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ABSTRACT

A study involving ninety-nine men who had been involuntarily separated from their jobs was done to analyze (1) what happens to a man over forty-five years old when he loses a job after having served with his current employer for at least five years; (2) what are the probabilities of his finding work within a reasonable period of time; (3) how likely is he to become discouraged and retire; (4) if he does find work, how does it compare with the previous job; and (5) what impact does the total experience have on his economic position and physical and mental well-being. Longitudinal data from the 1966 to 1973 National Longitudinal Surveys (NLS) of middle-aged men were used which provided the opportunity to observe men prior to and two years after their job separation and compare them to a matched control group of employees. The present study suggests that while job displacements during middle-age are not common, they occur frequently enough to constitute a social problem. No occupational or educational category of men is immune to this kind of career disruption. The major long-term impact of displacement appears to have been a substantial deterioration in occupational status. In addition to economic losses, the displaced workers suffered from deteriorating health and some sense of alienation. (EM)

MIDDLE-AGED JOB-LOSERS

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MIDDLE-AGED JOB-LOSERS

by

Herbert S. Parnes and Randy King*

What happens to a man in his late forties or fifties when he loses a job after having built up a substantial equity in it? What are the probabilities of his finding work within a reasonable period of time? How likely is he to become discouraged and retire?" If he does find other work, how does it compare with the job he has lost? What impact does the total experience have on his economic position and on his physical and mental well-being?

These are the kinds of questions we address in this paper on the basis of a set of longitudinal data--the National Longitudinal Surveys (NLS) of middle-aged men.[1] While there have been numerous previous analyses of the experiences of "displaced" workers,[2] the present study is the first to

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[1] For a detailed description of the data, see The Ohio State University Center for Human Resource Research, the National Longitudinal Surveys Handbook (Columbus, Ohio, 1976).

[2] These have generally been case studies based on the closing of a plant or firm. For a bibliography, see Steven S. Mick, "Social and Personal Costs of Plant Shutdowns" Industrial Relations, Vol. 14, No. 2 (May, 1975), p. 204, n. 2-6.

our knowledge that is based upon a national sample of individuals who have suffered such displacement. Moreover, it focuses on those persons for whom previous research has shown the readjustment problems to be most severe--men over 45 years of age.[3] Finally, the analysis benefits from the longitudinal nature of the data, which have emerged from periodic interviews with a national probability sample of middle-aged men over the seven-year period from 1966 to 1973. This provides the opportunity to observe the characteristics and attitudes of the men prior to their job separations, and also to follow them up for a minimum of two years after they have lost their jobs. Moreover, as a means of assessing their post-layoff experience, we can compare the displaced workers with a matched control group selected from the total sample of long-service employees who suffered no involuntary separation.

The following section of the paper describes the research design in somewhat greater detail, and Section II examines the characteristics of the displaced workers and their pre-displacement labor market experience. In the third section we analyze the impact of displacement on our subjects, and in the fourth we summarize the major findings.

I RESEARCH DESIGN

As has been indicated, the displaced men who are the subjects of the present study have been drawn from the NLS sample of middle-aged men. Specifically, we have selected those wage and salary workers who at the time of the initial survey in 1966 had served with their current employers

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[3] Ibid., p. 205.

for a period of at least five years, who were permanently separated from those employers at some time between 1966 and 1971, and who were reinterviewed in the 1973 survey. From this group, we have excluded men employed in agriculture or construction in 1966 because of the rather tenuous nature of the employment relationship in those industries. Our purpose is to focus on workers for whom a permanent involuntary separation would be regarded as a traumatic event rather than an occurrence which, either because of low seniority or the characteristics of the industry, would be regarded as reasonably commonplace.

The evidence of a permanent displacement was in each case the fact that the individual reported an involuntary separation from the 1966 employer at the time he was reinterviewed in either 1967, 1969, or 1971, and was not again working for that employer at the time of the 1971 interview. Of the approximately 4,000 respondents who were re-interviewed in 1973, there were 2,314 who met the 1966 tenure and industry criteria described above. Of this number 99 had suffered an involuntary displacement--almost one in twenty of the population at risk.[4] Approximately one-fourth of these men had lost their jobs between the 1966 and 1967 interviews, another fourth between the 1967 and 1969 interviews, and almost half between 1969 and 1971 (Table 1).

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[4] Seven of the 99 separations were discharges, the remainder layoffs. We use the phrase "population at risk" as a shorthand expression to refer to the 2,314 men in the sample who in 1966 were employed outside of agriculture and construction and who had a minimum of five years of tenure with their 1966 employer. Using the appropriate sampling weights, the displaced workers constituted 4.6 percent of this base.

Table 1

Distribution of Displaced Workers, by Time Period of Job Loss

Time period	Number displaced	Unweighted percentage
Total	99	100
1966-67	25	25
1967-69	28	28
1969-71	46	46

Because the sample of displaced men was expected to differ from the total population at risk in a number of respects likely to influence labor market experience, we selected a control group of an equal number of men matched on an individual basis with the displaced group according to seven characteristics: race, age, educational attainment, major occupation group, major industry division, population of labor market area, and length of service in 1966 job (Table 2).[5]

[5] With respect to race, the analysis is confined to whites and blacks; only two persons of other races met the criteria of displacement. Age was matched on the basis of three five-year age categories as of 1966 (45-49, 50-54, and 55-59). For educational attainment we used four categories: under 12, 12, 13-15, and 16 or more years of school completed. Six categories were used for the occupational match: professional, technical, and managerial; clerical and sales; craftsmen and foremen; operatives; service workers; and nonfarm laborers. The industry match was based upon six categories: mining; manufacturing; transportation, communication and public utilities; trade; service (including finance, insurance, and real estate); and public administration. Three tenure categories were used: 5-9 years, 10-19 years, and 20 or more years. Finally, there were three categories of labor market size based on the number of persons in the local labor force in 1960: under 100,000, 100,000-499,999, 500,000 and over. In cases in which more than one member of the sample qualified for a particular "match," a table of random numbers was used to make the selection. (Footnote continued on p. 6.)

