Work Transitions and Health in Later Life

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Objectives. The goal of the analysis was to examine the association between health status and work behavior among men aged 55-69. We specifically examined the conditions under which health is most strongly associated with labor force exit and reentry.

Methods. The association between health and labor force transitions was examined using logistic regression analyses, based on data from the 1984 and 1985 panels of the Survey of Income and Program Participation.

Results. We found that for men aged 55-69 in the mid-1980s, poor health was positively associated with labor force exit, and negatively associated with returns to work. Although these main effects are very strong, we found that health was particularly important among individuals for whom retirement was least attractive. Health had its most substantial association with work transitions among men with working wives, as well as among men who were younger, or who had limited nonwork financial resources. Health also had a particularly strong association with work transitions among Black men, but only with reference to reentry decisions.

Discussion. Our results suggest that continued work may have limited appeal for men who are prepared for retirement, even when they are in excellent health.

Poor health is often highlighted as an important consideration in the decision to leave the labor force (e.g., Hardy, 1982; Morgan, 1981; Sammartino, 1987; Smith, 1985), and several studies suggest that disability-related exits occur frequently as well (Hayward, Friedman, & Chen, 1996; Hayward & Grady, 1990; Hayward, Hardy, & Grady, 1989). This literature clearly establishes that poor health serves as a barrier to active labor force participation, and suggests that good health is both a prerequisite for and a motivating force in continued work activity. However, those characteristics and resources that may alter the association between health and labor force decisions—such as features of family life or socioeconomic well-being—have not been systematically examined. The purpose of this study was to examine the complex association between health and work transitions among older men, focusing on both labor force exit and reentry. This research extends and refines our understanding of late-life work behavior by showing that the association between health and labor force transitions is conditioned by important personal characteristics. For many men—those who are older, who have nonworking wives or are unmarried, and those with adequate nonwork incomes—the correspondence between health status and labor force transitions is very limited.

Work Life and Health Status

Researchers agree that poor health often leads to an exit from the paid labor force (see discussions in Bazzoli, 1985; Sammartino, 1987; Wolfe, 1985). For example, Anderson, Burkhauser, and Quinn (1986) find that older men who experience a decline in health retire at a younger age than expected. Recent evidence from the Health and Retirement Study (HRS) also has shown that health status plays an important role in the early withdrawal of older workers from the labor force (Bound, Schoenbaum, & Waidmann, 1995). The intrinsic relationship between work and health has led some researchers to treat them as jointly determined, or to examine retirement and disability as alternative pathways out of the labor force (Anderson & Burkhauser, 1985; Chirikos & Nestel, 1985; Hayward et al., 1996; Hayward & Grady, 1990; Hayward et al., 1989).

At any given time, both health status and work status are embedded within a series of interlocking transitions. Work status is affected not only by features of one’s earlier work career, but also by features of one’s “health career” such as the onset and progression of a disabling condition (Smith, 1985). All else equal, individuals who are in poor health are motivated to leave the labor force, and their healthy counterparts are motivated to stay. In addition, reentry and partial retirement occur among a share of those retiring, but it is often of short duration (Ruhm, 1990). However, once a person is in a nonworking status, poor health acts as a barrier to labor force reentry, while good health facilitates it (Morrow-Howell & Leon, 1988; Peracchi & Welch, 1994).

The variable effects of poor health on work status.—Given the barriers to work experienced by many individuals in poor health, we anticipate a strong association between health status and work transitions. We expect that older working men in poor health are more likely to exit the labor force, and older nonworking men in poor health are less likely to reenter, than are their more healthy counterparts. Yet, health status is embedded within a matrix of other influences shaping work behavior, including the normative acceptability and the affordability of not working, policy-based work disincentives, and factors motivating the desire for a retirement lifestyle. We anticipate that these
influences will condition the extent to which health and work transitions are associated with one another. Even those in good or excellent health may be drawn to nonwork, especially if other supports are present. To our knowledge, the ways in which health and other work-related characteristics influence work transitions have not been systematically examined in previous studies. We expect that the marginal influence of health will be most pronounced for those otherwise lacking strong motivation to retire.

Among men with limited nonwork income, relatively young men, and men with a working spouse, the motivation to continue working is great. All else equal, men who have nonwork incomes through pension or other forms of wealth are attracted to the retirement status. The nonworker role is particularly appealing to potential pension recipients; indeed, the work disincentive features of Social Security and many private pension plans are well documented (Quinn & Burkhauser, 1994; Wise, 1997). In contrast, those lacking pension eligibility must choose between continued wage work and low retirement incomes, which may be supplemented by disability benefits in some cases. The pull to retirement becomes stronger as men age, both through normative pressures and through age-graded work disincentives. As reflected by the long-term decline in labor force participation of men in industrialized countries world-wide (Quinn & Burkhauser, 1994), aging men have increasingly experienced a pull toward retirement that makes nonwork a normative status, even among those in good health. In addition, literature on the coordination of retirement decisions between spouses suggests that older men who have nonworking spouses, as well as those who are not married, may be more open to the possibility of retirement (Henretta & O’Rand, 1983; Henretta, O’Rand, & Chan, 1993; O’Rand, Henretta, & Krecker, 1992; Szinovacz, 1989). However, men with working wives also have an alternative source of income that may generate an income substitution effect should labor force exit be desirable.

