITIES BEFORE AFFIRMATIVE ACTION*

by

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COMPARING THE RECRUITMENT AND REWARD EQUITY OF ORGANIZATIONS: U.S. UNIVERSITIES BEFORE AFFIRMATIVE ACTION

Do the personnel equity patterns of organizations within a single industry show substantial variance? What statistical relationship exists among the various dimensions of equity in organizations? To answer these questions, a method for measuring and comparing the objective equity of organizations in recruiting and rewarding personnel is presented. After controlling for differences in qualifications and performance, inequities in recruitment, rank, tenure, and salary between female and male faculty in the late 1960s are systematically measured at each of 79 universities.

Almost all universities exhibited inequity toward female faculty in the recruitment, rank, and salary attainment processes; but, in most cases, female faculty were not disadvantaged in the tenure process. On all equity dimensions, however, there was sizeable variation in the patterns exhibited. The extent of organizational equity in recruitment, rank, tenure, and salary were found to be largely unrelated to one another. The implications of this work for segmented labor market research and for the analysis of stratification systems in science are discussed.

THEORETICAL BACKGROUND

For labor market research, this analysis serves two purposes. Much of the early work on segmented labor market structures discussed the organization as the appropriate unit of analysis and presented arguments about the operation of differential labor market structures in terms of individual firms (Averitt; Doeringer and Piore). For both methodological and theoretical reasons, however, segmented labor market research has rarely been conducted at the firm level (Zucker and Rosenstein: 870). The first function this research serves is to

examine the variability which exists among organizations, even after holding industry and occupation constant, in their recruitment and reward patterns.

The second function this comparative organizational research provides is to note the correlation between the extent of equity exhibited in one part of an organization's personnel process (for example, recruitment) and the extent of equity exhibited in other parts of the process (for example, promotion or pay). In one of the few studies to directly address this question, Cassell et al. found little relationship between recruitment, promotion, and wage discrimination in a sample of three firms. The present study will examine this question using a considerably larger sample of organizations.

The analysis also has relevance to the study of stratification systems in science. The debate over the relative importance of ascriptive characteristics in the recruitment and reward of faculty in institutions of higher education has been both extensive and contradictory. Case studies of institutions as well as national samples of individual academics report either significant discrimination (for example, Astin and Bayer) or the absence of bias (for example, Cole). Because organizations are the mechanisms through which individuals are or are not rewarded for performance, and because it is unlikely that all organizations exhibit similar recruitment and reward patterns, a comparative organizational research design could provide needed clarity in this field. The present research suggests a way to move the field away from the current inhibiting question of "Equity or inequity?" to the more productive questions of "Under what conditions equity, and under what conditions inequity?"

EQUITY AS AN ORGANIZATIONAL CONCEPT

In this research, equity is an objective condition, not dependent on the perceptions of the participants; and it is defined in terms of a comparison between groups. In this paper, the comparison groups are women and men. The

measurement of an organization's equity is based on the the following formula:

$$\text{equity} = \frac{\text{actual recruitment or reward level}}{\text{expected recruitment or reward level}} \times 100.$$

It is the actual recruitment or reward level of women within the organization expressed as a ratio of their expected recruitment or reward level under conditions of perfect equity. Their 'expected recruitment level under conditions of perfect equity' is based on their proportion in the labor pools from which the organization recently made recruitment selections. Their 'expected reward level under conditions of perfect equity' is based on the reward level of comparably qualified males within the same organization. Scores of exactly 100 indicate exact equity; scores below 100 indicate female disadvantage; and scores above 100 indicate female advantage.

From an individual perspective, the estimates of discrimination reported in the paper are conservative ones. The measures indicate how organizational decision making at several distinct points differentially responds to identical qualifications held by women and by men. The study does not examine the process by which such qualifications are obtained; nor does it reflect the cumulative disadvantage experienced by a person as she moves through the entire process.

DATA

For the present study, data from the "Carnegie Commission on Higher Education -- Faculty Survey" conducted in 1969 were used. From the rosters of each of the 79 universities in their organizational sample, the Carnegie researchers drew a six-in-seven random sample of faculty to receive a mailed questionnaire. A response rate of 60 percent was achieved with no discernible response bias (Trow et al.). Limiting the sample to full-time university faculty results in an individual sample of 31,830 respondents, 10.5 percent of whom are female. Because private universities and high quality universities

were overrepresented in the Carnegie organizational sample, all statistics presented in this paper which describe the organizational sample are weighted to make them more representative of the population of U.S. universities in 1969.

