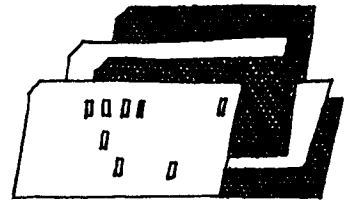
Research Summaries



How women's health affects labor force attachment

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Most analysts would agree that a person's health is a major determinant of his or her labor force attachment. However, there has been little systematic investigation of the relationship between health and work in the United States, and most of the reliable evidence pertains only to male populations.

Preliminary findings based on the National Longitudinal Surveys suggest that health has "an important effect on the labor force participation of women," and that this effect is more pronounced for black than for white women. But authors of the final report on the study cautioned that their results are ambiguous and called for "more intensive examination" of the issue.[1]

The purpose of this analysis is to provide such examination of the relationship between health and labor force attachment for American women. More explicitly, we will test the hypothesis that the overall lifetime supply of labor provided by mature women is related to their health, or their subjective assessment thereof, and a corollary, that the supply of labor by black women is more affected by self-rated health than that of whites (although reported participation rates for black women are consistently higher than those for whites).[2] An attachment index which incorporates hours worked, rather than the mere fact of labor force participation, will be used as the measure of labor force attachment.

The data base. Data from the National Longitudinal Surveys of Work Experience (NLS) for mature women are the basis for this study. The NLS mature women cohort file consists of a national probability sample of approximately 5,000 women who were age 30 to 45 at the time of the initial survey in 1967.[3] The same women were interviewed in 1968, 1969, 1971, 1972, and 1974.

The NLS data are particularly appropriate for racial comparisons of women's work experience because of the intentional oversampling of black women. For the purpose of this research, a subsample of the NLS was drawn, which included those respondents identified as "black" or as "white" at the time of the initial survey. Women categorized as "other" were excluded from analysis, yielding a total sample of 4,886 women, of whom 1,352 were black and 3,534 were white.

The labor supply model. The measure of labor force attachment (LFA) was originally defined and applied to the 1967–71 mature women cohort file in an earlier article in the *Review*.[4] The purpose of the original formulation was to incorporate important dimensions of labor force participation into one longitudinal index of the lifetime supply of labor provided by mature women.

More specifically, the measure included three dimensions of labor force participation: (1) continuity of work experience, or the proportion of years worked at least 6 months since leaving regular school; (2) full-time as distinguished from part-time employment, or hours worked per week; and (3) year-round as opposed to temporary or seasonal employment, or weeks worked per year. The first dimension reflects the continuity of work experience prior to the initial survey in 1967. The second and third dimensions reflect the intensity of work experience during the survey years.

For the following analysis of the expanded 1967–74 cohort file, the LFA formula was respecified to accommodate data from additional survey years. This revised formula is:

$$\text{LFA} = [(A/B) + C/36 + D/36]\ 50$$

where A is the number of years during which the respondent worked at least 6 months between leaving regular school and 1967; B is the number of years since the respondent left regular school and 1967; C is the number of hours employed per week in a given survey year (categorized into values ranging from 0 to 18); and D is the number of weeks worked per year between 1967

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Table 1. Women's labor force attachment, by race and health category

Health category	Sample distribution				Measure of labor force attachment		
	Blacks		Whites				
	Number	Percent	Number	Percent	Blacks	Whites	Difference
Total	1,352	100.0	3,534	100.0	40.9	34.6	6.3
Excellent	404	29.9	1,620	45.8	47.9	37.3	10.6
Good	617	45.6	1,422	40.2	43.6	35.5	9.1
Fair	242	17.9	407	11.5	31.2	27.8	3.4
Poor	89	6.6	85	2.4	17.5	17.9	-.4

and 1974 (categorized into values ranging from 0 to 18).[5]

For the NLS mature women cohort, this formula encompasses work experience both before and since 1967. The dimension of interyear continuity of work prior to the 1967 survey is reflected in the expression *A/B*, which can assume a maximum value of 1. The *C* and *D* values represent the intensity of labor market experience between 1967 and 1974. The dimensions of intensity are each divided by 36 to ensure that these intrayear measures of recent labor market activity do not "overshadow" the continuity dimension, which reflects experience before the initial survey. When divided by 36 (a constant representing twice the maximum possible value), neither *C* nor *D* can be greater than 0.5, and $C + D$ cannot exceed 1. The sum of the dimensional values (*A/B, C, D*) is multiplied by 50 to yield scores ranging from 0 (for no significant work experience prior to the 1967 survey and no recent work experience) to 100 (for continuous participation prior to 1967 and full-time, year-round participation after 1967).