Poor health may override other motivations to work, yet good health is expected to amplify these motivations, leading to particularly high probabilities of remaining in the workforce, or to reentering the workforce if exit has already occurred. As a result, men who have limited nonwork incomes, who are younger, or who have working wives may be motivated to pursue a work attachment as long as health does not become so poor as to intervene.

Although the interaction of health with other characteristics shaping late-life work behavior has not been systematically addressed in the literature, some empirical evidence suggests that health has a stronger effect on retirement for some groups than for others. For example, Sammartino (1987) reviews evidence suggesting that the chances a man in poor health actually retires likely depends on affordability as well as age, while Burr, Massagli, Mutchler, and Pienta (1996) note differences between Black and White men in the effects of health on work behavior (see also Bound et al., 1995; Bound, Schoenbaum, & Waidmann, 1996).

Additional evidence suggesting that health may vary in its influence on work is provided by Henretta, Chan, and O’Rand (1992), who examined self-defined responses to work limitations, using data from the Social Security Administration’s New Beneficiary Survey. They found that poor health is a significant predictor of several reported reasons for retirement that are not actually health-based. Thus, many individuals who reported retiring because they wanted to, could afford it, or for some other primary reason, were also in relatively poor health (although, according to these reports, health was not the factor prompting the retirement). Moreover, among those reporting poor health as the primary reason for retirement, many gave additional justification such as wanting to retire, or other reasons; this again suggests that for some, health alone may be an insufficient basis of action. Although the goal of the Henretta and associates study (1992) was to examine reported reasons for retirement rather than the decision to exit or reenter the labor force, their results suggest that a cluster of characteristics—often including health in combination with other precipitating factors—may drive labor force decisions. Applied to our study, these results suggest that the association between work transitions and health may be shaped not only by the degree of disability, but also by health status interacting with other characteristics of the older individual that shape motivation for work transitions.

Preparation for retirement.—Other studies (e.g., Ekerdt, Vinick, & Bossé, 1989) suggest that work behavior may be shaped by level of preparation for retirement. An individual who has planned for or is otherwise open to nonwork would be more likely to exit the workforce and remain nonworking. Because other factors draw them to retirement, in these cases health status may be a secondary concern when making choices about work. In contrast, Ruhm (1990) suggests that individuals who make decisions regarding labor supply under conditions of “considerable uncertainty” experience higher rates of reentry as a result. Ruhm finds support for this in that younger men, men lacking pension coverage, and non-White men are more likely to reenter the workforce. Health may be a very salient part of the work—retirement decision process among those who are making work-related decisions under great uncertainty, and who may not yet be prepared to assume the role of nonworker. For these individuals, the continued attractions of the worker role may be sufficiently great that those in good health continue to work, or resume working following a brief hiatus. Characteristics or behaviors that make the nonwork role more acceptable, or that may signal the beginnings of a preretirement process (Ekerdt & DeViney, 1993), are therefore important considerations.

Hypotheses

These arguments lead to a series of hypotheses about the variable influence of health on labor force transitions. We suggest that the work-limiting influence of poor health on labor force transitions will be stronger among those for whom nonwork may be most economically challenging, for the younger men, as well as for those with working wives. Among those who have or expect higher nonwork income, who are older, who have a nonworking spouse, or who are not married, health is expected to make a smaller marginal contribution to the choice to modify labor supply. Some literature (Burr et al., 1996) also leads us to anticipate differences in the association between health and work transitions between White and African American men. These effects will be examined empirically through inspection of a series of interactions including health status.
METHODS

Data

In this study we use data from a merged sample of respondents from the 1984 and 1985 panels of the Survey of Income and Program Participation (SIPP; Kasprzyk, Doyle, Goldstein, & McMillan, 1987). The SIPP is designed to provide data for a nationally representative sample of the civilian, noninstitutionalized population. Panels are fielded for 2.5 years; the 1984 panel began in October 1983, and the 1985 panel began in February 1985. The two panels are distinct and contain no overlapping respondents. The 1984 and 1985 panels are merged in the present study to form a combined sample, in order to obtain a larger sample for analysis. The SIPP interviews respondents every 4 months and includes information on labor force behavior, household composition, and other characteristics often reported on a month-to-month basis. Each 4-month reference period is referred to as a wave. A health topical module through which information on health status is obtained occurs in the third wave for the 1984 panel, and in the sixth wave for the 1985 panel.