The sample of an organization's members must be sufficiently large to provide reliable and valid indicators of organizational equity. No school with less than 50 recently hired (first hired by their current university employer between 1962 and 1968) full-time respondents was included in the analysis of recruitment equity. Two schools dropped out of the recruitment equity analysis because of this requirement. No school with less than 90 full-time male faculty respondents or with less than 10 full-time female faculty respondents was included in the analysis of reward (rank, tenure, and salary) equity. Six universities dropped out of this part of the analysis because of this requirement. For the remaining universities in the analysis, the average case bases on which the equity scores are computed are quite large. For the 77 universities in the recruitment equity analysis, the average number of recently-hired full-time faculty respondents is 210. For the 73 universities in the reward equity analysis, the average number of full-time male faculty respondents is 375; and the average number of full-time female faculty respondents is 46.

The three reward measures were coded in the following way. Rank was coded: instructor (1), assistant (2), associate (3), and full professor (4). Tenure was coded: not tenured (0) and tenured (1). The original questionnaire asked respondents to report their current salary by indicating one of nine intervals. For this study, that information was coded in $1000 units using the midpoints (or reasonable estimates) of the original intervals.

MEASURING EQUITY IN ORGANIZATIONS

Straight-forward comparisons of the proportion of women hired to the proportion of men hired or of the average female salary to the average male

salary are inadequate indicators of an organization's equity. Such gross comparisons of differences ignore the possibility of relevant differences in availability, qualifications, and performance between the comparison groups. The problem faced by the researcher is the determination of what are bona fide occupational qualifications and performance measures.

Recruitment Equity

It was assumed that university faculty were recruited from national labor pools which were defined in terms of academic area, degree level, and years of experience since highest degree. The procedure for determining the expected level of female recruitment at a university consists of three steps. First, for each recently hired faculty respondent, the labor pool from which he or she was selected is identified. This is done in a 'post hoc' manner based on the respondent's highest degree, academic area, and current rank. (For computational ease, rank was used as a proxy for years of experience since receiving the highest degree. Based on preliminary analysis, instructors and assistant professors were assumed to have been selected from labor pools whose sex composition was similar to those of degree recipients from 1964 through 1966; associate professors from labor pools similar to those from 1960 through 1962; and full professors from labor pools similar to those from 1953 through 1955.) The labor pool is thus defined as persons receiving a similar degree in the same field at approximately the same time as the respondent. Second, the proportion of the labor pool which was female is recorded for each hiring decision made by the university. Information about the sex composition of U.S. degree recipients broken down by degree level, academic area, and year is available in Adkins. Third, the proportion of the labor pool which was female is averaged across all hiring decisions made by the university. This average represents the expected level of female recruitment by the university.

Table 1 presents statistics about the expected levels of female faculty recruitment at the universities. Depending on the academic areas, degree levels, and ranks for which the universities were recruiting faculty from 1962 through 1968, the expected percent of female faculty hired for these 77 universities ranges from 9 to 24 percent and averaged 16 percent. In comparison, the percent of female full-time faculty in fact hired by the universities ranged from 2 to 24 percent and averaged 11 percent.

(Table 1 about here)

An organization's recruitment equity score is the ratio of actual female recruitment to expected female recruitment multiplied by 100. The average organizational equity score for recruitment for the 77 universities was 72. This means that the average university hired just 72 percent as many full-time female faculty as expected based on the academic areas, degree levels, and ranks in which it was hiring. This mean tells just part of the story, however. Considerable variation exists among the universities in the extent of recruitment equity. The score ranges from 15 for the university with the lowest recruitment equity to 140 for the highest.

Most universities hire substantially fewer full-time female faculty than expected. Such recruitment inequity necessarily occupies a primary place in any discussion of employment discrimination since admission to the organization must first occur before considerations of equity in reward processes become relevant. Nevertheless, it must be stressed that not all universities exhibited similar recruitment patterns. Fifteen percent of the universities in the U.S. in 1969 were hiring full-time female faculty at or above expected levels while fifteen percent were hiring less than half the expected number of female faculty.