Table 2

Distribution of Displaced Workers and Control Group, by Control Variable Characteristics[a]

Control variable[a]	Number of displaced workers	Number in control group
Total	99	99
Race		
White	78	78
Black	21	21
Age in 1966		
45-49	29	29
50-54	39	39
55-59	31	31
Years of school completed[b]		
Less than 12	57	59
12	23	23
13-15	11	11
16 or more	7	6
Years of service in 1966 job		
5-9	20	20
10-19	46	46
20 or more	33	33
Occupation, 1966		
Professional, technical or managerial	24	27
Clerical or sales	8	9
Craftsmen	24	21
Operatives	30	30
Service workers	8	8
Nonfarm laborers	5	4
Industry, 1966		
Mining, forestry, fisheries	1	0
Manufacturing	54	53
Transportation, communication, utilities	7	12
Trade	27	24
Service[c]	9	8
Public administration	1	2
Size of labor market area[d]		
Less than 100,000	25	24
100,000-499,999	37	39
500,000 or more	37	36

a See text, footnote 5.

b There was one displaced worker for whom no educational attainment was reported.

c Includes finance, insurance, and real estate.

d Number of persons in labor force in area in 1960.

II CHARACTERISTICS AND PRIOR LABOR MARKET EXPERIENCE OF THE DISPLACED WORKERS

Table 3 shows how the displaced workers compare with the population at risk in terms of the 1966 characteristics incorporated in the control variables.[6] It is interesting that the proportion of blacks among the displaced workers differs little from that among the population at risk. To the extent that there is labor market discrimination against black men in this age group, it evidently does not manifest itself in the form of less job security than white men have once some substantial tenure in a job is achieved.[7] There is some tendency for the displaced workers to be

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It was our objective to include in the control group an individual matched on all of these characteristics for each displaced worker. With respect to some of the characteristics--e.g., race, age, and tenure--there was no problem in achieving this for all members of the sample. Indeed, for approximately half of the sample a match was made on all seven of the characteristics. With respect to the other half, compromises had to be made, especially with respect to occupation, industry, or size of area. To illustrate by means of an extreme case, we could find no one to pair with a man who reported a professional occupation and only eight years of education. The member of the control group selected to be paired with this individual was a sales worker who satisfied all of the other characteristics. It is this kind of substitution that accounts for the minor variations between the displaced group and the control group with respect to the control variables (Table 2).

[6] In this and all subsequent analyses we present weighted percentage distributions. The necessity of using sampling weights in calculating the percentage distributions may be illustrated by reference to the race variable. In the National Longitudinal Surveys blacks were deliberately overrepresented in a ratio of between 3 and 4 to 1 in order to provide sufficient sample cases of blacks for statistically reliable estimates. Thus, while it is evident from Table 2 that blacks constitute 21 percent of the total number of sample cases, they are shown in Table 3 actually to constitute only 6 percent of the total number of displaced workers in the population.

[7] The data in Table 3 show only the gross relationship between each variable and the likelihood of displacement. We have also performed a multiple classification analysis of the probability of displacement, which permits one to examine the net effect of each variable, controlling in turn for all of the others. The results of that analysis, shown in Appendix Table A-1, are basically consistent with what is shown in Table 3.

Table 3

Displaced Workers and Population at Risk[a], by Control Variable Characteristics, 1966

(Percentage distributions)[b]

Characteristic	Displaced workers	Population at risk	Chi-square
n	99	2,314	
Race, total	100	100	1.40
Whites	94	92	(.20<p<.30)
Blacks	6	8	
Age, total	100	100	2.86
45-49	33	37	(.20<p<.30)
50-54	36	34	
55-59	31	28	
Years of school completed, total	100	100	1.60
Less than 12	54	52	(.50<p<.70)
12	26	28	
13-15	13	10	
16 or more	7	11	
Years of service with 1966 employer, total	100	100	4.09
5-9	23	19	(.10<p<.20)
10-19	43	38	
20 or more	34	44	
Occupation, total	100	100	3.60
Professional, technical, managerial	27	27	(.50<p<.70)
Clerical, sales	10	13	
Craftsmen	27	24	
Operatives	26	24	
Service workers	5	6	
Nonfarm laborers	4	5	
Industry, total	100	100	33.74
Mining, forestry, fisheries	1	2	(p < .001)
Manufacturing	56	44	
Transportation, communication, utilities	7	16	
Trade	28	14	
Service[c]	8	15	
Public administration	0[e]	10	
Size of labor market area[d]	100	100	3.64
Less than 100,000	24	35	(.10<p<.20)
100,000-499,999	40	31	
500,000 or more	37	35	

a For definition, see text, footnote 4.
b Weighted by inverse of sampling ratios.
c Includes finance, insurance, and real estate.
d Number of persons in labor force in area, 1960.
e Less than one-half of 1 percent.

older on average than the population at risk. Of the displaced workers, 67 percent were 50 years old or more in 1966 as compared with 62 percent of the total group. This age difference, although slight, is noteworthy in view of the fact that the difference in tenure between the two groups is in the opposite direction. Only 34 percent of the displaced workers, in contrast with 44 percent of the population at risk, had 20 or more years of service.

There is virtually no difference between the displaced workers and the total population at risk with respect to educational attainment. It is also rather surprising that there are no substantial occupational differences between the displaced workers and the total group of respondents with at least five years of service. Three percentage points is the largest difference that prevails between the two occupational distributions--in the case of clerical and sales workers and in the case of craftsmen. In contrast, there are rather profound differences in the industrial affiliations of the two groups. The incidence of displacement is substantially above average in trade and manufacturing and below average in services and, particularly, in public administration. Finally, it appears that the likelihood of displacement is related to size of labor market area, being above average in areas of intermediate size and below average in small areas. Yet, despite these differences, the more impressive point that emerges from Table 3 is the basic similarity between the two distributions. It appears that the risk of displacement from a job after reasonably long tenure is surprisingly insensitive to conventional measures of human capital and to the particular occupations in which men are employed.[8]

[8] The value of R^2 in Appendix Table A-1 indicates that only two percent of the variation in the likelihood of displacement is attributable to the variables included in the analysis, a remarkably low value even for a dichotomous dependent variable.