Labor force transitions are identified in this study through a comparison of work status at two timepoints, 8 months apart. To gauge the association between health and labor force transitions more accurately, we select respondents who participated in the health topical module in each panel. The observation period for this study begins at the time of the health report, which occurs in wave 3 for the 1984 panel, and wave 6 for the 1985 panel. Our assessments of initial labor force status and other characteristics are also obtained at the start of this observation period. We then assess respondents’ labor force status at the end of the panels, subsequent to the health report. Inasmuch as the 1985 panel includes eight waves, and the health report occurs in the sixth, we compare labor force status two waves, or eight months, apart in both panels in order to make the covered time periods equivalent in length. We are therefore comparing labor force status reported in the third and fifth waves of the 1984 panel, and in the sixth and eighth waves of the 1985 panel. Due to the censored nature of the data, the relatively short timeframe covered, and the lack of repeated measures of key covariates such as health, examining the time dependency of these issues is not feasible with the SIPP.

The sample includes Black and White men aged 55 to 69 who were either included in both the first and last waves of our target period, or died or became institutionalized during this period. Those who left the sample during the observation period for other reasons (e.g., refusal to continue participating, moving out of the interview area) are excluded from the sample. These exclusions total 522 cases equivalent to 11% of the unweighted sample. Comparisons of the respondents leaving the sample with those remaining suggests that those attriting are less likely to report eligibility for pension income, report somewhat lower incomes, and are more likely to be from the 1984 panel. All other comparisons are not statistically significant.

Features of the sample design and patterns of attrition are accounted for by using modified weights generated from the data in our analyses. We start with the cross-sectional weights generated by the Census Bureau and included in the SIPP data for the initial wave of our data. These weights are then adjusted to account for attrition occurring during the observation period, taking into consideration differential attrition by panel year (1984/1985).

The respondents selected for this study were born between 1915 and 1930 and represent a particularly significant birth cohort. This cohort was indelibly affected by the economic upheaval of the Great Depression (see Elder, 1974), and many of its members participated directly or indirectly in World War II. These were among the first birth cohorts to have their work careers fully covered by Social Security, and they benefit from the subsequent changes to the Old Age, Survivors, and Disability Insurance program, such as the establishment of Medicare and inflation-adjusted Social Security payments. Large segments of this cohort took advantage of the GI Bill to pursue higher education and advanced training in technical skills after the war. They are the fathers of the baby boom generation and are noted for the relatively high quality of their health and economic situations in later life. These men, who at the time of interview were either potential or current retirees, represent a cohort of workers against whom future groups of late-life workers and retirees will be evaluated. Although the SIPP data are older than emerging data sets with arguably better indicators of health, particularly the Health and Retirement Study, they are the only suitable source of information on this cohort of men, as they move through their critical retirement decision phase of life. Moreover, among the most recent data available on the HRS cohort of men who were aged 51–61 in 1993, many have not yet moved into the ages considered here. In the future, research will undoubtedly examine these same questions when additional HRS data become available.

Variable Definitions

The key theoretical variables are labor force participation and health. Recent research suggests that, for many older persons, retirement is far from a crisp transition out of the labor force; instead, men often experience a period of time near the end of working life where moves in and out of the labor force are common (Mutchler, Burr, Pienta, & Massagli, 1997). Our goal is not to assess retirement—an exit from the labor force does not necessarily correspond to a decision to retire (Henretta, 1992). Rather, our purpose is to examine the relative stability of worker/nonworker roles in the presence of varying levels of health. Understanding that these statuses may be imbedded within a series of work transitions, we focus on labor force participation during the month prior to last interview as our outcome measure. This status, as well as labor force participation at initial observation, are assessed in the same way: men who report either working, having a job but not at work (e.g., on vacation or temporary leave), or being unemployed (actively looking for a job) are considered to be labor force participants. Separate analyses are conducted based on labor force status at first observation, so those initially observed to be not in the labor force, but participating in the labor force at last observation, have reentered the labor force. Similarly, those initially observed participating in the paid labor force, but not working or looking for work at final observation, have exited the labor force. Results of the separate analyses can therefore be interpreted as reflecting the effects of the independent variables on labor force transitions.

The measure of health used in this study is based on a self-ranking of well-being: the five response categories range from “excellent” to “poor.” Although some observers note that measures of this type may reflect a desirability bias (Bazzoli,
of pension funds beyond income provided by Social Security. Respondents receiving pensions at initial interview are included with those reporting that they would be eligible for pension income if they retired within the next few months. Personal income is the one-month total recorded at initial interview, reflecting income of the individual prior to transitions in work status. For those working, much of this income is composed of earnings. For those not in the labor force, personal income is a combination of Social Security and/or other nonwage resources. Income is logged in the multivariate analysis to account for its skewed distribution. Disability payments are also an important part of the decision to work (Bound & Waite, 1992; Quinn & Burkhauser, 1994). Although with these data we cannot assess whether a working individual would be eligible for disability payments — and virtually no working men received those payments — receipt of disability income may form a substantial barrier to returning to work. Accordingly, a dummy variable indicating whether disability payments were received is included in the reentry model only.

