

## MEASURING THE SOCIOECONOMIC STATUS OF OCCUPATIONS

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During the past 10 years a great deal of systematic sociological analysis has been based on the socioeconomic index (SEI) developed by O.D. Duncan and his associates (Duncan, 1961). This index is a simple function of the income and education distributions within an occupational category and as such can be computed from available census data for relatively narrow occupational classifications. Replacing earlier scales of socioeconomic status which were based on attributes which were either very difficult to measure or which reflected ad hoc decisions of an individual researcher, the SEI has enabled sociologists to cumulate knowledge of occupational attainment and mobility from one study to another.

Duncan's SEI was calculated from the distribution of income and education of males in each detailed census category in 1950. The specific equation adds together .59 times the percentage of men with at least four years of high school (Blau and Duncan, 1968: 125). (There is also a constant added, which is irrelevant to our discussion.) The SEI was validated and the coefficients mentioned above determined by regressing occupational prestige measured in studies conducted by the National Opinion Research Center (NORC) on the two predictor variables. The NORC scores were available only for a limited number of occupations, and Blau and Duncan report an  $R^2$  of .83 using data on 45 occupations.

The NORC scale is based on responses of the public-at-large to questions such as: "Which statement on this card best gives YOUR OWN OPINION OF THE GENERAL STANDING OF A RAILROAD BRAKEMEN? What number on that card would you pick out for him?" (Reiss, et.al., 1961, Appendix A, their caps). The instructions clearly refer to men. To eliminate any remaining chance that the index could be applied to women, the designers of the NORC study deliberately left out "women's occupations":

To keep the number of occupations within the practical limits of the NORC study, this original list of 100 occupations was reduced to 78, primarily by eliminating "women's occupations", such as private secretary, dress maker, trained nurse, and domestic workers, and others thought to be already covered by the continuum. Parenthetically, it might be noted that some of these deletions in the interest of practicality

appear to have impaired the "representativeness of the list."  
(Reiss, 1961:5)

Nevertheless these indices have been used to study the occupational status and mobility of women, and to draw conclusions about the relative status of men and women, and of men's and women's occupations (Treiman and Terrell, 1975; McClendon: 1976). The purpose of this paper is to show that such application of a male-based index to the female or the entire labor force is improper, and cannot help but lead to misleading results when used to compare women's occupational status to that of men.

In order to correct the unrepresentativeness of the NORC/SEI procedure one would have to study the general prestige of a list of occupations that included "women's occupations", and explicitly use women as well as men as referents when describing the jobs. (An alternative methodology would ask people to rate separately the standing of male and female occupants of the same job.) In her dissertation Bose (1973) conducted such a study, but did not take the next step, that is, to use the income and educational attainment of all persons in the labor force to calculate an index for each detailed occupational category. Such an index would be validated and optimal coefficients determined as in the case of the traditional SEI devised by Duncan. We have not carried out such a study: rather, by using the fundamental idea of the Duncan SEI, we have merely carried out an exercise to verify that the SEI based on the male labor force does misclassify women workers and "women's occupations", and that the conventional male-based index is not as adequate as Parnes (1970), Treiman and Terrell (1975) and McClendon (1976) have implied.

Using 1970 census data two SEI scores were calculated for the 588 detailed occupational categories: the traditional one based on male occupants only and the other based on all occupants of the category. In both cases the same index was used, namely

$$\begin{aligned} \text{SEI} &= .5 (\% \text{ with income over } \$8000) \\ &+ .5 (\% \text{ with at least one year} \\ &\quad \text{of college}). \end{aligned}$$

The procedures closely paralleled those used by Duncan: the cutting points in the income and education distributions are at approximately the same percentiles as the 1950 figures; the entire experienced worker labor force is used, rather than full-time workers; the

weights used by Duncan are nearly equal. When we compared our male-based scores to Duncan's 1950 (male-based) scores, we found little difference in the relative standing of the major occupational groups.

Severe discrepancies appear, however, when the relative standings of some occupations are compared on the different sets of scores. For example, the title "secretaries" includes 2,770,426 workers, 98% of whom are female. On the male-based scale this occupation is 9 points above the mean, while when the scale based on all workers is used we find that secretaries are 14 points below the mean for all occupations. In table 1 we have summarized comparisons of this type, considering an occupation to be classified differently by the two scales whenever there is more than five points difference in the scores, relative to the respective means. (e.g., for secretaries this difference would be 23 points.) Using this criterion 103, or 18%, of the 588 occupations are classified differently by the male-based and all-person-based scales. These occupations, moreover, contain 46% of all the women in the labor force. Discrepancies are most noticeable in a major occupational grouping like "clerical", where 33 of 50 detailed occupational categories are classified differently; the 33 occupations contain 92% of all the female clerical workers.

