NBER WORKING PAPER SERIES

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Working Paper 15121
http://www.nber.org/papers/w15121

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
June 2009

We thank Steven Lehrer for helpful comments and Nicolas Williams for advice on the occupational data in the PSID. This work was supported by Grant Number R01AG027045 from the National Institute on Aging. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute on Aging or the National Institutes of Health. Yamaguchi acknowledges SHARCNET for providing computational resources. Linda Leo-Summers assisted us with the data. The views expressed herein are those of the author(s) and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 15121
June 2009
JEL No. I1,J0

ABSTRACT

We examine whether the job characteristics of physical demands and environmental conditions affect individual's health. Five-year cumulative measures of these job characteristics are used to reflect findings in the biologic and physiologic literature that indicate that cumulative exposure to hazards and stresses harms health. To create our analytic sample, we merge job characteristics from the Dictionary of Occupational Titles with the Panel Study of Income Dynamics dataset. We control for early and lagged health measures and a set of pre-determined characteristics to address concerns that individuals self-select into jobs. Our results indicate that individuals who work in jobs with the 'worst' conditions experience declines in their health, though this effect varies by demographic group. For example, for non-white men, a one standard deviation increase in cumulative physical demands decreases health by an amount that offsets an increase of two years of schooling or four years of aging. We also find evidence that job characteristics are more detrimental to the health of females and older workers. Finally, we report suggestive evidence that earned income, another job characteristic, partially cushions the health impact of physical demands and harsh environmental conditions for workers. These results are robust to inclusion of occupation fixed effects.

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Introduction

We examine the cumulative impact of physically demanding or environmentally hazardous job characteristics on health. Cumulative effects are expected to have important impacts on health. Specifically, based on biologic and physiologic studies, longer exposure to adverse conditions is likely to result in greater harm to health. To address the issue of the harmful impacts of cumulative exposure, we use the rich, panel data available in the Panel Study of Income Dynamics (PSID) on both health and occupation. We merge PSID data with time-varying job characteristics from the Dictionary of Occupational Titles (DOT) (USDOL, 1991). The longitudinal nature of the PSID data allow us to develop measures of cumulative exposure and to control for lagged measures of health. We use 5-year windows of exposure to job conditions to estimate the effect on self reported health status. Access to data on health earlier in life helps to mitigate concerns over self-selection into jobs based on the ability to handle these potentially adverse conditions.

Our results suggest that individuals who work in jobs with 'bad' conditions experience declines in their health. Importantly, and in contrast to much of the extant literature, we find distinctive difference in the impact of job characteristics by demographic group. For instance, for black men, we find that a one standard deviation increase in cumulative physical demands decreases health by an amount that offsets an increase of two years of schooling or four years of aging. We find very small effects, however, for white men. For women, we find evidence that exposure to physically demanding jobs significantly decreases the health of white women and exposure to harsh environmental conditions decreases the health of black women. We also find evidence that job characteristics are more detrimental to the health of older workers. In addition, we report suggestive evidence that earned income, also job-related, may cushion some of the health impact of physical demands and harsh environmental conditions for some groups of workers. These results are robust to inclusion of dummies on ten broad occupational categories; the dummies control for all other occupational invariant factors. Finding evidence that certain characteristics of occupations negatively affect workers' health may provide insights into how to limit work-related causes of health decline. Evidence on who is most vulnerable to the negative health impacts may help to priorities those populations most at risk and in need for help.

Our work advances the knowledge base in several ways. We focus on the cumulative impact of occupation, which corresponds to contemporary biologic and physiologic findings

about the importance of cumulative impacts of adverse conditions on health. Because we have longitudinal data we can develop a 5 year measure for exposure to job characteristics. Also, because of the longitudinal data, we can control for initial (childhood) and lagged health. Controlling for initial health helps to mitigate the degree to which people self-select into occupations when young based on their health. The large sample size allows us to stratify the sample by gender, age and race subgroups. Distinctive differences are found across these groups. These advances may help to develop a better understanding of the impact of job characteristics on worker's health.

Background Literature

Recent medical and epidemiologic literature stress the importance of the cumulative burden of job characteristics and other factors, such as poverty and low social and economic status, on health. The findings confirm that the body reacts to stress in physiologic and biologic ways. The short term response may be beneficial or adaptive (e.g. increased levels of adrenalin and other hormones). However, if stress is suffered over a long period of time, the body can respond in maladaptive ways. For example, hormonal, and other, responses to stress and strain can have a protective effect associated with short term exposure, while long term and cumulative responses can damage health. Thus poor physical health can be a consequence of long-term exposure to stressful job conditions. The term 'allostatic load' was coined by McEwan (2000) and refers to the physiological costs of chronic exposure or cumulative strain. Biological and physiological measures have been used to identify and quantify allostatic load. In turn, allostastic load has been found to compromise physical health (Seeman et al. 2001 and Seeman et al. 2002).

An influential set of longitudinal studies of British civil servants examine how occupation per se affects health (Marmot 1983; Marmot and Smith 1997; Marmot and Bobak 2000; Marmot 2001). The key finding is that lower occupational status is associated with worse health, even when controlling for demographics, health habits and income, among other factors. These papers focus on social position, occupational stress, and job control as mechanisms for this relationship. Low social position is thought to increase allostatic load, which in turn harms health. This set of studies examines various dimensions of health, including coronary heart disease, self-reported health, morbidity and health related behaviors (Bosma, Marmot et al. 1997). This research was conducted primarily in countries with universal health insurance, thus demonstrating that

occupation matters for reasons beyond health insurance. That a gradient would be found even among a set of British (or other) government workers with relatively secure jobs, health insurance coverage and a relatively narrow set of job types is perhaps surprising, yet reinforces the value of using occupation as an informative determinant of health.