A number of other indicators relating to work and socioeconomic status are also examined. Occupational status is measured using a dummy variable distinguishing between manual and nonmanual workers. This indicator controls for features of job demands that impact on the health—labor force association, such as physical exertion (see Bound et al., 1995; Chirikos & Nestel, 1985; and Hayward, Grady, Hardy, & Sommers, 1996, for discussion of occupational effects). For working individuals, occupational assessment is based on occupation reported for current job. Respondents not working during the time period considered are assigned a value based on the occupation from which they retired, or the last occupation reported. Individuals who remained uncoded (n = 264, or 6% of the sample) received imputed values on the occupational status measure based on reported years of education.

An additional work-related variable is receipt of private insurance through current or past employment. Wise (1997) suggests that those covered by an employer’s insurance may continue to work, if insurance is otherwise unavailable, in order to bridge the time period until eligibility for Medicare is established. Moreover, if a worker is eligible for insurance coverage as a retiree, labor force exit may be facilitated. Wise finds that respondents in the HRS who are eligible for retiree coverage are more likely to plan to retire by age 62, but only among those in excellent or very good health. The insurance variable available in the SIPP reflects a respondent’s coverage by private health insurance through a current or former employer, union, or pension plan.

Finally, inasmuch as unemployment may precede or perhaps precipitate an exit from the labor force (OECD, 1995), a variable is included in the exit model indicating whether unemployment was experienced between the first and last observation. This variable is not included in the reentry model, because many men attempting to reenter the labor market would often experience at least a short spell of unemployment as they search for work.

Demographic characteristics included in the analysis are age, marital status, working status of spouse, and race. Age is assessed at initial observation. Wise (1997) identifies several discontinuities in the association between age and work exit, corresponding to work disincentives in Social Security and many private pensions, falling at ages 55, 60, 62, and 65. In addition to a continuous age variable, spline functions were imposed at 60, 62, and 65 to test for these discontinuities. Spline functions at adjacent ages were also examined in order to assess the result of “aging into” eligibility through the panel. With one exception, reflecting a discontinuity at age 65, these spline effects did not significantly improve model fit and were omitted from the analysis. The spline effect at age 65 also acts as an important control on the disability variable in the reentry model, inasmuch as those 65 and over are not eligible for disability payments. Marital status and working status of spouse are assessed at first observation. Men whose wives are in the labor force are coded as having working wives. A dummy variable indicating race of respondent is also included, as Black and White patterns of work are known to differ substantially throughout the life course (Burr et al., 1996; Gibson, 1987; Hayward et al., 1996; Welch, 1990).

Education level and net worth, although examined by past research as potentially related to late-life labor supply (Myers, 1991; Parnes & Sommers, 1994), were not significant predictors of either exit or reentry. Therefore, to preserve statistical power, these variables were omitted from the analysis with no apparent effect on the reported results. Variables not part of the analysis that would be desirable include measures of job satisfaction, self-reported desire for retirement, or other subjective indicators of attachment to work or nonwork. As no subjective indicators of this sort are available in the SIPP data, they cannot be included in the current analysis.

**RESULTS**

The results are based on the 4,100 men aged 55—69 in the combined 1984/1985 panels of the SIPP who meet the criteria outlined above. Members of the weighted sample have a mean age of 62, and 9% are African American. Just over a third of the men have working spouses. About half of the respondents are or were manual workers, and nearly three quarters are either receiving pension income or will be eligible for a pension upon retirement. Six percent of these men, all of whom are under age 65, report receiving some disability income. Half of the respondents report being covered by private health insurance through current or former employer, union, or pension fund.

Table 1 illustrates the observed transition patterns associated
with each work/health status at first interview. Overall, although most older men experienced stable labor force statuses over the observation period, about 10% either changed work status, died, or became institutionalized. The relatively low rates of change are a result both of the short observation period and the age heterogeneity of the sample. Given the cumulative nature of work exit decisions (e.g., the majority of older men who leave the labor force do not return), a longer observation period would necessarily result in our observing a higher rate of exit. Inasmuch as late-life reentry is often of short duration (Ruhm, 1990) and embedded in a sequence of labor force exits and reentries (Mutchler et al., 1997), a longer time period would not affect the reentry rates to the same degree. However, we have no reason to believe that a longer time period would necessarily change the extent or conditions under which health affects labor force behavior. These transition patterns illustrate that good health was significantly associated with a higher level of attachment to the labor force. Among those men initially observed in the labor force, 91% of those in excellent or very good health, but only 83% of those in fair or poor health, remained in the labor force 8 months later. Rates of exit were twice as high among those in the worst health compared to those in the best health (16% vs 8%). Similarly, among those initially observed to be out of the labor force, men in excellent or very good health were more than twice as likely to return to the labor force as were their counterparts in fair or poor health (8% of those in excellent or very good health, but only 3% of those in fair or poor health). Probabilities of dying or becoming institutionalized were much higher for those reporting poor health at first observation, especially if poor health was coupled with absence of the work role.