Reward Equity

The bona fide occupational qualifications and performance measures which were taken into account before assessing organizational equity in awarding rank, tenure, and salary are listed in table 2. They were selected on the basis of a review of the literature in this area (for example, Astin and Bayer). For each of the 73 universities in this part of the analysis, each reward dimension (rank, tenure, and salary) is regressed on bona fide credentials and performance measures using only male respondents. Thus, three regression equations reflecting the male reward-attainment processes are estimated for each university. An examination of the average variance accounted for by these models indicate they summarize the male reward attainment process quite well: 65 percent for rank, 54 percent for tenure, and 69 percent for salary. Years of college teaching and article production are the major predictors of rank. Rank and years of college teaching experience are the major predictors of tenure. Rank, academic-year vs full-year contract, an appointment in medicine or law, and departmental administrative experience are the major predictors of salary.

(Table 2 about here)

If female qualifications and outputs were converted into rewards in a manner identical to that observed for men at each university, a reasonable prediction of the average rank, proportion tenured, and average salary for female faculty at the institution should be obtained by applying the regression coefficients of the male models to the mean levels of credentials and performance measures possessed by the female faculty. Computing expected levels of female rewards in this manner, the average university's female faculty should have an average rank slightly better than mid-way between assistant and associate professor, should be 42 percent tenured, and should have an average annual salary of about $12,400 (see table 1). The average university's female faculty in fact had an average

rank just one-fourth of the way between assistant and associate professor, were 44 percent tenured, and had an average salary of about $11,300.

The last rows of table 1 provide information on the organizational equity in reward measures. At the average U.S. university in 1969, female faculty were receiving approximately 89 percent of the rank one would have expected based on their credentials, performance outputs, and the manner in which credentials and outputs are converted into rank for men. This organizational measure ranged from 74 for the university with the lowest rank equity score to 102 for the highest. Just one university recorded an organizational rank equity score of 100 or more. Among the dimensions of organizational reward equity, rank inequity as a source of discrimination occupies a position of major importance. Recall that rank is the principal predictor of tenure and of salary in the male attainment models. The individual disadvantaged in the pursuit of rank will feel the consequences of that discrimination in less probability of tenure/aand less earnings.

At the average U.S. university in 1969, female faculty were receiving approximately 105 percent of the tenure one would have expected based on their credentials (including rank), performance outputs, and the manner in which credentials and outputs were converted into tenure for men. At most universities, female faculty actually do slightly better than comparably qualified and ranked men when it comes to receiving tenure. This tenure "bonus" may represent some organizational compensation for the reluctance to grant higher rank. If so, it is a limited bonus since it has no carry over to the third reward dimension of salary. The average net effect of tenure on salary is negligible. Another explanation of this favorable tenure situation for women is that it represents an understandable effort on the part of an organization to keep a part of its faculty which generally works for less rank and salary by granting them job security. While the average university extended tenure quite

equitably to women, the pattern varied considerably among universities. Organizational tenure equity scores ranged from 38 to 163. Neither of the other reward equity measures exhibits this much variation.

At the average U.S. university in 1969, female faculty were receiving approximately 92 percent of the salary one would have expected based on their credentials (including rank and tenure), performance outputs, and the manner in which credentials and outputs were converted into salary for men. On an average, universities were paying their female faculty more than $1000 less per person than comparably qualified male faculty. If rank and tenure were allocated equitably, this would increase the expected salaries at most schools thereby widening the gap in earnings even further. The organizational salary equity scores range from a low of 76 to a high of 108 with three schools receiving equity scores of 100 or above.

Intercorrelations Among Equity Measures

Table 3 presents the zero-order correlations among the four organizational equity measures. It is apparent that organizational equity is a multi-dimensional phenomenon. Knowledge about the extent of equity in one personnel decision making area provides little indication of the extent of equity in another area. There are no strong parallels where high levels of equity on one dimension are associated with high levels on another dimension nor are there strong trade-offs where high levels of one type of equity are associated with low levels on some other type. The correlations among the four measures are all quite small. The stongest association is just barely significant at the .05 level. That correlation between rank and salary equity suggests that universities which award rank more equitably may have a tendency to be less equitable in awarding salary and that those which are less equitable in terms of rank may compensate somewhat with greater equity in salary. The magnitude of

this trade-off should not be overestimated, however. The absence of strong correlations indicates that the equity levels associated with different aspects of an organization's personnel process may each be a function of a distinctly different set of causal factors.