There are relatively few studies on occupation and health in the economics literature. Recent work by Case and Deaton (2003, 2005) provide evidence that low-paid, manual work damages self-assessed health to a greater extent than highly paid, skilled work. Furthermore, they find that the deterioration in health is faster for blue-collar workers approaching retirement age. Their results are robust to including important controls such as education and income. A limitation of their work is that they use repeated cross sectional data rather than panel data. Therefore, they are not able to track individuals over time, but rather examine individuals in a given occupation over time. Another economic study uses historical data from the mid-nineteenth century to examine occupational categories and finds only a limited effect of occupation (Ferrie 2001). Choo and Denny (2006) also use a cross sectional database (Canadian) and confirm the findings in Case and Deaton (2003, 2005) as well as show the results are robust to including lifestyle choices (smoking, obesity) and controls for chronic diseases (e.g. diabetes, heart disease, cancer, etc).[1]

While these papers represent some of the best evidence in economics of the effects of broad occupational categories on health status for national samples of individuals, there are important limitations to these studies. The studies use contemporaneous measures of occupational characteristics rather than cumulative. Further because they use cross-sectional data they cannot control for early health and lagged health. We use information on these measures to try to address the issues of self-selection into initial jobs and to control for the cumulative impact of occupation on health prior to the period under study.

Several epidemiologic studies use PSID data on United States workers and their jobs from 1968 to 1991 to examine the role of job stress and control on subsequent mortality. They find that cumulative exposure to low control jobs and passive work significantly increases mortality. (Amick, Kawachi et al. 1998;) (Amick and Celentano, 1991). Karasek et al. (1988)

[1] A related emerging body of work is research linking initial occupational choices with later health outcomes. Sindelar et al. (2007) presents the first such evidence. Fletcher (2008) examines the association between first occupation and health in old age using sibling fixed effects. Fletcher and Sindelar (2008) instrument for first occupation and find large effects of blue color employment on later health.

examine the relationship between job characteristics and myocardial infarction using the US Health Examination Survey and the Health and Nutrition Examination Survey. However, they do not control for early and lagged health.

In related work, some of the limitations of earlier studies have begun to be relaxed. In a paper that is most similar to this paper, Lakdawalla and Philipson (2007) merged occupation and health information from the National Longitudinal Study of Youth 1979 (NLSY) with occupation characteristics information from the Dictionary of Occupational Titles. These authors focus on the effects of cumulative exposure to physical demands of jobs on the overweight status of workers. Lakdawalla and Philipson show that men who are employed in the most fitness-demanding occupations are 14 percent lighter than men employed in the least demanding occupations, and men in the most strength-demanding occupations are 15 percent heavier than men in occupation at the bottom of the strength distribution. The authors also use the NLSY dataset to show that there is substantial variation in the physical demands placed on workers across occupations.

In this paper, we extend the basic strategy of Lakdawalla of Philipson to focus on the effects of physical demands and harsh environmental conditions on the self-reported health status of working age adults. In contrast to their study, we control for initial and lagged health to control for the health production process preceding the windows of exposure found in our data. In addition, we examine whether the effects of exposure to harsh job conditions are cushioned or worsened by income[2], and examine whether the net effect of longer hours is to increase exposure to job characteristics and worsen health or whether longer hours worked are due to better ability to cope with the conditions. These results are robust to inclusion of dummies on ten broad occupational categories; the dummies control for all other invariant occupational factors.

Data and Empirical Model

Our empirical model draws on literature that estimates education production functions as well as the seminal work in the health economics literature of Grossman (1972). In Grossman, health status transitions over time in a simple way:

$$H_t = \delta H_{t-1} + I_t \qquad (1)$$

[2] The literature on compensating wage differentials suggest that individuals may accept more harsh job conditions in order to obtain higher income. While there is relatively little empirical support for this, we acknowledge that this could be one method whereby the cushion of income relates directly to job conditions, cet. par.

where in this case health status at time *t* is a linear function of the depreciated health status from the previous period plus any health investments made in the current period. Thus, if we unravel this function recursively, we can see that health status at period *t* is a function of the health endowment (at time = 0) and the summation of the subsequent discounted investments made between the initial time period and the current time period:

$$H_t = \delta^t H_0 + \sum_{k=1}^{t} \delta^{k-1} I_k \qquad (2)$$

Broadening the health transition function to reflect the idea that there can be both positive investments and negative investments ("expenditures") of health over time due to environmental factors, starting to smoke, etc., we have:

$$H_t = \delta^t H_0 + \sum_{k=1}^{t} \delta^{k-1} (I_k - E_k) \qquad (3)$$

The aggregated health expenditure, *E*, are akin to the concept of allostatic load or cumulative burden engendered by exposure to long-term stresses. Unfortunately, no datasets contain rich enough information on the full set of health investments and expenditures in health for an individual's full history. Therefore, in order to examine shorter term cumulative effects of occupational conditions that may reduce health status, we estimate equations of the following form:

$$H_t = \rho H_{t-5} + \theta \sum_{k=t-5}^{t} E_k + X_t \beta + \varepsilon_t \qquad (4)$$

This formulation assumes that prior health status captures the history of net investments made up until the point at which prior health is measured. Here we measure prior health status five periods before the current. We chose five periods somewhat arbitrarily with the idea that we need to allow enough time to elapse so that we can estimate the effects of negative health investments on health. We present results below that use a six or four year lag to check the robustness of our preferred results. We also concentrate on negative health investments from job exposures to physical demands and adverse environmental conditions and also control for individual level characteristics. To the extent that individuals make positive investments in health to offset "health expenditures", our estimates of θ may understate the true decrements to health caused by job conditions. We explore this below to some extent by controlling for labor income flows that could be used as health investments.

Data and measures

We use data from the Panel Study of Income Dynamics (PSID), which is a longitudinal study of a representative sample of U.S. individuals and their families. We match data on job characteristics from the Department of Labor's Dictionary of Occupations (DOT) The PSID emphasizes the dynamic aspects of economic and demographic behavior, and it contains a wide range of information, including occupation and health.[3] Starting with a national sample of approximately 4,800 U.S. households in 1968, the PSID re-interviewed individuals from these households every year until 1997, and every other year since that time.[4] New households were added as the children of the panel families grew older and formed their own family units. At the conclusion of the 2001 data collection, the PSID had collected information spanning as many as 34 years of the lives of some observations[5].