Embedded within Table 1, but not reported here, are substantial differences in transition patterns by age (details available from the corresponding author). Rates of exit for those initially observed in the labor force (excluding those dying or becoming institutionalized in the interim) were 5% for men aged 55–59, 14% for men aged 60–64, and 23% for those aged 65–69. Reentry rates were 11%, 4%, and 3% for the same age groups. Moreover, health effects were most substantial among the younger men. For example, the exit rates for the youngest men in the poorest health were more than three times as high as the rates for similarly aged men in the best health (10% vs 3%), but among the oldest men (those 65–69), exit rates were only 14% higher for those in the worst health (24% vs 21%). A similar pattern of health convergence with age is noted for reentry.

Although the descriptive results are consistent with our earlier arguments about the association between health and work transitions, it is necessary to determine whether this pattern holds net of other characteristics known to shape labor force behavior. Because of the categorical nature of the outcome variable, logistic regression techniques are used in the multivariate analyses (Maddala, 1983). The sample is stratified by labor force status at time 1, because the processes of exit and entry are assumed to be state-dependent (Hayward et al., 1996). Accordingly, two subsamples are defined at initial observation and analyzed separately: (a) men in the labor force and (b) men not in the labor force. Stratifying the sample in this way allows us to examine the mechanisms determining the labor force exit process and the labor force reentry process separately, without constraining them to be similar.

A total of 55 men either died or became institutionalized prior to the last observation and are omitted from the multivariate analysis presented in the subsequent tables. Although this represents only 1.3% of the sample, they are disproportionately drawn from the pool of men reporting poor health at first observation; therefore, care was taken to evaluate the potential bias in our results due to their exclusion. In additional analyses (not reported here) we included those dying or becoming institutionalized as a third outcome category, using multinomial logistic regression techniques to analyze these models. The estimates obtained for the work-related outcomes were virtually identical regardless of whether or not death/institutionalization was retained as a competing outcome. This gives us confidence that the results we report are robust with respect to this issue. Because the retention of this third category poses methodological limitations in later stages of the analysis due to small cell values, the men who died or became institutionalized during the study period are excluded.

In Table 2, odds ratios and confidence intervals from a multivariate binomial logistic regression analysis are presented. In the first column of results, odds ratios reflect the chances of exiting the labor force among those initially observed participating in the labor force. The second column reports odds ratios for reentering the labor force, among those initially observed to be not participating. The results illustrate that for this cohort of men, net of other characteristics, poor health prompted an exit from the labor force among those initially participating, and inhibited return to the labor force among those initially characterized as nonworking. Both comparisons reflect a substantial and

### Table 1. Labor Force Transition Table for 1984-1985 Merged SIPP Sample

<table>
<thead>
<tr>
<th>First Observation</th>
<th>In the Labor Force</th>
<th>Not in the Labor Force</th>
<th>Died/Institutionalized</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In the Labor Force</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent, very good health</td>
<td>91.4% (1018)</td>
<td>8.0% (88)</td>
<td>0.6% (6)</td>
<td>1112</td>
</tr>
<tr>
<td>Good health</td>
<td>89.3% (711)</td>
<td>10.4% (88)</td>
<td>0.3% (3)</td>
<td>802</td>
</tr>
<tr>
<td>Fair, poor health</td>
<td>82.6% (359)</td>
<td>16.0% (68)</td>
<td>1.4% (5)</td>
<td>432</td>
</tr>
<tr>
<td><strong>Not in the Labor Force</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent, very good health</td>
<td>7.8% (34)</td>
<td>92.2% (397)</td>
<td>0.0% (0)</td>
<td>431</td>
</tr>
<tr>
<td>Good health</td>
<td>4.8% (24)</td>
<td>93.8% (449)</td>
<td>1.4% (8)</td>
<td>481</td>
</tr>
<tr>
<td>Fair, poor health</td>
<td>3.4% (29)</td>
<td>92.5% (780)</td>
<td>4.1% (33)</td>
<td>842</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>52.7% (2175)</td>
<td>45.9% (1870)</td>
<td>1.4% (55)</td>
<td>4100</td>
</tr>
</tbody>
</table>

Note: χ² = 3206; df = 10; p < .001.

*Sample created by the authors by merging data from the 1984 and 1985 panels of the Survey of Income and Program Participation (SIPP), waves 3-5 (1984 panel) and waves 6-8 (1985 panel). White and African American men aged 55-69 are included, excluding those who attrited during the months covered (n = 522). Calculations are weighted; ns are unweighted counts.
statistically significant association of health with labor force transitions. Although self-ranked health is the preferred measure for the current analysis, we replicated the analysis using the only other measure of health status available in both the 1984 and 1985 panels of the SIPP, number of bed days reported in the past 6 months. The results using this measure were very similar to those reported here.

With reference to the remaining variables in the model, and consistent with other literature, an exit from the labor force was also significantly more likely among the older members of this cohort (see Table 2, column 1). Nonlinearity in this positive association is indicated by a statistically significant spline effect at age 65, suggesting that the positive effect of age flattened beyond the age of 65. Men with working wives were less likely to exit the labor force than were their counterparts with nonworking wives, and those not married. Those who worked in a manual occupation at first observation were significantly more likely to leave the labor force, as were those who were eligible for a pension. Those with more income were less likely to leave, reflecting the greater attachment to the work role associated with higher wages. Men who experienced an unemployment event during the 8 months preceding final interview were substantially more likely to have left the labor force by the last observation, suggesting that unemployment may precipitate exit. Race and coverage by employment-sponsored health insurance were not significantly associated with exits from the labor force after controlling for these other characteristics. The model fit statistics listed at the bottom of the table suggest a good fit to the data.