We now inquire whether the labor market experiences of the displaced workers prior to their separation differed substantially from those of the control group. First, however, it is of interest to compare the two groups from the standpoint of certain personal characteristics that are available in the data (Table 4). It is clear that the men who subsequently lost their jobs were considerably less likely to be married and living with their wives in 1966 than their more fortunate counterparts. This rather unexpected finding may mean that some employers take marital status into account in making decisions with respect to layoff or discharge. More probably, it may reflect differences in characteristics or behavior between married and nonmarried men that make the former more attractive to employers. There appears to have been no substantial difference in health between the displaced workers and the control group in 1966. A somewhat larger proportion of the latter reported their health as "excellent", but a slightly larger proportion of the former were without health problems affecting work. Virtually no difference appears between the two groups in their commitment to the work ethic. Sixty-seven percent of the workers who were subsequently to be displaced and 72 percent of the control group responded affirmatively in 1966 to the question "If, by some chance, you were to get enough money to live comfortably without working, do you think that you would work anyway?"

Turning now to the jobs the men held in 1966, the most dramatic difference between the displaced and control groups is in the proportions serving in the public sector (Table 5). One-twelfth of the control group were government workers, in contrast with only 1 percent of the displaced group. By most of the other criteria shown in Table 5, the group who

Table 4

Displaced Workers and Control Group, by Selected Personal Characteristics, 1966

Characteristic	Displaced	Control	Chi-square
Marital status (n - 99,99)[a]			
Total	100	100	64.28
Married, spouse present	84	96	(p<.001)
Widowed, divorced, separated	11	2	
Never married	5	2	
Respondent's perception of his health (n = 97,93)[a]			
Total	100	100	1.02
Excellent	35	42	(.50<p<.70)
Good	45	40	
Fair or poor	20	18	
Percent reporting health problem affecting work (n = 99,99)[a]	15	18	0.44 (.50<p<.70)
Percent with high work commitment[b] (n = 99,99)[a]	67	72	0.01 (.90<p<.95)

a The numbers of sample cases reported show, for the displaced workers and the control group respectively, the numbers on which the weighted percentages have been calculated. In other words, the difference between the total number in each sample (99) and the number reported for any variable reflects the number of cases for which information on that variable was not obtained--which cases are excluded from the base of percentage distributions.

b Percent who responded affirmatively to the following question: "If, by some chance, you were to get enough money to live comfortably without working, do you think that you would work anyway?"

Table 5

Displaced Workers and Control Group, by Selected Aspects of 1966 Employment Status

Aspect	Displaced	Control	Chi-square
Percent government workers (n = 99,99)[a]	1	8	6.26 (.01<p<.02)
Average hourly earnings (n = 93,90)[a]			
Total	100	100	3.06
Under $1.50	8	4	(.50<p<.70)
1.50-2.49	21	19	
2.50-2.99	24	21	
3.00-3.99	20	27	
4.00-4.99	19	16	
5.00 or more	8	12	
Mean	$3.36	$3.58	
Annual earnings, 1965 (n = 98,96)[a]			
Total	100	100	10.76
Under $5,000	26	18	(.02<p<.05)
5,000-7,499	40	35	
7,500-9,999	14	23	
10,000-14,999	17	15	
15,000 or more	4	9	
Mean	$7,449	$8,758	
Percent with one or more spells of unemployment, 1965 (n = 97,98)[a]	6	3	11.07 (p<.001)
Percent with no weeks out of labor force, 1965 (n = 97,96)[a]	90	94	5.90 (.01<p<.02)
Percent covered by employer pension plan (n = 97,95)[a]	52	74	14.86 (p<.001)
Degree of job satisfaction (n = 98,98)[a]			
Total	100	100	22.02
Likes job very much	51	56	(p<.001)
Likes job somewhat	36	41	
Dislikes job somewhat or very much	13	3	
Percent with high job attachment[b] (n = 96,92)[a]	32	44	4.01 (.02<p<.05)

a See footnote a, Table 4.

b Respondents who reported that they would not accept an hypothetical job in the same line of work with another employer in the area at any conceivable wage rate.

were to suffer displacement had less desirable 1966 jobs than their counterparts in the control group. Mean average hourly earnings of the two groups were $3.36 and $3.58 respectively, a differential of 7 percent in favor of the latter. An even larger relative difference prevailed in annual wage and salary income in 1965, the year preceding the initial survey. Mean annual earnings were $7,449 for the displaced worker group versus $8,758 for the control group, a differential of 18 percent. The greater difference in annual than in hourly earnings reflects the fact that the workers who were subsequently to be displaced had less regular employment in 1965 than the control group. Six percent of the former as compared with 3 percent of the latter experienced some unemployment, while 10 percent of the displaced workers and 6 percent of the control group had some weeks out of the labor force. A rather pronounced manifestation of the less attractive jobs of the workers who were to become displaced is provided by the difference in pension coverage between them and the control group. Only about half of the displaced group, in contrast to three-fourths of the control group, were covered by a pension plan.