As health status is only reported beginning in the 1984 wave of the PSID, we select our sample of PSID respondents between 1984 and 1999[6]. This creates a sample of 75,000 person-years for males and 85,000 person years for females. As we discuss below, we control for lagged health, which decreases the sample sizes to 37,000 person-years for males and 43,000 person-years for females. The primary reason that our sample is smaller is that it requires an extra year of data to measure health prior to our five year window of exposure to job characteristics.

We merge the DOT characteristics by 3-digit occupation and year to individuals in the PSID. The data describing job characteristics are taken from two waves of the DOT (1977 and 1991) that use the standard 3-digit Census occupational categorical codes. In particular, for each job we use one assessment of physical demands needed and combine several assessments of the

[3] The PSID is conducted by the Survey Research Center, Institute for Social Research at the University of Michigan, and has been primarily funded by the National Science Foundation and the National Institute on Aging.
[4] Since we have no data for 1998, we use the previous known five years of data for those surveyed in 1999 (excluding 1998). Results that drop the observations from 1999 are nearly identical to those presented below and are available upon request.
[5] While the initial response rate in 1968 was somewhat low (76 percent), annual response rates for follow-up were exceedingly high. These ranged from 88.5 percent in 1969 to between 96.9 and 98.5 percent following. Given the cumulative effect of even small yearly dropout rates, attention to potential selection bias is always warranted. However, a National Science Foundation commissioned study found that only a negligible portion of attrition in the PSID is explained by systematic attrition.
[6] The PSID Occupational Codes switch to 2000 3-digit codes after 1999.

environmental conditions into a scale. The environmental conditions that we use include assessments of extreme heat, extreme cold, exposure to weather, wet/and or humid conditions, and atmospheric conditions.[7] We use principal component analysis to combine the environmental conditions into a single index of exposure.[8] The physical demands category we focus on is strength, which is expressed by one of five terms: Sedentary, Light, Medium, Heavy, and Very Heavy.[9] In order to determine this overall rating, DOL makes an assessment of the worker's involvement in several domains of activities, including position (standing, walking, or sitting), duration and intensity of lifting, pushing, and pulling objects, and the amount of controls (buttons, knobs, pedals, etc.) used during the job. In order to merge this information with our primary dataset, we linearly interpolate the DOT data for years outside of the DOT years of 1977 and 1991.

In order to measure cumulative exposure to strength and environmental requirements, we add the scores over the five year period. Because the cumulative score is the aggregation across all five years, it is more akin to a continuous variable than a categorical. In order to capture the churning in and out of the labor force of some individuals, we also control for the amount of the previous five years that the individual was out of the labor force[10]. These two

[7] We present descriptive statistics for the job characteristics in Appendix Table 6 by occupational category. As expected, clerical workers are found to experience the lowest physical demands and farmers the highest, whereas laborers face the worst environmental conditions. The table also shows the substantial within-occupational category variation in conditions. Examples of jobs that have exposure to weather include picking field crops, traffic crossing guard, and mail carrier. Examples of jobs with extreme cold include working in cold-storage rooms, packing fish in ice, and storing ice cream. Examples of jobs with extreme heat include working next to a hot stove, working in a laundry room, and furnace controller. Wet and/or humid conditions include pressing garments, loading damp material into tumblers, and working in a kitchen in a restaurant. Atmospheric conditions refers to exposure to conditions such as fumes, noxious odors, dusts, etc. and include jobs that stack grain by hand, takes care of animals used for medical tests, repairs and overhauls vehicles, etc. (see U.S. Department of Labor 1991).

[8] Principal component analysis is a statistical technique for dimension reduction that transforms a number of correlated variables into a smaller number of uncorrelated variables. The transformed variables are calculated as linear functions of the original variables so that the information loss due to dimension reduction is minimized. Because location and scale parameters (i.e. mean and variance of the transformed variables) are undetermined, a researcher must specify them. In this paper, we construct only one variable from many DOT variables and normalize it by setting the mean zero and the variance one. See Ingram and Neumann (2005) and Bacolod and Blum (forthcoming) for other economic applications of principal component analysis that use the DOT.

[9] Sedentary work involves sitting most of the time with brief periods of walking or standing. Examples of sedentary work includes jobs that take dictation or transcribe notes, writing news stories, or works as a dispatcher. Very heavy work involves exerting in excess of 100 pounds of force occasionally, 50 pounds frequently, or 20 pounds constantly. Examples include lifting lumber, loading and unloading trucks, and transferring adult patients between bed and conveyance in hospitals. See U.S. Department of Labor (1991).

[10] During times of not employed, we assume that the physical demands and environmental exposures are equal to zero.

measures are standardized across the whole population.[11] Hours worked and yearly labor market earnings are also aggregated to obtain a five year total. We compare results across alternative specifications- four, five and six year cumulative exposure alternatives. We have also examined the use of "discounted" cumulative exposure, where characteristics that are more proximate to the health measure are given more weight. Our results are qualitatively the same and available upon request.

We use a relatively parsimonious set of control variables, including a quadratic in age, years of schooling, self-employment status, marital status, labor income, weekly work hours, time out of the labor force, self-reported health when young, and year dummies. Unfortunately, several potentially important variables are not adequately measured in the PSID, including measures of risk preference as well as job characteristics such as health insurance. In order to capture broad measures of access to health insurance as well as other occupational characteristics, we control occupational fixed effects in robustness checks. Note that job characteristics are measured at the 3-digit level while we use ten broad occupational categories in our fixed effects. We also examine the use of a measure of risk tolerance, where respondents were asked questions on their willingness to take gambles. This measure is limited for several reasons: it was asked only in 1996 (only individuals in the sample in 1996 have data), it is not a pre-labor market variable, and it is only a single, noisy measure of risk tolerance (see Kimball et al. (2009) for additional details of the measure). We show in the appendix that this measure does not seem to explain our results linking exposure to job characteristics to health status for women—for men, any differences in results were based on the sample composition changes (due to missing data) that occurred when using the risk tolerance measure rather than controlling for the measure.

Our specifications are estimated separately by gender and also stratify the sample by age and race of the workers to examine the heterogeneity in the 5-year cumulative effects of exposure to job characteristics and other variables. We stratify a priori because differences by subgroup have been found in previous studies of health production functions. In addition, labor market conditions and responses are well known to vary by gender, age and race.