For this cohort, reentry among men initially observed not working was significantly predicted by a somewhat different set of variables (see Table 2, column 2). Health, age, marital status, and occupation were associated with reentry, suggesting that those in poorer health, those who were older, those without a working spouse, and those in manual occupations were less likely to reenter the workforce. Those covered by employment-sponsored health insurance were much less likely to reenter the labor force (see Pienta, 1996, for similar results using the HRS data). This indicates that the absence of private health insurance may be an important motivation for resuming work. Similarly, men receiving disability income were only a third as likely to reenter the labor force as their counterparts without disability income. Income and pension eligibility were not associated with reentry at this stage of the analysis, nor was a discontinuous association with age noted.

We next assess the conditions under which health is most strongly associated with work behavior. In the preceding discussion, we suggested that men who were most drawn to the labor force—those with working wives and those with limited nonwork incomes, as well as those who were younger—would be most sensitive to health contingencies. Analytically, these expectations require us to examine a series of interactions between health and other characteristics of the individual. We fit a series of models, each including a single interaction with health, and examine the results for improvement in model fit over the results presented in Table 2 (model fit statistics are available from the corresponding author). In order to establish the conditions under which health has a variable association with work behavior, all interactions including the combination of health and the other variables were examined. To facilitate interpretation, predicted probabilities are generated based on the results, using a consistent set of characteristics associated with the "average" respondent (see footnote a in Table 3).

Across the sets of results, only two interactions improved the fit of the model for those at risk of exiting the labor force: the interactions of health with marital status and with age. For those at risk of reentry (those not working at first observation), four interactions significantly improved model fit: those involving health with pension eligibility, with personal income, with age, and with race. With the exception of race, these are the interactions we expected. The figures reported in Panel A of Table 3 refer to the probability that the typical respondent working at first observation was no longer working at the last observation. The first column reports this probability for men who are in excellent health (ranking 1 on the 5-point scale), and the second
Table 3. Predicted Probabilities From Interaction Modelsa

<table>
<thead>
<tr>
<th>Panel A: Probability of Exiting the Workforce if Health Is:</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline Model</strong></td>
<td>Excellent</td>
<td>Good</td>
<td>Poor</td>
<td>α-level</td>
</tr>
<tr>
<td>Baseline Model</td>
<td>0.14</td>
<td>0.20</td>
<td>0.29</td>
<td>p ≤ .01</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td>p ≤ .05</td>
<td></td>
</tr>
<tr>
<td>Spouse working</td>
<td>0.07</td>
<td>0.16</td>
<td>0.31</td>
<td></td>
</tr>
<tr>
<td>Spouse not working, or not married</td>
<td>0.17</td>
<td>0.20</td>
<td>0.24</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>p ≤ .05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>0.04</td>
<td>0.08</td>
<td>0.16</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>0.16</td>
<td>0.20</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>0.27</td>
<td>0.32</td>
<td>0.38</td>
<td></td>
</tr>
</tbody>
</table>

Panel B: Probability of Reentering the Workforce if Health Is:

<table>
<thead>
<tr>
<th><strong>Baseline Model</strong></th>
<th>Excellent</th>
<th>Good</th>
<th>Poor</th>
<th>α-level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Model</td>
<td>0.04</td>
<td>0.20</td>
<td>0.01</td>
<td>p ≤ .01</td>
</tr>
<tr>
<td>Pension eligibility</td>
<td></td>
<td>p ≤ .05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pension</td>
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<td>0.02</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>No pension</td>
<td>0.07</td>
<td>0.02</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Incomea</td>
<td></td>
<td>p ≤ .05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25th percentile</td>
<td>0.05</td>
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<td>0.01</td>
<td></td>
</tr>
<tr>
<td>50th percentile</td>
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<td>0.02</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>75th percentile</td>
<td>0.03</td>
<td>0.02</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>p ≤ .05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>0.10</td>
<td>0.04</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>0.04</td>
<td>0.02</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td>p ≤ .05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
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<td>0.02</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>0.12</td>
<td>0.01</td>
<td>0.01</td>
<td></td>
</tr>
</tbody>
</table>

*aSample merged by the authors from the 1984 and 1985 panels of the Survey of Income and Program Participation, waves 3–5 (1984 panel) and waves 6–8 (1985 panel). A total of 4,045 White and African American men aged 55–69 are included, which excludes those who died or became institutionalized during the panel (n = 55) and those who attrited during the months covered (n = 522). Calculations are weighted. Estimates are based on an “average” respondent: aged 62, not married/nonworking spouse, eligible for a pension, manual occupation, mean income given time 1 work status, except when otherwise noted in the Table. The formula for calculating predicted probabilities from binomial logistic regression results is as follows (Cherlin, Kiernan, & Chase-Lansdale, 1995): ρ = (e^{β0} + e^{ββ})^{−1}. The estimates from the multivariate logistic regression models used to compute the predicted probabilities are available from the authors.