While the ranking given to the 588 occupational categories by the men-only scale is highly correlated with the all-person scale, this correlation masks the fact that a substantial number of occupations are ranked differently. More importantly, the fact that the male scale misstates the status of so many women casts doubt on the claim of Treiman and Terrell 1975:182) that:

"it is clear that labor market discrimination against women does not extend to the status of the work open to them nor to the qualifications demanded. Women work at jobs which are about as prestigious as those held by men and, like men, secure good jobs mainly on the basis of superior education."

Table 2 shows the distributions of occupational status of men and women that we found when the scale based on the entire labor force was used as the measure of status. The median status of women is some 9 points lower than that of men: 15 vs. 24. The clustering of women in low status occupations is particularly apparent. 72% of women work at jobs with status scores below 20, compared with

only 36% of men. These results support the hypothesis that women are, in fact, excluded from relatively high status occupations.

The exercise reported here confirms our intuitive feeling that socioeconomic indices of occupations based on male data should not be used to evaluate the occupational attainment of women or to compare their attainment to that of men. Any future work applying the status attainment model of Blau and Duncan to women must use a scale of occupational status that is based on both men and women. Theoretically, there is no justification for excluding the female labor force from consideration when estimating the socioeconomic status of an occupation. Methodologically, it leads to serious error.

#### References

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Table 1: The number and proportion of occupations and women in them that are classified differently when measures of occupational SES are based on all persons rather than on only men, by major occupational group.\*

| Major Occupational Group                    | Occupations |     |       | Female Labor Force |     |            |
|---|-------------|-----|-------|--------------------|-----|------------|
|   | N           | %   | Total | N                  | %   | Total      |
| Professional, technical and kindred workers | 19          | 15% | 127   | 1,787,449          | 38% | 4,674,716  |
| Managers and Administrators                 | 11          | 17% | 63    | 419,868            | 39% | 1,083,601  |
| Sales                                       | 9           | 53% | 17    | 928,531            | 41% | 2,249,259  |
| Clerical                                    | 33          | 66% | 50    | 9,724,953          | 92% | 10,515,431 |
| Craftspersons                               | 4           | 4%  | 92    | 96,998             | 18% | 547,761    |
| Operatives                                  | 12          | 11% | 114   | 591,588            | 13% | 4,430,853  |
| Transport                                   | 0           | 0%  | 12    | 0                  | 0%  | 138,979    |
| Laborers                                    | 1           | 2%  | 61    | 4,498              | 1%  | 307,688    |
| Farm and farm laborers                      | 0           | 0%  | 8     | 0                  | 0%  | 253,558    |
| Service                                     | 12          | 32% | 38    | 304,219            | 21% | 5,061,341  |
| Private Household                           | 2           | 33% | 6     | 249,137            | 21% | 1,186,369  |
| Total                                       | 103         | 18% | 588   | 14,107,217         | 46% | 30,534,658 |

Table 2: Distribution of occupational status by sex, using the measure of socioeconomic status of occupation based on the entire experienced civilian labor force.\*

| SES of occupation | Men                  | Women                |
|-------------------|----------------------|----------------------|
| 0-4               | 1.31%                | 10.31%               |
| 5-9               | 11.24                | 19.07                |
| 10-14             | 9.04                 | 18.28                |
| 15-19             | 14.15                | 23.95                |
| 20-24             | 15.44                | 5.03                 |
| 25-29             | 5.37                 | 0.98                 |
| 30-34             | 6.48                 | 2.10                 |
| 35-39             | 5.52                 | 3.98                 |
| 40-44             | 4.16                 | 1.24                 |
| 45-49             | 4.18                 | 1.97                 |
| 50-54             | 4.33                 | 2.64                 |
| 55-59             | 2.77                 | 1.09                 |
| 60-64             | 3.95                 | 1.96                 |
| 65-69             | 3.49                 | 4.55                 |
| 70-74             | 2.68                 | 1.72                 |
| 75-79             | 0.89                 | 0.39                 |
| 80-84             | 2.84                 | 0.40                 |
| 85-89             | 0.90                 | 0.20                 |
| 90-94             | 1.37                 | 0.14                 |
|                   | 100.01% (49,518,235) | 100.00% (30,449,555) |

\* Source: U.S. Bureau of the Census. U.S. Census of the Population: 1970. Subject Reports. Occupational Characteristics. Final Report PC(2) 7A. Washington D.C.: U.S. Govt. Printing Office.