[11] We have also estimated all models where the job characteristic measures are standardized by gender. The results are nearly identical and available upon request.

Summary statistics of our samples of men and women are displayed in Table 1. Men in our sample are slightly healthier than women (currently, previously, and initially). Men are more likely to report being self employed and earn more labor income than women. Women and men sort into different occupations, with key difference being that men are more likely to be in the categories of craftsman, operative and laborer while women are more likely to be in the service sector. Women also have more spells out of the labor force. Men have higher physical demands on average as well as better environmental conditions.

Table 2 stratifies the working conditions descriptive statistics by subgroups, including race, education, and age. For both men and women, non-white workers have worse job conditions, lower incomes, and work fewer hours. Examining the job conditions by educational attainments, we find that men with more than a high school diploma work in jobs with substantially better working conditions. The picture is more mixed for women—high school dropouts have lower physical demands but harsher environmental conditions. Older workers generally face lower physical demands and less harsh environmental conditions compared with young workers (<40 years old).

Results

Estimates for Males

In Table 3, we begin our baseline regression analyses linking cumulative job exposure to current self-reported health status.[12] We find evidence consistent with prior studies—white males report better health, health decreases with age, and education is positively associated with health. For males, we find little association in the full sample between job exposures and health status, but the estimates are in the hypothesized direction (column 1). When we further stratify the analysis, we find that physical demands are associated with lower health for non-white males and older males. A one standard deviation increase in the five-year cumulative physical demands reduces health by 0.062 units over five years, which is comparable to a reduction in two years of schooling for non-whites.[13] Likewise, for older male workers (age>40), we find that a one standard deviation increase in physical demands reduces health by 0.032 units, which is similar to a one year decrease in schooling. We also find that this decrease in health for older

[12] We show results that do not control for initial health status (between ages 0 and 16) in Appendix Table 1.
[13] In Appendix Table 2A, we present results that use 4 or 6-year lags instead of 5-year lags in our main results.

workers is approximately the same as the reduction in health from aging 9 years using a linear age control (results not shown). Otherwise, we find no evidence of links between job exposures and health for white or young workers.

In Table 4, we extend the analysis from Table 3 by controlling for two additional job attributes—cumulative income and weekly hours worked. In all cases, we find that income is positively related to health, as are weekly hours worked. Hours worked could be capturing at least two distinct processes—workers who are healthier could be able to work longer hours and/or workers who work longer hours are exposed to job conditions for longer periods. For males, the coefficient on cumulative hours worked is positive and significant but very small in magnitude. We also find that, compared to results from Table 3, the new results suggest that labor income may moderately cushion the negative effects of job exposures on health since the physical demands-health links for non-whites and older workers are reduced and no longer statistically significant. Finally, since our self-reported health is categorical, we also estimate ordered probit models in Appendix Table 3 and find very similar results.

Estimates for Females

In Table 5 we shift our analysis to examine the links between job characteristics and health status for female workers. Overall, we find stronger links than those found for men, suggesting that strength demands and harsh environmental conditions are harmful to self-reported health status. For the full female sample, both job conditions are linked with lower health. A one standard deviation increase in cumulative physical demands exposure reduces health over five years by 0.032 units, which is similar to a reduction of one year of education or aging by approximately 3 years. A one standard deviation increase in harsh environmental conditions reduce health by 0.02 units over five years, which is similar to a reduction of one-half years of schooling or aging over one year. When we separate the results by race, we find that environmental conditions negatively affect health for non-whites (twice the effect of physical demands), and we find the opposite relative effects for whites—physical demands lower health more than similar changes in environmental conditions. When we separate the results into old (>40) and young workers, the effects of physical demands deteriorate health more for younger workers than older workers, and environmental conditions show the opposite relationship.

In Table 6, we again extend our first set of results for females by controlling for cumulative labor income and weekly hours worked. Like men, income is positively related to health. Unlike men, cumulative weekly work hours are negatively associated with health for women. We also find only slight decreases in the links between negative job conditions and health after these controls are added (comparing Table 5 with Table 6). Since our self-reported health is categorical, we also estimate ordered probit models in Appendix Table 3 and find very similar results.

Strengths and limitations. The linking of DOT data on to PSID data allowed us to analyze the effects of job characteristics on health while controlling for lagged health, initial health and other factors in a large national sample. This paper advances the knowledge base by: 1) focusing on cumulative impacts, reflecting contemporary biologic and physiologic findings about the importance of cumulative impacts of adverse conditions on health; 2) controlling for initial and lagged health, which helps to mitigate the degree to which people self-select into occupations when young based on their health; 3) by examining subgroup differences in response to job conditions; and 4) by using occupational fixed effects to control for other job characteristics. We use the current occupation as the fixed effect variable, so it will capture all other job characteristics of those who change jobs over the five year time period.

While our study contributes to the literature by using a national panel data set and measuring the 5-year cumulative effects of job conditions on health, there are several limitations with our approach. Endogeneity of occupation and occupational change does not allow our estimates to have a causal interpretation, though endogenous switching out of jobs with harsh conditions in order to mitigate negative effects on health suggests our estimates could be lower bounds. We also have limited information in the data on whether workers invest in their health to offset the decrements caused by poor job conditions, which would also make our estimates conservative. That labor income is positively and significantly related to health suggests individuals may spend money to compensate for the negative impacts of the conditions of their jobs. Use of self-reported health is both a strength and a weakness- it is a comprehensive measure but is not an objective measure. However, self-reported health has been shown to be a good predictor of objective measures (Idler and Benyamini 1997). Finally, there are several potential pathways that we are unable to fully measure, including body mass index (BMI[14]),

[14] Height and weight is only asked in the PSID in two year of our data.

health insurance status, or other mechanisms. While some portion of the effects of these potential mechanisms should be subsumed in our lagged health measures, important effects could remain.