Empirical results. The findings reported in table 1 are based on simple analysis of variance. Mean levels of labor force attachment are presented for each health category within the subsamples of black and white women. These results suggest that the labor supplied by women is affected by conditions of health, particularly in the case of blacks. Average LFA scores for black women vary from 47.9 for those with excellent health to 17.5 for those whose health is poor. The simple correlation coefficient (r_1) between the labor force attachment and health of black women is .259. In other words, the health variable appears to explain almost 7 percent (that is, r_1^2) of the variability in black women's labor force attachment.

Health is also significantly associated with the labor force attachment of white women, although the relationship is not as strong as that observed for blacks. There is a 20-point range of LFA scores among health categories, and the unadjusted correlation ratio indicates that health can explain about 2 percent of the variability in the labor force attachment of white women.

Interracial differences in the amount of labor supplied are greater among women whose health is excellent or good, and smaller among those whose health is fair or poor. The differential in labor force attachment is 10.6 points, or approximately 28 percent, for respondents who claimed to be in excellent health, compared with an observed difference of -0.4—about 2 percent—between whites and blacks in poor health. The latter figure suggests a slightly higher degree of labor force attachment for white women than for black women in the poor health category.

To summarize, the findings presented in table 1 indicate that: (1) the supply of labor varies significantly among health categories for both white and black women; (2) although health is correlated with labor force attachment for both races, it is more important in the labor supply of blacks than of whites; and, (3) differences in the labor supplied by black and by white women increase under conditions of excellent and good health, but virtually disappear under conditions of poor health. Because the proportion of black women in the excellent and good health categories is lower than the corresponding proportion of whites—75 percent compared to 86 percent—one might expect the interracial differential in labor force participation to be even greater if the distributions of respondents among the categories were more similar.

Of course, it is possible that the observed differentials by race are due to other factors. However, the evidence presented in table 2 suggests no marked change in the relative importance of the health variable when other selected demographic characteristics are controlled. The effects of health appear greater for black than for white women, even after adjustment for the effects of education, marital status, number of children, and age.[6] The unadjusted correlation coefficient between health and la-

Table 2. The differential labor force attachment of women after adjustment for selected demographic characteristics, by race and health category

Race and health category	Unadjusted deviation	Unadjusted correlation coefficient (r_1)	Adjusted deviation	Adjusted correlation coefficient[1] (r_2)
Black[2]				
Excellent	6.7		6.0	
Good	2.8		2.7	
Fair	-9.9		-8.8	
Poor	-23.3		-23.0	
		.26		.24
White[3]				
Excellent	2.7		1.9	
Good	-.3		.1	
Fair	-6.8		-4.9	
Poor	-15.6		-15.4	
		.13		.10

[1] The correlation coefficient after controlling for the effects of age, education, marital status, and children on the labor force attachment of sample members.
[2] The grand mean for LFA, upon which the unadjusted deviations are based, is 41.2.
[3] The grand mean for LFA is 34.7.

bor force attachment (r_1) for black women is .26, while the adjusted coefficient (r_2) is .24. For white women, the unadjusted and adjusted coefficients are .13 and .10, respectively. The impact of the other variables is minimal for black women; the greatest effect appears in the tapering of the reduction in labor force attachment among blacks in fair health. This attenuation can also be noted for white women in fair health, while there is a slight decrease in the LFA score for whites in excellent health.

THE RESULTS OF THIS ANALYSIS support the conclusions of other researchers that health variables should be included among the determinants of labor supply. For both women and men, information on the health of workers should increase the explanatory power of analytic models; such data appear to be particularly important for studies of black workers.

The greater observed variability of self-rated health conditions among blacks, and the greater impact of health conditions on the amount of labor supplied by black workers, also have implications for policy. Those concerned with the socioeconomic effects of health programs targeted at certain segments of the work force might do well to include labor supply considerations in their assessments of relative benefits and costs. □

——— *FOOTNOTES* ———

[1] *Dual Careers: A Longitudinal Study of Labor Market Experience of Women, Vol. I,* Manpower Research Monograph 21 (U.S. Department of Labor, 1970).

[2] William G. Bowen and T. Aldrich Finegan, *The Economics of Labor Force Participation* (Princeton, N.J., Princeton University Press, 1969).

[3] See Elizabeth Maret-Havens, "Developing an index to measure female labor force participation," *Monthly Labor Review,* May 1977, appendix, p. 38, for a more detailed description of the NLS mature women cohort file.

[4] See Maret-Havens, "Developing an index," pp. 35–38.