These differences in the characteristics of their 1966 jobs raise the question whether the men who ultimately were to lose their jobs were in specific occupations and industries more susceptible to layoffs or whether their displacement was attributable more to the characteristics of the firms in which they were employed (or to the personal characteristics of the men themselves). While occupation and industry were used as control variables, this was at a highly aggregated level, and it is possible that the displaced workers were, on average, in less desirable occupations

and/or industries within each of the broad categories. Although it is not possible to resolve this question with complete assurance, there are several indications that the differences between the two groups in earnings, employment stability, and fringe benefits are not primarily attributable to differences in detailed occupational or industrial distributions, but stem from the fact that the displaced workers were more likely to work for non-unionized firms with less attractive terms of employment.[9]

Differences in the objective characteristics of their jobs were reflected to some degree in the job attitudes expressed in 1966 by the two samples of workers. For example, among those subsequently to be displaced,

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[9] Using the Duncan Index (see below, Table 6, footnote c) as the measure of the hierarchical position of a specific (3-digit) occupation, we have calculated the mean value for the displaced workers and for the control group both in the aggregate and within each of the one-digit occupational categories and have found no systematic difference between the displaced workers and the control group in this regard. Overall, the mean Duncan Index is virtually identical for the two groups (40.6 and 41.2), and there are as many occupation groups in which the advantage lies with the displaced workers as with the control group.

To perform an analogous analysis in the case of industry, we have used BLS data to calculate the average hourly and weekly earnings of production workers in the two-digit industries represented in our displaced worker and control group samples. The overall difference between the two samples is miniscule--about two percent in favor of the control group. There are sufficient sample cases to calculate means for only two industry divisions--manufacturing and trade. In the former there is a 5 percent advantage in weekly earnings for the control group; in the latter the differential of 8 percent is in the opposite direction.

As a final piece of evidence on this point, it seems almost certain that the workers who were to lose their jobs were less likely to be unionized than members of the control group. Information with respect to coverage by collective bargaining was not collected until the 1969 survey. When the 46 men who were displaced subsequent to the 1969 survey are compared with their matched control group members, 44 percent of the former and 56 percent of the latter were covered by collective bargaining. The chi-square value is 2.72 ($.05<p<.10$).

Table 6

Displaced Workers and Control Group, by Aspects of Lifetime Work Experience

Aspect	Displaced	Control
Percent reporting 1966 job[a] as longest in career (n = 99,97)[b]	82	84
Chi-square	0.35 (.50<p<.70)	
Percent reporting 1966 occupational assignment as best in career (n = 99,98)[b]	62	66
Chi-square	2.74 (.05<p<.10)	
Occupational mobility,[c] first job to 1966 job (n = 97,97)[b]		
Total	100	100
Downward	19	14
No change or lateral	18	21
Upward	63	65
Chi-square	0.68 (.70<p<.80)	

a Job is defined as a period of service with a given employer.

b See footnote a, Table 4.

c Occupational mobility is measured on the basis of the Duncan Socioeconomic Index of Occupations. See Otis Dudley Duncan, "A Socioeconomic Index for All Occupation" in Albert J. Reiss, Jr., and others, Occupations and Social Status (New York: Free Press of Glencoe, 1961), pp. 109-38. Downward or upward mobility is defined as a change of at least three points in the Duncan Index between the occupation of respondent's first job and 1966 job.

13 percent reported that they disliked their jobs, in contrast with only 3 percent of the control group. Also, on the basis of responses to a hypothetical job offer, those who were to lose their jobs appeared to register somewhat weaker attachments to their 1966 employers than did the control group. Over two-fifths of the latter, compared with a third of the displaced group, indicated that they would not consider the hypothetical job at any conceivable wage rate.

How did the jobs in which the men served in 1966 relate to others they had held during their work careers? The data in Table 6 indicate that the vast majority of the workers who were to be displaced--over four-fifths of the total--had served longer with their 1966 employer than with any other during their entire work careers, and in this respect there was virtually no difference between them and the control group. Focusing on their occupations, 62 percent of those who were to be displaced and 66 percent of the control group regarded their current assignments to be the best of their career. Finally, with respect to lifetime occupational mobility, over three-fifths of both groups had climbed up the occupational ladder between their first job and the one they held in 1966, while 19 percent of the displaced group and 14 percent of the control group had moved in the opposite direction. Thus, even though the men who were subsequently to be displaced had less attractive jobs in 1966 than their counterparts in the control group, it must be emphasized that relative to their total careers those jobs were about as likely to be the longest and the best that they had ever held as was the case for the control group.

III POST-DISPLACEMENT LABOR MARKET EXPERIENCE

In this section we assess the impact of displacement on subsequent labor market status by comparing the circumstances of the displaced workers with those of the control group as of 1973.[10] For all members of the sample this was at least two years subsequent to the job separation. For as many as one-fourth it was six years or more following the loss of job. To ascertain the extent to which the passage of time softens the impact of the displacement, some of the tables classify displaced workers (and their matched control group members) according to the date of separation from the 1966 employer--between 1966 and 1969 and between 1969 and 1971.

Duration of Unemployment after Displacement

However, before turning to this analysis, it is of some interest to inquire how long the displaced workers were without work before finding other jobs. Because of certain ambiguities in the work history data, it is not possible to answer this question with precision; in eleven of the 99 cases it is possible only to be certain of the minimum number of weeks of unemployment,[11] and in five additional cases it is possible to establish only a range of estimates.[12] Nevertheless, it is noteworthy that in at least two-fifths of the cases the displaced workers moved into other jobs

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[10] We use 1971 data for some measures that are not available for 1973.

[11] In five of these cases the minimum number was above 30; in the remaining six it was under 8.

[12] In all cases the lower bound of this range was 0 and the upper was no higher than 8.

without suffering a full week of unemployment (Table 7). At the other extreme, in one-eighth of the cases the individual is known to have remained unemployed for at least half a year; taking account of the uncertain cases, this proportion could have been as great as one-fifth. Our most conservative estimate of the average (mean) number of weeks of unemployment suffered by the displaced men is slightly under 9.

Table 7

Number of Weeks of Unemployment[a] Between Displacement and Entry into New Job

(Percentage distribution)

Number of weeks	Percent
n	99
Total percent	100
0	41
1-4	20
5-9	13
10-15	8
16-25	4
26 or more	13

[a] In 16 cases the number of weeks of unemployment could only be estimated. Where the estimate was a definite range, the upper limit of the range was used. Where the estimate was a minimum value, this was used in the tabulation. See text and footnotes 11 and 12.