Conclusions

We present evidence linking cumulative exposure to physical demands and harsh environmental conditions at work to a comprehensive measure of health for a national sample of workers. Our method of controlling for early and also lagged health help to both 1) address early self-selection into occupations based on health and 2) isolate the contribution of cumulative exposure to changes in health over a five year time period. These factors result in what we think is likely the best current evidence linking cumulative exposure to poor job conditions to a global measure of health. We find that both job conditions can harm health and that the impacts vary considerably by gender, age and racial subgroups. To the extent that individuals make positive investments in health to offset these exposures, our estimates may understate the true decrements to health caused by job conditions. Income earned may cushion the impact to some extent. Hours worked may increase exposure for women. Results suggest that some demographic subgroups are most at risk for decrements in health due to job characteristics thus additional workplace or governmental policies may be needed to blunt these impacts in order to promote good health.

Tables

Table 1
Descriptive Statistics
PSID Analysis Sample: Men and Women

	Men			Women		
Variable	Obs	Mean	Std.	Obs	Mean	Std.
Current Health	34721	3.70	1.04	41178	3.56	1.03
Cumulative Physical Demands (standardized)	34721	-0.01	0.96	41178	0.05	0.98
Cumulative Environmental Conditions (standardized)	34721	-0.12	0.79	41178	-0.03	0.89
Nonwhite	34721	0.29	0.45	41178	0.36	0.48
Age	34721	42.61	9.91	41178	42.25	10.40
Years of Schooling	34721	13.26	2.40	41178	13.00	2.19
Self Employed	34721	0.14	0.35	41178	0.07	0.25
Married	34721	0.81	0.39	41178	0.69	0.46
Labor Income ($10,000s)	34721	3.97	4.27	41178	1.72	2.01
Weekly Work Hours	34721	38.95	17.91	41178	25.36	19.51
Cumulative Labor Income	34721	19.32	19.44	41178	8.12	8.26
Cumulative Weekly Work Hours	34721	198.72	69.92	41178	126.72	83.21
Initial Health (between age 0 and 16)	34721	4.32	0.73	41178	4.19	0.78
Out of the Labor Force Proportion	34721	0.09	0.23	41178	0.27	0.37
Lag Health	34721	3.85	1.01	41178	3.66	1.02
Professional (Current)	34665	0.17	0.38	41131	0.17	0.37
Manager (Current)	34665	0.17	0.37	41131	0.08	0.27
Sales (Current)	34665	0.05	0.21	41131	0.04	0.18
Clerical (Current)	34665	0.04	0.20	41131	0.21	0.40
Craftsman (Current)	34665	0.19	0.39	41131	0.01	0.12
Operative (Current)	34665	0.14	0.35	41131	0.07	0.25
Laborer (Current)	34665	0.05	0.22	41131	0.01	0.09
Farmer (Current)	34665	0.02	0.14	41131	0.00	0.05
Service (Current)	34665	0.07	0.25	41131	0.14	0.35
Home Maker (Current)	34665	0.00	0.02	41131	0.01	0.11
Not Employed (Current)	34665	0.10	0.30	41131	0.26	0.44

Notes: The “current’ occupation summary statistics are conditional on reporting a current occupation

Table 2
Work Condition Differences By Group

	All Men			All Women		
Variable	**Obs**	**Mean**	**Std Dev**	**Obs**	**Mean**	**Std Dev**
Cumulative Physical Demands (std)	34721	0.42	0.87	41178	-0.32	0.91
Cumulative Environmental Conditions (std)	34721	-0.01	0.90	41178	-0.16	0.75
Cumulative Labor Income	34721	19.32	19.44	41178	8.12	8.27
Cumulative Weekly Work Hours	34721	198.72	69.93	41178	126.72	83.21
Non White						
Cumulative Physical Demands (std)	9952	0.53	0.96	14909	-0.26	0.99
Cumulative Environmental Conditions (std)	9952	0.22	1.02	14909	0.01	0.96
Cumulative Labor Income	9952	13.12	10.33	14909	6.92	6.66
Cumulative Weekly Work Hours	9952	175.80	74.44	14909	122.49	83.22
White						
Cumulative Physical Demands (std)	24769	0.37	0.82	26269	-0.35	0.85
Cumulative Environmental Conditions (std)	24769	-0.10	0.83	26269	-0.25	0.58
Cumulative Labor Income	24769	21.82	21.57	26269	8.81	8.99
Cumulative Weekly Work Hours	24769	207.93	65.82	26269	129.12	83.11
HS Dropouts						
Cumulative Physical Demands (std)	4651	0.50	1.18	5839	-0.58	1.12
Cumulative Environmental Conditions (std)	4651	0.31	0.93	5839	0.17	1.00
Cumulative Labor Income	4651	9.34	7.47	5839	3.20	4.25
Cumulative Weekly Work Hours	4651	158.41	89.55	5839	76.72	81.12
HS Graduates						
Cumulative Physical Demands (std)	12896	0.69	0.83	16880	-0.28	0.94
Cumulative Environmental Conditions (std)	12896	0.15	0.96	16880	-0.07	0.82
Cumulative Labor Income	12896	15.01	9.58	16880	6.54	6.18
Cumulative Weekly Work Hours	12896	194.22	68.19	16880	124.90	81.40
HS Plus						
Cumulative Physical Demands (std)	17174	0.19	0.72	18459	-0.28	0.77
Cumulative Environmental Conditions (std)	17174	-0.21	0.79	18459	-0.34	0.51
Cumulative Labor Income	17174	25.27	24.57	18459	11.12	9.64
Cumulative Weekly Work Hours	17174	213.02	59.69	18459	144.20	78.77
Old Workers						
Cumulative Physical Demands (std)	18185	0.31	0.93	20594	-0.35	0.95
Cumulative Environmental Conditions (std)	18185	-0.09	0.80	20594	-0.15	0.78
Cumulative Labor Income	18185	21.30	23.64	20594	8.47	8.75
Cumulative Weekly Work Hours	18185	193.55	77.52	20594	125.19	85.89
Young Workers						
Cumulative Physical Demands (std)	16536	0.54	0.76	20584	-0.30	0.85
Cumulative Environmental Conditions (std)	16536	0.09	0.99	20584	-0.17	0.73
Cumulative Labor Income	16536	17.16	13.05	20584	7.77	7.74
Cumulative Weekly Work Hours	16536	204.41	59.97	20584	128.25	80.41