(Table 3 about here)

DISCUSSION

Do the personnel equity patterns of organizations within a single industry show substantial variation? Substantial variation was found in this case. The present study documents the variety of university recruitment and reward patterns which exist in academia. A mere handful of women and men face the 'typical' situation. Most experience some, often sizable, variation of these typical patterns. One might have argued that even if most industries did indeed exhibit heterogeneous personnel practices, universities might be an exception because of the attention given to universalistic standards in academic employment and because of the operation of a relatively national labor market with high levels of geographic mobility. Based on these results, one might expect even greater variability by organizations in areas in which universalistic recruitment and reward criteria are less emphasized and labor markets are more geographically limited.

What statistical relationship exists among the various dimensions of organizational equity? No strong relationships among these dimensions were found. Only a moderate negative relationship between promotion and salary equity was evidenced. In general, knowing how equitably decisions are made at one point in the decision making process provides little information about the equity of the process at other points. No consistent relationships between the parts of the personnel recruitment and reward process in academia in terms of equity were found. Organizational sex discrimination, therefore, should be

treated as a multi-dimensional phenomenon.

The procedure outlined and demonstrated here should lead to additional research of at least three types. First, the measurement and documentation of variation among organizations in the extent of recruitment and reward equity should lead to attempts to account for why different organizations exhibit more or less discrimination. The relative impact of other organizational characteristics such as size, formalization, membership sex ratio, and dependence on federal funds on organizational equity can now be assessed. Second, the present demonstration studied equity in universities before the advent of affirmative action efforts. Attempts should now be made to measure organizational equity in these same institutions following more than ten years of affirmative action efforts. With organizational measures of equity levels at two points in time, it becomes possible to speak of the relative effectiveness of different types of affirmative action structures and interventions. Third, the procedure is intended to be sufficiently general to be adapted to other types of occupational groups and organizations. The two-stage sampling design and extensive data collection are costly in terms of time and resources required; but the evidence seems clear. Employing firms constitute one of the important structures that segment the labor market and attention must be given to their operation and impact. Assumptions about the uniformity of organizational operation within industrial or occupational categories are not acceptable.

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TABLE 1

DESCRIPTIVE STATISTICS FOR

EXPECTED, ACTUAL, AND EQUITY LEVELS

OF ORGANIZATIONAL RECRUITMENT AND REWARD

	Recruitment	Rank	Tenure	Salary
Expected level				
mean	15.62	2.54	0.42	12.35
stan. dev.	2.95	0.26	0.12	1.69
minimum	8.76	1.86	0.13	9.04
maximum	23.64	3.21	0.71	16.87
Actual level				
mean	11.44	2.26	0.44	11.33
stan. dev.	4.44	0.27	0.12	1.48
minimum	1.53	1.56	0.10	8.81
maximum	23.91	3.00	0.71	15.49
Equity level				
mean	72.06	88.96	105.46	91.94
stan. dev.	22.49	4.71	19.56	5.42
minimum	15.40	73.50	38.45	75.75
maximum	139.49	101.57	162.65	108.17

TABLE 2

BONA FIDE OCCUPATIONAL PERFORMANCE MEASURES

Factors Taken Into Account
Before Predicting:

Rank

- highest degree attained by an individual
- years of college teaching experience
- number of articles published
- number of books published
- service as a departmental chairperson

Tenure

- academic rank
- highest degree attained by an individual
- years of college teaching experience
- number of articles published
- number of books published

Salary

- tenure
- academic rank
- nine/ten or eleven/twelve month contract
- academic field of appointment
- highest degree attained by an individual
- years of college teaching experience
- number of articles published
- number of books published
- service as a departmental chairperson

TABLE 3

ZERO-ORDER CORRELATIONS AMONG EQUITY MEASURES

	Recruitment Equity	Rank Equity	Tenure Equity	Salary Equity
Recruitment Equity	----			
Rank Equity	.09	----		
Tenure Equity	-.20	-.06	----	
Salary Equity	.17	-.23*	.04	----

* Significant at .05 level.