Labor Force Status

It is noteworthy that by 1973 the extent of labor market participation was about as high among the displaced workers as among the control group (Table 8). As measured by the survey week labor force participation rate,

Table 8

Displaced Workers and Control Group, by Date of Displacement and Measures of Labor Market Participation, 1971 and 1973

(Percentage distributions)

Measure	Total		1966-1969		1969-1971	
	Displaced	Control	Displaced	Control	Displaced	Control
Labor force and employment status, 1971						
n	98	99	52	53	46	46
Total percent	100	100	100	100	100	100
Employed	74	91	75	88	73	94
Unemployed	12	0	6	0	19	0
Out of labor force	14	9	19	12	8	6
Chi-square	48.26[a] ($p<.001$)		18.27[a] ($p<.001$)		30.19[a] ($p<.001$)	
Labor force and employment status, 1973						
n	99	99	53	53	46	46
Total percent	100	100	100	100	100	100
Employed	68	73	64	66	74	83
Unemployed	6	1	4	2	8	0
Out of labor force	26	25	32	32	17	17
Chi-square	25.53 ($p<.001$)		1.17 ($.50<p<.70$)		1.85[a] ($.10<p<.20$)	
Retirement status, 1973						
n	99	99	53	53	46	46
Total percent	100	100	100	100	100	100
Retired	23	18	30	27	14	6
Not retired	77	82	70	73	86	94
Chi-square	2.26 ($.10<p<.20$)		0.22 ($.50<p<.70$)		6.40 ($.01<p<.02$)	

a In computing chi-square, "unemployed" and "out of labor force" were combined to avoid an expected frequency of zero.

the proportions of the two groups who were inactive were virtually identical at about one-fourth;[13] using reported "retirement" as the criterion, the displaced workers were somewhat more likely to have withdrawn (23 percent versus 18 percent). From one point of view these findings are surprising in that one might have expected that an inability to find other work would have driven substantial numbers of the displaced workers from the labor market, producing significantly lower labor force participation rates among them than among the control group. However, in interpreting these results it must be borne in mind that the displaced workers, because of their less fortunate economic circumstances even prior to displacement, would have been less likely than members of the control group to retire.[14]

Unemployment and Employment

At the time of the 1973 survey, 6 percent of the total group of displaced workers were unemployed, as compared with only 1 percent of the control group[15] (Table 8). This, it is to be noted, represented a

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[13] As of 1971, the proportions were 14 percent of the displaced workers and 9 percent of the control group. It is interesting to note that only one respondent in each of these groups explained his failure to seek work on the basis of a belief that no work was available.

[14] There is strong evidence that the probability of retirement, other things being equal, is positively related to the level of financial resources. See Richard Barfield and James Morgan, Early Retirement: The Decision and the Experience (Ann Arbor: Institute for Social Research, 1969). It may be noted in this connection that at the time of the 1966 interview 41 percent of the control group, but only 36 percent of the workers who were subsequently to be displaced, reported that they expected to retire prior to age 65.

[15] It is to be noted that these are proportions of the total groups, rather than unemployment rates. The unemployment rate among the displaced workers in 1973 was 8.2 percent in contrast to a rate of 1.4 percent among the control group.

substantial improvement over the situation in 1971, at which time 12 percent of the displaced workers and none of the control group were unemployed.. In both years, there is a very perceptible improvement as the date of displacement becomes more distant.

Reflecting these differences in unemployment experience, the average number of weeks of employment during the twelve months prior to the 1973 interview was higher among the control group than among the displaced workers (Table 9). Seventy-six percent of the former, but only 66 percent of the latter, worked 52 weeks. This difference, however, was attributable largely to the experience of the most recently displaced workers. Among those who had lost their jobs between 1966 and 1969 the proportion of full-year workers was about as high as among their counterparts in the control group.[16]

Among the men who were employed at the time of the 1973 survey, the displaced workers and the control group were equally likely to have full-time jobs, defined as those in which an individual worked at least 35 hours during the week (95 percent versus 96 percent). However, average hours worked were higher among the displaced workers than among the control group because of the larger proportion of the former who worked longer than 40 hours during the survey week (43 percent versus 33 percent)..

Occupation and Earnings

The most substantial differences between the displaced workers and the control group were not with respect to whether or how long the

[16] The proportions of the two groups who did not work at all between the 1971 and 1973 surveys were fairly similar--12 percent of the displaced workers and 9 percent of the control group.

Table 9

Displaced Workers and Control Group, by Date of Displacement and Measures of Employment in 12-Month Period Prior to 1973 Survey

(Percentage distributions)

Measure	Total		1966-1969		1969-1971	
	Displaced	Control	Displaced	Control	Displaced	Control
Number of weeks worked						
n	87	90	44	48	43	42
Total percent	100	100	100	100	100	100
0	5	7	8	5	3	9
1-26	16	7	12	11	20	3
27-48	7	10	8	12	6	7
49-51	5	0	2	0	8	0
52	66	76	70	72	62	82
Mean	42.5	44.1	42.7	43.4	42.3	44.9
Chi-square	6.74[a] (.05<p<.10)		0.16[a] (.98<p<.99)		61.44[a] (p<.001)	
Number of hours usually worked per week						
n	82	82	41	44	41	38
Total percent	100	100	100	100	100	100
1-34	5	3	6	4	3	3
35-40	52	63	52	56	51	72
41 or more	43	33	41	40	45	25
Mean	43.3	43.1	42.9	43.5	43.6	42.6
Chi-square	2.87 (.20<p<.30)		0.49 (.70<p<.80)		5.99 (.05<p<.10)	

[a] In computing chi-square, the categories 49-51 and 52 were combined to avoid an expected frequency of zero.

individuals were employed, but with respect to type of employment and amount of earnings of those who were working. To begin with, while all members of both groups had been wage and salary workers in 1966, 8 percent of the displaced workers and 5 percent of the control group were self-employed as of the survey week in 1973 (Table 10). Secondly, members of the displaced group were much more likely to have slid down the occupational ladder between 1966 and 1973. Almost three-fifths of the displaced workers, in contrast to only one-fifth of the control group, had experienced a downward occupational move. On the other hand, it is interesting that almost equal proportions of the two groups had moved up the occupational ladder (15 percent of the displaced workers versus 12 percent of the control group).