Table 3
The Effects of Cumulative Job Characteristics on Health Status for Men

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Males	Non White	White	Old	Young
Cumulative Physical Demands (std)	-0.021	-0.062**	-0.003	-0.032*	-0.002
	(0.014)	(0.029)	(0.016)	(0.018)	(0.020)
Cumulative Environmental Conditions (std)	-0.007	-0.003	-0.010	-0.003	-0.014
	(0.010)	(0.019)	(0.011)	(0.015)	(0.012)
Lagged Health	0.450***	0.405***	0.469***	0.491***	0.381***
	(0.009)	(0.015)	(0.011)	(0.011)	(0.012)
Age	-0.049***	-0.067***	-0.042***	-0.110***	-0.024
	(0.006)	(0.012)	(0.007)	(0.018)	(0.036)
Age-squared	0.044***	0.060***	0.037***	0.103***	0.009
	(0.007)	(0.014)	(0.007)	(0.017)	(0.054)
Non White	-0.073***	0.000	0.000	-0.084***	-0.075***
	(0.017)	(0.000)	(0.000)	(0.022)	(0.024)
Education	0.043***	0.026***	0.048***	0.041***	0.045***
	(0.004)	(0.008)	(0.005)	(0.005)	(0.006)
Self Employed	0.047***	0.020	0.043**	0.020	0.091***
	(0.018)	(0.049)	(0.019)	(0.023)	(0.028)
Married	0.034*	-0.047	0.090***	0.078***	-0.006
	(0.019)	(0.031)	(0.024)	(0.027)	(0.025)
Unemployment Spells	-0.329***	-0.432***	-0.339***	-0.346***	-0.205**
	(0.057)	(0.108)	(0.065)	(0.069)	(0.094)
Initial Health	0.163***	0.145***	0.168***	0.123***	0.229***
	(0.011)	(0.021)	(0.013)	(0.013)	(0.016)
Constant	2.049***	3.004***	1.652***	3.559***	1.602***
	(0.142)	(0.285)	(0.162)	(0.451)	(0.591)
Observations	34721	9952	24769	19579	15142
R-squared	0.401	0.356	0.402	0.450	0.288

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Additional Controls: missing initial health dummy, missing self employed information. Year fixed effects controlled

Table 4
The Effects of Cumulative Job Characteristics on Health Status for Men
Controls for Income and Weekly Work Hours

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Males	Non White	White	Old	Young
Cumulative Physical Demands (std)	-0.008	-0.029	0.006	-0.020	0.009
	(0.013)	(0.029)	(0.016)	(0.018)	(0.020)
Cumulative Environmental Conditions (std)	-0.007	0.003	-0.009	-0.001	-0.014
	(0.011)	(0.018)	(0.010)	(0.015)	(0.011)
Lagged Health	0.445***	0.392***	0.466***	0.486***	0.378***
	(0.009)	(0.015)	(0.011)	(0.011)	(0.012)
Cumulative Weekly Work Hours	0.000***	0.007**	0.004*	0.007***	0.003
	(0.000)	(0.003)	(0.002)	(0.002)	(0.003)
Cumulative Labor Income	0.002***	0.112***	0.015***	0.019***	0.029***
	(0.001)	(0.023)	(0.005)	(0.006)	(0.010)
Age	-0.053***	-0.075***	-0.045***	-0.116***	-0.027
	(0.006)	(0.012)	(0.007)	(0.018)	(0.036)
Age-squared	0.047***	0.066***	0.040***	0.109***	0.012
	(0.007)	(0.014)	(0.008)	(0.017)	(0.054)
Non White	-0.060***	0.000	0.000	-0.073***	-0.062**
	(0.017)	(0.000)	(0.000)	(0.022)	(0.025)
Education	0.039***	0.015*	0.045***	0.037***	0.039***
	(0.004)	(0.008)	(0.005)	(0.005)	(0.007)
Self Employed	0.040**	0.011	0.037*	0.011	0.084***
	(0.018)	(0.049)	(0.019)	(0.022)	(0.028)
Married	0.023	-0.083***	0.082***	0.065**	-0.016
	(0.019)	(0.032)	(0.024)	(0.026)	(0.025)
Unemployment Spells	-0.164**	-0.043	-0.210***	-0.153*	-0.059
	(0.068)	(0.129)	(0.079)	(0.082)	(0.115)
Initial Health	0.161***	0.137***	0.167***	0.121***	0.227***
	(0.011)	(0.021)	(0.013)	(0.013)	(0.016)
Constant	2.076***	3.152***	1.663***	3.611***	1.666***
	(0.146)	(0.291)	(0.167)	(0.453)	(0.592)
Observations	34721	9952	24769	19579	15142
R-squared	0.404	0.365	0.403	0.453	0.290

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Additional Controls: Missing initial health, missing self employed information. Year fixed effects controlled

Table 5
The Effects of Cumulative Job Characteristics on Health Status for Women

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Females	Non White	White	Old	Young
Cumulative Physical Demands (std)	-0.032**	-0.013	-0.044***	-0.026	-0.036*
	(0.013)	(0.023)	(0.016)	(0.017)	(0.019)
Cumulative Environmental Conditions (std)	-0.020**	-0.026**	-0.019	-0.025**	-0.014
	(0.009)	(0.013)	(0.012)	(0.011)	(0.015)
Lagged Health	0.436***	0.392***	0.461***	0.477***	0.373***
	(0.008)	(0.012)	(0.010)	(0.011)	(0.010)
Age	-0.027***	-0.048***	-0.017***	-0.057***	-0.008
	(0.005)	(0.009)	(0.006)	(0.016)	(0.028)
Age-squared	0.017***	0.037***	0.008	0.048***	-0.011
	(0.006)	(0.010)	(0.007)	(0.015)	(0.042)
Non White	-0.209***	0.000	0.000	-0.216***	-0.198***
	(0.015)	(0.000)	(0.000)	(0.021)	(0.020)
Education	0.041***	0.038***	0.039***	0.038***	0.043***
	(0.004)	(0.007)	(0.004)	(0.005)	(0.005)
Self Employed	0.006	0.035	0.007	0.011	-0.011
	(0.023)	(0.056)	(0.025)	(0.032)	(0.031)
Married	0.081***	0.071***	0.086***	0.087***	0.078***
	(0.015)	(0.022)	(0.021)	(0.020)	(0.020)
Unemployment Spells	-0.119***	-0.131**	-0.121***	-0.099**	-0.107**
	(0.035)	(0.065)	(0.042)	(0.048)	(0.048)
Initial Health	0.176***	0.144***	0.192***	0.151***	0.209***
	(0.010)	(0.015)	(0.012)	(0.012)	(0.013)
Constant	1.624***	2.291***	1.234***	2.346***	1.373***
	(0.120)	(0.217)	(0.144)	(0.408)	(0.449)
Observations	41178	14909	26269	22128	19050
R-squared	0.402	0.348	0.368	0.449	0.292