Similar men in poor health had a predicted probability of exit of 0.31. In contrast, men who had nonworking spouses and men who were not married were not as responsive to health status in their decisions to leave the labor force. Those who reported excellent health had a predicted probability of exit of 0.17—which is substantially higher than the other men in excellent health—but this probability increased to only 0.24 among those in poor health. In short, health had a significantly smaller impact on these men’s decisions to leave the labor force. The results suggest that having a working wife may strengthen men’s attachment to work if they themselves are in good health, yet facilitates work exit among men who are in poor health (see also Pienta, 1996).

The interaction of age and health also results in a significant improvement in model fit for men initially observed in the labor force. These results suggest that younger men in this cohort were most sensitive to health contingencies. Consistent with our arguments, those likely to have the greatest continued attachment to work—here, those too young to receive substantial retirement benefits—were most responsive to poor health. Men age 58 who were in poor health were expected to exit the labor force at a rate that is four times the rate of their counterparts in excellent health. In contrast, men age 62 who were in poor health had an expected probability of exit that is 1.5 times as great as their healthy counterparts. By age 66, men who were in poor health were expected to exit at a rate just 40% more than their healthy counterparts.

Panel B of Table 3 reports predicted probabilities for the reentry models including interactions of health with pension eligibility, personal (nonwork) income, age, and race. The first line suggests that, overall, the probability of return to work is low, but that the effect of health is substantial. With regard to pension coverage, differences in the probability of returning to the labor force were minimal across levels of health, among those eligible for or receiving pension income. Members of this cohort who were nonworkers with pensions were very unlikely to return to work even if in excellent health. In contrast, those with no pension eligibility were significantly more likely to reenter if in excellent health. Overall, although the probability of return was small across the board, the effect of health was negligible for those covered by a pension, but more sizable for those not covered.

Health status also has a more substantial association with labor force transitions among those with limited nonwork income. Nonworking men with incomes at the 25th percentile were substantially more likely to return to work if they were in excellent health than if they were in poor health (a predicted probability of 5% as opposed to 1%), while effect of health was progressively more constrained for men at higher levels of income. We note that these interactive effects of personal income and pension eligibility are, as would be expected, highly correlated with one another. When both sets of interactions are included in the same model, the coefficients involving pension eligibility become nonsignificant, suggesting that both are reflecting higher nonwork economic resources.

Similar to the pattern reported for labor force exit, the interaction with age reflects a strong impact of health on reentry among the youngest men, with health having little association with reentry among those who were older. Finally, model fit statistics suggest that a model including a race interaction
provides a significantly better fit to the data than does the main effects model, for the men initially observed not working. The predicted probabilities for both groups of men suggest that the association between health and work transitions was more limited for White men than for Black men in this cohort. Notably, Black men in excellent health were particularly likely to return to work by the last observation. This result is consistent with the observation that the higher levels of nonwork among older Black men are more reflective of poor health than of the greater desirability of the retirement status (Burr et al., 1996; Hayward et al., 1996; Mutchler & Burr, 1991).

DISCUSSION

Labor force transition patterns of men aged 55–69 in the mid-1980s were examined with the goal of developing an understanding of the conditions under which health status is related to work behavior in later life. Previous research has established the association of health with work status and transitions (Hardy, 1982; Morgan, 1981; Sammartino, 1987; Smith, 1985). Our study demonstrates that for the cohort of men considered here, the effects of health status on both labor force exit and reentry are sizable. Those in poor health were considerably more likely than their more healthy counterparts to leave the labor force and to remain nonworking.

Although selected interactions between health and other work-related characteristics have been suggested in the literature, previous research has not systematically examined the extent to which other relevant characteristics condition the association between health and late-life work transitions. Our study extends previous literature by examining these interactive effects. Results presented here suggest that for this cohort of men, health had its most substantial impact on those who were otherwise attracted to work because of family, normative, or economic factors. For example, men in our study who were in excellent health and unmarried, or married to nonworking wives, were much less sensitive to health contingencies in decisions to exit the labor force, suggesting that they may have been eager to experience retirement while in a healthy state. Those most likely to continue working or return to work were those with other characteristics fostering a continued work attachment—in particular, those whose wives were still working and those with limited nonwork financial resources. The interactions of health with age and with race (on labor force return) suggest that normative or other pressures not measured here may also play a role in an individual’s response to health.