[5] For each of the 6 years (1967–69, 1971–72, and 1974), respondents were assigned a value of 3 if they worked the maximum period of 50 to 52 weeks; a value of 2 if they worked 27 to 49 weeks; a value of 1 if they worked 26 weeks or less; and a value of 0 if they did not work. The results were then summed for the six periods to yield a value ranging from 0 (for no weeks worked) to 18 (for consistent year-round employment). A similar procedure was followed for dimension *C.* For each of the 6 years, a value of 3 was assigned to those who worked 40 or more hours a week; a value of 2 was used for 21 to 39 hours; and a value of 1 was used for 1 to 20 hours. Summing the results again yielded a value which could range from 0 to 18.

[6] The demographic variables used in this analysis are defined in reference to the NLS mature women cohort as follows: *Race*—identified by respondents as "white" or "black" in 1967; *health*—rated by respondents in 1967 as "excellent," "good," "fair," or "poor," in relation to others of about the same age; *education*—the number of years of school completed; *marital status*—classified as married-spouse present, married-spouse absent, separated, divorced, widowed, or never married in 1967; *children*—the number of own and other children who ever lived with the respondent as of the 1967 survey; and *age*—divided into three subcohorts of those who were 37 to 41, 42 to 46, and 47 to 51 at the time of the 1974 survey.

Business studies views of managers and workers on productivity and quality

A recent survey of business executives by the U.S. Chamber of Commerce asked managers for their opinions on employees' attitudes concerning productivity and product quality. It compared the findings with those of an earlier joint study by the Chamber of Commerce and the Gallup polling organization, which surveyed workers for their attitudes and their opinions of fellow workers' attitudes about productivity and quality.

Nine out of ten executives, and especially those in large firms, believe that employees want the company's goods and services to be of high quality; 43 percent said employees are "very concerned" about quality and 47 percent said "somewhat concerned." Only 5 percent said their employees are "not very much concerned." According to the earlier study, workers share this view of themselves and their colleagues; 49 percent said they are "very concerned" about quality of product and service and 37 percent said they are "somewhat concerned." Only 11 percent said they and their coworkers are "not very much concerned."

In fact, the data show that executives believe their workers are more concerned about quality of goods and services than about company productivity. Twelve percent said that workers are very concerned about increasing productivity; 61 percent believed workers are somewhat concerned; and 21 percent, not very concerned. This view also was held more by executives in large companies than by those in small ones. Of the workers themselves, 88 percent said it is important to them to increase productivity, and 70 percent think this factor is important to their coworkers.

A key finding of both surveys is that managers and workers believe that worker involvement in the decisionmaking process will improve both quantity and quality of the finished product, if workers know it will affect their jobs; 79 percent of managers held this view, and 84 percent of workers.

Effective communication between management and employees is seen as vital. Managers ranked communication factors affecting employee productivity. Most important was explaining to workers what increased productivity can mean for both the company and the employee; 63 percent believe this to be important. Second was asking employees for their ideas on productivity, 45 percent. Third was indicating more clearly the productivity expected of workers, 33 percent. Fourth was conveying to workers the steps being taken by management to increase company productivity, 16 percent. Fifth was making it known that management is aware and concerned about the needs of workers, 14

percent. Sixth was conveying to employees exactly what the company provides in the total wage and benefit package, 12 percent.

Management and workers have markedly different views on the most effective way of encouraging good ideas to improve the performance of the company. About 51 percent of the surveyed executives think personal recognition is the most effective means. A third believe monetary reward is the most effective. As for workers, 42 percent said monetary reward is the most effective means, and 26 percent cited personal recognition. Only 6 percent of executives, but 26 percent of workers, think promotion is the most effective method.

Executives assign top rank to workers' attitudes and abilities as a factor that could increase overall company productivity. Among all firms surveyed, managers in 40 percent ranked this as the most important factor, even above supervisor attitudes and abilities; 47 percent held this view in small firms, 36 percent in large ones. However, only 20 percent of executives believe that efforts at a worker's level can make the greatest contribution to improved productivity. Most believe the greatest chances for improvement are in the supervisory, middle executive, and top executive levels. Among executives, the most frequently cited incentive used to improve productivity among employees at all levels is bonuses for outstanding work, 56 percent.

The survey was conducted during January and February of 1981, as part of the quarterly survey of business executives' attitudes by the Chamber of Commerce. Questionnaires were sent to 1,870 high-ranking executives, representing a cross section of business by type of industry, size of firm, and geographical region. There were 1,083 respondent, or 58 percent. The earlier, joint survey of employee attitudes was conducted in late 1979. Data for the survey of executives were compiled by the Chamber of Commerce' Survey Research Center and its Productivity Center. Copies of the report, *Management Attitudes Toward Productivity,* may be obtained from the Economic Policy Division, Chamber of Commerce of the United States, 1615 H Street, N.W., Washington, D.C. 20062. □