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Additional Controls: Missing initial health, missing self employed information. Year fixed effects controlled

Table 6
The Effects of Cumulative Job Characteristics on Health Status for Women
Controls for Income and Weekly Work Hours

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Females	Non White	White	Old	Young
Cumulative Physical Demands (std)	-0.028**	0.004	-0.042***	-0.022	-0.033*
	(0.013)	(0.024)	(0.016)	(0.017)	(0.019)
Cumulative Environmental Conditions (std)	-0.019**	-0.024*	-0.019	-0.024**	-0.013
	(0.009)	(0.013)	(0.012)	(0.011)	(0.014)
Lagged Health	0.435***	0.390***	0.460***	0.476***	0.372***
	(0.008)	(0.012)	(0.010)	(0.011)	(0.010)
Cumulative Weekly Work Hours	-0.004***	-0.007*	-0.004**	-0.003	-0.005*
	(0.002)	(0.004)	(0.002)	(0.002)	(0.002)
Cumulative Labor Income	0.040***	0.098***	0.031***	0.037***	0.040**
	(0.011)	(0.028)	(0.012)	(0.013)	(0.017)
Age	-0.028***	-0.051***	-0.017***	-0.057***	-0.006
	(0.005)	(0.009)	(0.006)	(0.016)	(0.028)
Age-squared	0.018***	0.040***	0.008	0.048***	-0.014
	(0.006)	(0.010)	(0.007)	(0.015)	(0.042)
Non White	-0.207***	0.000	0.000	-0.216***	-0.195***
	(0.015)	(0.000)	(0.000)	(0.021)	(0.020)
Education	0.038***	0.032***	0.036***	0.038***	0.040***
	(0.004)	(0.007)	(0.004)	(0.005)	(0.005)
Self Employed	0.007	0.044	0.007	0.011	-0.013
	(0.023)	(0.056)	(0.025)	(0.032)	(0.031)
Married	0.081***	0.070***	0.085***	0.087***	0.079***
	(0.015)	(0.022)	(0.021)	(0.020)	(0.020)
Unemployment Spells	-0.136***	-0.104	-0.146***	-0.087*	-0.136**
	(0.046)	(0.091)	(0.053)	(0.049)	(0.065)
Initial Health	0.175***	0.142***	0.192***	0.151***	0.208***
	(0.010)	(0.015)	(0.012)	(0.012)	(0.013)
Constant	1.736***	2.477***	1.329***	1.450***	2.435***
	(0.125)	(0.226)	(0.150)	(0.450)	(0.408)
Observations	41178	14909	26269	19050	22128
R-squared	0.402	0.350	0.368	0.293	0.449

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Additional Controls: Missing initial health, missing self employed information. Year fixed effects controlled

Appendix Table 1
The Effects of Cumulative Job Characteristics on Health Status
No Control for Initial Health

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Males	Non White	White	Old	Young	Females	Non White	White	Old	Young
Cumulative Physical Demands (std)	-0.027*	-0.071**	-0.007	-0.037**	-0.009	-0.039***	-0.011	-0.057***	-0.034**	-0.043**
	(0.014)	(0.029)	(0.016)	(0.018)	(0.020)	(0.013)	(0.023)	(0.016)	(0.017)	(0.019)
Cumulative Environmental Conditions (std)	-0.008	0.000	-0.013	-0.006	-0.012	-0.021**	-0.025**	-0.023*	-0.032***	-0.005
	(0.009)	(0.018)	(0.011)	(0.014)	(0.012)	(0.009)	(0.013)	(0.013)	(0.010)	(0.014)
Lagged Health	0.476***	0.412***	0.500***	0.510***	0.421***	0.468***	0.413***	0.500***	0.504***	0.413***
	(0.009)	(0.015)	(0.011)	(0.011)	(0.013)	(0.008)	(0.012)	(0.010)	(0.010)	(0.010)
Constant	2.558***	3.504***	-0.297***	-0.362***	-0.291***	2.118***	2.738***	1.685***	1.958***	2.772***
	(0.138)	(0.281)	(0.034)	(0.036)	(0.043)	(0.118)	(0.210)	(0.141)	(0.451)	(0.411)
Observations	35588	10290	25298	20058	15530	41604	15096	26508	19224	22380
R-squared	0.380	0.337	0.377	0.433	0.252	0.384	0.332	0.346	0.266	0.434

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Same specification as Tables 2 and 3 except no control for initial health.

Appendix Table 2
The Effects of Cumulative Job Characteristics on Health Status
Examination Using Different Lag Structures: Males

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Male	Male	Non White	Non White	White	White	Old	Old	Young	Young
Lag Length	Lag 4	Lag 6	Lag 4	Lag 6	Lag 4	Lag 6	Lag 4	Lag 6	Lag 4	Lag 6
Cumulative Physical Demands (std)	0.001	-0.013	-0.007	-0.041	0.011	0.005	-0.011	-0.020	0.018	-0.001
	(0.012)	(0.015)	(0.024)	(0.031)	(0.013)	(0.017)	(0.016)	(0.020)	(0.016)	(0.022)
Cumulative Environmental Conditions (std)	-0.004	-0.007	0.002	0.007	-0.005	-0.012	0.001	-0.006	-0.009	-0.011
	(0.008)	(0.011)	(0.015)	(0.021)	(0.009)	(0.012)	(0.013)	(0.016)	(0.009)	(0.013)
Lagged Health	0.465***	0.437***	0.403***	0.382***	0.491***	0.456***	0.505***	0.467***	0.403***	0.375***
	(0.008)	(0.010)	(0.014)	(0.017)	(0.010)	(0.012)	(0.010)	(0.012)	(0.011)	(0.014)
Cumulative Weekly Work Hours	0.001***	0.000***	0.001***	0.000	0.000**	0.000*	0.001***	0.001***	0.001**	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Cumulative Labor Income	0.003***	0.002***	0.013***	0.010***	0.002***	0.001***	0.002***	0.002***	0.004***	0.003***
	(0.001)	(0.000)	(0.003)	(0.002)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)
Constant	1.855***	2.198***	2.882***	3.247***	1.458***	1.819***	3.233***	3.829***	1.708***	0.971
	(0.121)	(0.173)	(0.242)	(0.347)	(0.137)	(0.198)	(0.409)	(0.498)	(0.441)	(0.762)
Observations	40401	29575	11774	8338	28627	21237	21666	17520	18735	12055
R-squared	0.413	0.398	0.365	0.358	0.418	0.395	0.464	0.440	0.301	0.289