Comparison of the 1973 occupational distributions of the employed members of the two groups (Table 10) with the occupational distributions for 1966 (Table 3) shows that there was an especially large movement out of professional and managerial positions on the part of the displaced workers. For example, in 1966 identical proportions (27 percent) of the workers who were ultimately to be displaced and of the control group were in the professional and managerial categories; in 1973, the proportion of displaced workers in these categories had dropped to 18 percent, while the proportion among the control group had actually increased to 34 percent. The pattern of change in occupational status is reflected in the changes in earnings experienced by members of the two groups of workers who were employed as wage and salary workers in 1971 (Table 11)[17]. Three-fourths

[17] There is no available measure of average hourly earnings for 1973.

Table 10

Displaced Workers and Control Group, by Selected Measures of Occupational Status, 1973

(Percentage distributions)

Measure	Displaced	Control
Occupational mobility, 1966-1973		
n	68	73
Total percent	100	100
Downward	56	19
No change or lateral[a]	29	68
Upward	15	12
Chi-square	55.29 ($p<.001$)	
Occupation of 1973 job		
n	68	73
Total percent	100	100
Professional, technical, managerial	18	34
Clerical, sales	17	12
Craft	20	17
Operatives	30	22
Service	7	10
Nonfarm laborers	5	4
Farm	2	0
Chi-square	8.62[b] ($.10<p<.20$)	
Class of worker, 1973		
n	68	74
Total percent	100	100
Self employed	8	5
Wage and salary	92	95
Chi-square	1.21 ($.20<p<.30$)	

a A lateral move is defined as one involving a change in Duncan Index of less than 3 points in either direction.

b In computing chi-square, the last two categories were combined in order to avoid an expected frequency of zero.

Table 11

Displaced Workers and Control Group, by Changes in Hourly and Annual Earnings

(Percentage distributions)

Measure	Displaced	Control
Percent change in average hourly earnings, 1966-1971		
n	50	75
Total percent	100	100
Decrease	16	5
Increase < 25 percent	30	18
Increase 25-49 percent	25	52
Increase 50 percent or more	29	25
Chi-square	27.90 ($p<.001$)	
Percent change in annual earnings, 1965-1972		
n	57	60
Total percent	100	100
Decrease	19	10
Increase < 25 percent	21	25
Increase 25-49 percent	22	24
Increase 50 percent or more	38	41
Chi-square	3.74 ($.20<p<.30$)	

of the control group had experienced an increase in average hourly earnings of at least 25 percent between 1966 and 1971, in contrast with only about one-half of the displaced workers. One in six of the displaced workers, but only one in twenty of the control group, suffered a decrease in hourly earnings over the five-year period. A similar, although less pronounced, pattern of differences between the two groups is discernible in changes in annual earnings over the period from 1965 to 1972.[18]

It is interesting that the displaced men who found new jobs immediately fared better with respect to both occupation and earnings than those who suffered some unemployment. Table 12 classifies the displaced workers into two groups: those with zero weeks of unemployment between job loss and reemployment and those with one or more weeks. Each of these groups is compared with the specific individuals in the control group with whom they were "matched." It will be noted that the displaced workers generally fare worse than the control groups irrespective of unemployment experience, but that the disparity is greater in the case of those with some unemployment. To illustrate, among men with no unemployment, 46 percent experienced downward occupational mobility between 1966 and 1973, as compared with 16 percent of the control group, a differential of 30 percentage points. Among those with some unemployment, on the other hand, 72 percent of the displaced workers moved downward as compared with 16 percent of the control group, a differential of 56 percentage points.

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[18] The comparison is between the 12-month period prior to the 1972 survey and calendar year 1965 for those employed as wage and salary workers at the 1966 and 1973 survey dates.

Table 12

Displaced Workers and Control Group, by Extent of Post-Displacement Unemployment and Changes in Occupation and Earnings

(Percentage distributions)

Change in occupation or earnings[a]	Zero weeks of unemployment		One or more weeks of unemployment	
	Displaced	Control	Displaced	Control
Occupational mobility, 1966-1973				
n[b]	21	21	33	33
Total percent	100	100	100	100
Downward	46	16	72	16
Lateral or upward	54	85	28	84
Chi-square	16.43 ($p<.001$)		49.56 ($p<.001$)	
Percent change in average hourly earnings				
n[c]	20	20	25	25
Total percent	100	100	100	100
Decrease	11	6	18	0
Increase <25 percent	36	25	32	23
Increase of 25 percent or more	53	69	50	77
Chi-square	7.59 ($.02<p<.05$)		7.56[d] ($.001<p<.01$)	

a The numbers of sample cases for whom there was information on annual earnings were too small to permit reliable analysis.

b Universe consists of matched respondents employed in 1966 and 1973 for whom a Duncan Index was reported.

c Universe consists of matched respondents employed as wage and salary workers in 1966 and 1971 for whom an average hourly earnings figure was reported.

d In computing chi-square, the first two categories were combined to avoid an expected frequency of zero.

Some prototypical cases It is possible to put some flesh on the cold framework of statistics that has been presented by gleaning from the work histories the highlights of the labor market experience of a few prototypical individuals. As has been noted, a small minority of the displaced workers actually improved their positions as the result of their job loss. One such man was the 56-year-old window trimmer with 13 years of education and 35 years of tenure, who was earning in the neighborhood of $14,500 per year prior to his layoff sometime between 1968 and 1969. He was successful in finding a job as a personnel worker with no intervening unemployment, earning $18,000 in 1970 and $30,000 in 1972.[19]

Illustrative of an individual whose position remained substantially unchanged was the 47-year-old optician with 10 years of education who had accumulated 18 years of service with his 1966 employer and whose 1965 earnings were $7,100. Separated sometime between 1967 and 1969, he immediately found another job as an optician, and experienced a continuously increasing level of annual income through 1972, when it was $9,418.