Our results show that for older men in the mid-1980s, health shaped work behavior in different ways, depending upon other work-related characteristics. If this pattern holds for subsequent cohorts, our results suggest that the influence of trends in health and disability may be partially determined by trends in other work-related characteristics, such as marital status and economic status. For example, a combination of improved health among men, and rising rates of labor force participation among married women, would be expected to increase the attachment of men to the labor force. Yet, either trend in isolation would have the opposite effect. Because men in moderate to poor health have lower than expected attachments to work if they are married to working women, rising rates of labor force activity among married women in the absence of improved health of older men may result in higher rates of exit and lower rates of reentry. Similarly, rising rates of marital disruption may result in health having less of an influence on older men’s work transitions in the future.

Should health status continue to improve into later life as expected, our results indicate that patterns of nonwork earlier in later life may be curbed somewhat as a result. In our study, the youngest men with the best health were least likely to exit the workforce, and most likely to return if an exit had already occurred. Yet, for this cohort, health had a substantially smaller association with work behavior for men in their 60s and beyond. Improved health for these age groups, while a worthy goal on other bases, may have little impact on labor force participation rates among older men.

Our study demonstrates that economic status also shaped the association between health and labor force transitions for this cohort, especially with regard to the reentry decision. Accordingly, the future impact of health on labor force transitions may be partially a result of trends in economic well-being in later life. Some research suggests that tomorrow’s elderly cohorts will be at least as well off in retirement as were their parents (Easterlin, Schaeffer, & Macunovich, 1993). If so, efforts to retain healthy older men as part of the workforce will need to focus on developing additional attractions to the work role, perhaps focusing on the intrinsic appeal of work. However, other analysts regard the economic status of future elderly cohorts as more uncertain, given the rising age at which an individual may receive full Social Security benefits, future (as yet undefined) changes in Social Security eligibility, and the potentially negative economic consequences of greater emphasis on defined-contribution pension systems (Besl & Kale, 1996). As well, changes in Medicare, coupled with the increasing reluctance among employers to offer retiree health insurance coverage (Besl & Kale, 1996), may alter the true costs of nonwork. Should economic difficulty be more commonly experienced in later life, or should older men come to regard even the combination of Social Security and pension incomes as inadequate to support their desired retirement lifestyle, the dual statuses of healthy nonworker may become something that few older men can afford. If so, we expect that labor force attachment may become stronger, at least among those in good health.

Limitations of the Study

Our results, although suggestive, must be interpreted with an understanding of the limitations of our study. One limitation relates to the short time period covered here. Due to the single report of health status in these data, men are observed over a period of just 8 months, over which time work transitions are necessarily limited in number. A longer observation period would result in higher estimated transition rates and, if there is a long lag time between health-compromising events and work behavior accommodations, our analysis offers an incomplete assessment of the association between health and work transitions. However, it is unclear whether the primary outcomes of this study—examining the association between health and transition rates, singly as well as interacting with other work-related characteristics—would be modified with a longer observation period. An understanding of the extent to which this limitation shapes our results will require replication with additional data, using longer observation periods.

Another limitation of our study is the single self-reported
assessment of health. If self-assessments are offered with subsequent work transitions planned, our conclusions may be compromised. Moreover, although researchers of the health-employment relationship have yet to agree on an optimal measurement of health, a multiple indicator approach to assessing health would provide more confidence in our results (see Bound et al., 1996).

An additional limitation is the lack of any subjective evaluations of work and retirement, such as attitude toward retirement and satisfaction with work, by the respondents in our study. It is useful to consider the less tangible benefits of work for older individuals if older men in good health are to be attracted to the world of work. In addition, if some of the measures included are in fact proxies for intrinsic appeal of work (e.g., occupation, income), our conclusions may be limited.

Finally, the omission of women from the analysis is an important limitation. The exclusion of women from this study is justified by the knowledge that women respond to work-related characteristics in different ways than do men (see Pienta, Burr, & Mutcher, 1994), and the likelihood that the factors influencing the association between health and work transitions also differ. Yet, as women continue to make up a growing portion of the total workforce, our understanding of the issues examined here will remain partial until parallel studies are completed for women.

Future research should focus on remedying these limitations of our research and establishing the generalizability of our results. Although other data suitable for the examination of work transitions suffer from their own unique limitations, the basic issues considered here could be examined using data from the National Longitudinal Survey of Older Men, the Retirement History Study, and other data sources. Emerging data from the Health and Retirement Study offer a promising opportunity for replication of our results, and possible modification of our conclusions, based on the experience of more recent cohorts. In addition, the HRS offers multiple measures of health as well as some constructs not available in our study. Indeed, several trends in late-life work behavior, as well as the economy at large, suggest that contemporary cohorts may display somewhat different patterns of behavior than those reported here (Herz, 1995). An increase in the number of pension recipients who are working in the paid labor force over the last decade or more may have contributed to growing normative support for working in later life across the board. Along with these normative shifts, other changes may have resulted in fewer barriers to reentering the labor force among contemporary cohorts. Particularly important in this regard is the growing importance of the service economy, which is noted for its flexible time work arrangements, and late-life work exit.

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WEST VIRGINIA UNIVERSITY CENTER ON AGING

UN Programme on Ageing Advisory Site on Rural Aging

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• Development of an independent area of multidisciplinary community-oriented aging research.
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