Far more typical were cases in which the individual suffered a decrease both in occupational status and in income. One illustration is provided by a 48-year-old accountant who had served with his 1966 employer for 27 years and whose annual earnings were $18,500 per year when he was laid off (between the 1969 and 1971 surveys). After being unemployed for over a year, he found a job as a salesman; at the time of the 1973 survey

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[19] Annual income figures in this section and elsewhere in the paper relate to the 12-month period preceding the date of the survey, except for 1965, which refers to the calendar year.

he had worked for only 18 weeks at that job and had earned $4,000--implying an annual salary of somewhat under $12,000. Another example involves a 57-year-old metal roller with an eighth grade education who had 40 years of service in his 1966 job and who earned about $9,089 per year. After his separation, which occurred at some time between the 1967 and 1969 surveys, he suffered 13 weeks of unemployment before finding a job as a gardener at which he earned $3,000 per year. By the time of the 1973 survey, he reported himself retired.

Changes in Health and in Attitudes

Did the unfavorable labor market experiences of the displaced workers have any effects on their physical and mental well-being? While the evidence on the question is extremely limited, it contains at least the suggestion that the costs of job loss may have been more than simply economic. To begin with, deterioration in health between 1966 and 1973 appears to have been somewhat more common, and improvement somewhat less common, among the displaced workers than among the control group (Table 13). Thus, while the proportion of men with health problems in 1966 was slightly lower among those who were subsequently to lose their jobs than among the control group (15 percent versus 17 percent), by 1973 the relationship was reversed (40 percent versus 30 percent).[20]

[20] On the basis of the data in Table 12 alone, one cannot be certain that the health problems that developed between 1966 and 1973 followed (rather than preceded) the displacement. However, our scrutiny of the 25 sample cases in which health problems emerged between 1966 and 1973 has indicated that in 16 the health limitation appears to have followed the loss of the job the respondent had held in 1966. In the remaining cases either the timing is unclear or the health problem antedated the displacement.

Table 13

Displaced Workers and Control Group, by Comparison of Health, 1966-1973[a]

(Percentage distributions)

Comparative health condition	Displaced	Control
Total number	99	99
Total percent	100	100
Health affects work both years	13	10
Health affects work in 1966 only	2	7
Health affects work in 1973 only	27	20
Health does not affect work in either year	58	63
Chi-square	3.54 (.30<p<.50)	

a Respondents were asked in each year whether their health or physical condition limited the kind or amount of work they could do.

Secondly, it also appears that the displaced workers were likely to experience a sense of "powerlessness" and a loss of initiative as the result of their misfortunes. The evidence for this interpretation consists of changes in scores on an abbreviated version of the Rotter I-E (internal-external) scale that was administered to all members of the NLS sample in 1969 and again in 1971. The scale is designed to measure the extent to which an individual perceives success to be contingent upon personal initiative. At one extreme are those ("internals") who believe that success is the result largely of their personal conduct and effort;

at the other are those ("externals") who believe that an individual's experiences are governed largely by forces beyond his control.[21]

In order to be reasonably confident of direction of causation, we examine in Table 14 only those displaced workers (and their matched controls) for whom the job loss occurred between 1969 and 1971, after the initial administration of the Rotter test. It will be noted that prior to displacement the workers who were subsequently to lose their jobs were, if anything, more likely than the control group to be internal (72 percent versus 65 percent). By 1971, however, the relationship was reversed; only 58 percent of the displaced workers as compared with 72 percent of the control group, were classified as internal.

Finally, it appears that their job loss and subsequent experience caused the displaced workers to be likely to perceive age discrimination in the labor market. Whereas only 8 percent of the control group believed in 1971 that they had suffered age discrimination during the previous five years, the corresponding proportion of the displaced workers was twice as great (Table 15).

On the other hand, given the differences in the objective circumstances of the two groups, it is rather remarkable that there are no corresponding differences in the degree of satisfaction they expressed in their 1971 jobs.[22] Of those who were employed in that year, almost

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[21] For a fuller description of the Rotter scale and an interesting exploration of its interrelationships with labor market experience, see Paul Andrisani and Gilbert Nestel, "Internal-External Control and Labor Market Experience," in Herbert S. Parnes, et al., The Pre-Retirement Years: Five Years in the Work Lives of Middle-Aged Men, U.S. Dept. of Labor Manpower Research Monograph No. 15 (Washington: Government Printing Office, 1975), pp. 197-235.

[22] A question on job satisfaction was not included in the 1973 survey.

Table 14

Displaced Workers Whose Job Loss Occurred After 1969, and Control Group, by Rotter I-E Scores in 1969 and 1971

(Percentage distributions)

Rotter I-E Score	Displaced	Control
1969		
Total number	38	37
Total percent	100	100
Internal[a]	72	65
External[b]	28	35
Chi-square	2.61 (.10<p<.20)	
1971		
Total number	40	42
Total percent	100	100
Internal[a]	58	72
External[b]	42	28
Chi-square	4.28 (.02<p<.05)	

a Scores of 23 or under.
b Scores of 24 or over.

Table 15

Displaced Workers and Control Group, by Perception of Age Discrimination, 1971

(Percentage distributions)

Any discrimination because of age, 1966-1971	Displaced	Control
Total number	98	99
Total percent	100	100
Yes	17	8
No	83	92
Chi-square	14.22 (p<.001)	

identical proportions of the two groups expressed satisfaction in their jobs (Table 16). The proportions who reported moderate or substantial dissatisfaction were 14 percent for the displaced group and 10 percent for the control group. Indeed, when the degree of satisfaction of each individual in 1971 is compared with that for 1966, there are more frequent increases among displaced workers than among the control group; it may very well be that the unpleasant experiences of the displaced workers made them easier to please when they did find jobs.

Table 16

Displaced Workers and Control Group, by Measures of Job Satisfaction

(Percentage distributions)

Measure	Displaced	Control
Satisfaction in 1971		
Total number	68	89
Total percent	100	100
Likes job very much	50	47
Likes job somewhat	36	43
Dislikes job	14	10
Chi-square	4.40	
	(.10<p<.20)	
Comparison of satisfaction, 1966-1971		
Total number	68	89
Total percent	100	100
Likes job very much both years	31	39
Likes job very much 1966 only	19	16
Likes job very much 1971 only	19	8
Likes job very much neither year	31	37
Chi-square	14.84	
	(.001<p<.01)	

IV SUMMARY AND CONCLUSIONS

The loss of a job after one has served in it for a considerable period of time is, under any circumstances, likely to be a traumatic experience. When it occurs during middle-age, it doubtless often assumes the proportions of a catastrophe. The evidence adduced by the present study suggests that while such displacements are not common, they occur frequently enough to constitute a social problem. More than one out of every 25 middle-aged men who had served at least five years in their jobs (outside of agriculture and construction) in 1966 had been involuntarily separated from those jobs by 1971. Very roughly, this represents something in excess of one-third of a million persons.[23]

No occupational or educational category of men is immune from this kind of disruption in their work careers. The occupational and educational distributions of displaced workers are very similar to those of all men in the universe of workers from which they came. On the other hand, the incidence of displacement is much greater among workers in the private than in the public sector and there is also substantial variation by industry, with trade being an especially high-risk industry. As would be expected, the likelihood of such displacement varies also by length of service; however, even among men with 20 or more years of tenure with a given employer as of 1966, the displacement rate by 1971 was over 3 percent.

In terms of earnings, steadiness of employment, and pension coverage, the workers who were subsequently displaced had less desirable jobs in

[23] This is a conservative estimate, since it seems reasonable to believe that men who have lost their jobs are more likely to have "disappeared" from the NLS sample.

1966 than comparable men who were to experience no such involuntary separation. The evidence suggests that the displaced group worked for lower wage firms that were less likely to be unionized. Nevertheless, their 1966 jobs were just as likely to be the longest and the best of their entire careers as was the case among their more fortunate counterparts who suffered no subsequent job loss.

Not surprisingly, the displaced workers were more likely to be unemployed several years after their job loss than comparable workers who experienced no such separation. However, the differences were not as great as might have been expected. Six percent of the displaced workers, compared with 1 percent of the control group were unemployed in the survey week of 1973. As a matter of fact, two-fifths of the displaced workers appear to have found work immediately after being separated from their 1966 jobs. Nor were the displaced workers perceptibly more likely to have left the labor force by 1973. The major long-term impact of displacement appears to have been manifested in a substantial deterioration in occupational status. Three-fifths of the displaced workers who remained employed had experienced a downward occupational move between 1966 and 1973, in contrast with only one-fifth of the matched control group. As a consequence, the relative gain in average hourly and average annual earnings was smaller for the displaced workers. In addition to these economic losses, it appears likely that the displaced workers suffered also from deteriorating health and some sense of alienation.

Case studies of plant shut-downs have generally emphasized the necessity of advance notice of such closings and of special services for

the displaced workers. Where displacement results from the closing of an entire plant, the problem is obviously intensified because of the large numbers of individuals who are thrown on the local labor market, and unemployment may therefore be a much more pervasive and persistent problem in that context than is suggested by the evidence of the present study. However, while efforts to prevent and to minimize the duration of unemployment are clearly important, our evidence suggests that unemployment is often only the most immediate and dramatic cost of displacement among middle-aged men. Even after they find other work, many individuals continue to suffer the consequences of the displacement through less attractive occupational assignments, lower earnings, and perhaps some damage to their physical and mental well-being.

Table A-1

Multiple Classification Analysis: Unadjusted and Adjusted[a] Measures of the Likelihood of Displacement, 1966-1971, by Control Variable Characteristics

Characteristic	Number of sample cases	Percent displaced		T-ratio	F-ratio
		Unadjusted	Adjusted		
Race					0.73
Whites	1,684	4.7	4.7	0.86	
Blacks	627	3.3	3.4	-0.81	
Age					0.68
45-49	865	4.1	4.0	-1.10	
50-54	802	4.9	4.8	0.34	
55-59	644	5.0	5.2	0.81	
Tenure					3.20**
5-9 years	435	5.5	5.7	1.21	
10-19 years	888	5.4	5.5	1.55	
20 or more years	988	3.6	3.4	-2.43	
Occupation					0.32
Professional, technical, managerial	523	4.6	4.8	0.20	
Clerical, sales	287	3.6	3.2	-1.24	
Craft	506	5.2	5.2	0.64	
Operatives	610	5.1	4.6	-0.01	
Service	195	3.9	4.9	0.15	
Nonfarm laborers	189	4.0	4.7	0.03	
Industry					7.80***
Mining, forestry, fisheries	43	3.1	3.9	-0.22	
Manufacturing	1,015	5.8	5.8	2.29	
Transportation, communications, public utilities	364	2.1	2.3	-2.22	
Trade	300	9.2	9.3	4.14*	
Service (including finance, insurance and real estate)	350	2.6	2.3	-2.04	
Public administration	239	0.1	0.1	-3.36*	
Local labor force size					4.87***
Less than 100,000	772	3.2	2.9	-2.82	
100,000 - 499,999	699	6.0	6.2	2.42	
500,000 or more	840	4.9	4.9	0.50	
Years of school completed					0.65
0-11 years	1,330	4.8	4.5	0.27	
12 years	561	4.4	4.7	0.13	
13-15 years	191	6.2	6.2	1.14*	
16 or more years	217	2.9	3.5	-0.80	
R^2 (adjusted)			0.02		
F-ratio			2.66***		

a Adjusted for the effects of all the variables shown in the table. For interpretation of adjusted values, see text, p. 6, n. 7.

*Significant at .10 probability level.

**Significant at .05 probability level.

***Significant at .01 probability level.