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Same specification as Tables 2 and 3 except lag variable.

Appendix Table 2 (continued)
The Effects of Cumulative Job Characteristics on Health Status
Examination Using Different Lag Structures: Females

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Female	Female	Non White	Non White	White	White	Old	Old	Young	Young
Lag Length	Lag 4	Lag 6	Lag 4	Lag 6	Lag 4	Lag 6	Lag 4	Lag 6	Lag 4	Lag 6
Cumulative Physical Demands (std)	-0.018*	-0.046***	0.016	-0.022	-0.033**	-0.057***	-0.004	-0.041**	-0.032**	-0.050**
	(0.011)	(0.014)	(0.019)	(0.025)	(0.013)	(0.017)	(0.014)	(0.018)	(0.015)	(0.021)
Cumulative Environmental Conditions (std)	-0.013*	-0.021**	-0.017	-0.024	-0.014	-0.021*	-0.015	-0.033***	-0.011	-0.006
	(0.008)	(0.010)	(0.011)	(0.015)	(0.010)	(0.013)	(0.009)	(0.013)	(0.012)	(0.016)
Lagged Health	0.455***	0.415***	0.410***	0.364***	0.481***	0.443***	0.505***	0.455***	0.388***	0.348***
	(0.007)	(0.008)	(0.011)	(0.013)	(0.009)	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)
Cumulative Weekly Work Hours	-0.000*	-0.001***	-0.000	-0.001***	-0.000*	-0.000**	-0.000	-0.001***	-0.000	-0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Cumulative Labor Income	0.005***	0.004***	0.012***	0.010***	0.004***	0.003**	0.005***	0.003**	0.005***	0.005***
	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Constant	1.607***	1.907***	2.229***	2.816***	1.153***	1.462***	1.648***	1.678***	2.158***	2.793***
	(0.103)	(0.147)	(0.187)	(0.266)	(0.123)	(0.174)	(0.339)	(0.592)	(0.367)	(0.449)
Observations	47783	35214	17466	12607	30317	22607	23303	15393	24480	19821
R-squared	0.415	0.393	0.360	0.337	0.387	0.357	0.303	0.284	0.467	0.437

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Same specification as Tables 2 and 3 except lag variable.

Appendix Table 3
The Effects of Cumulative Job Characteristics on Health Status
Results using Ordered Probit

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Males	Non White	White	Old	Young	Males	Non White	White	Old	Young
Cumulative Physical Demands (std)	-0.013	-0.031	0.005	-0.025	0.011	-0.033**	0.008	-0.056***	-0.025	-0.040
	(0.018)	(0.032)	(0.021)	(0.022)	(0.026)	(0.017)	(0.028)	(0.021)	(0.021)	(0.025)
Cumulative Environmental Conditions (std)	-0.011	0.005	-0.018	-0.003	-0.021	-0.020*	-0.026*	-0.021	-0.024**	-0.015
	(0.014)	(0.026)	(0.017)	(0.022)	(0.018)	(0.010)	(0.014)	(0.014)	(0.012)	(0.017)
Lagged Health	0.585***	0.474***	0.639***	0.639***	0.505***	0.579***	0.497***	0.633***	0.630***	0.506***
	(0.012)	(0.020)	(0.016)	(0.016)	(0.017)	(0.011)	(0.017)	(0.014)	(0.015)	(0.014)
Cumulative Weekly Work Hours	0.001***	0.001*	0.001*	0.001***	0.000	-0.001***	-0.001*	-0.001**	-0.000	-0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Cumulative Labor Income	0.003***	0.014***	0.002***	0.003***	0.004***	0.006***	0.012***	0.006***	0.006***	0.007**
	(0.001)	(0.003)	(0.001)	(0.001)	(0.002)	(0.002)	(0.004)	(0.002)	(0.002)	(0.003)
Age	-0.070***	-0.093***	-0.061***	-0.151***	-0.041	-0.037***	-0.064***	-0.024***	-0.078***	-0.010
	(0.008)	(0.015)	(0.010)	(0.024)	(0.050)	(0.007)	(0.011)	(0.009)	(0.021)	(0.038)
Age-squared	0.062***	0.082***	0.054***	0.141***	0.023	0.025***	0.050***	0.012	0.067***	-0.016
	(0.009)	(0.017)	(0.011)	(0.023)	(0.075)	(0.008)	(0.013)	(0.010)	(0.021)	(0.058)
Non White	-0.079***			-0.096***	-0.081**	-0.273***			-0.281***	-0.263***
	(0.023)			(0.029)	(0.033)	(0.020)			(0.028)	(0.028)
Education	0.053***	0.018*	0.064***	0.050***	0.058***	0.051***	0.043***	0.051***	0.046***	0.056***
	(0.006)	(0.010)	(0.007)	(0.007)	(0.009)	(0.005)	(0.009)	(0.006)	(0.007)	(0.008)
Self Employed	0.061**	0.026	0.059**	0.020	0.129***	0.017	0.054	0.019	0.029	-0.014
	(0.026)	(0.062)	(0.029)	(0.032)	(0.041)	(0.032)	(0.071)	(0.036)	(0.045)	(0.044)
Out of the Labor Force Proportion	-0.163*	-0.065	-0.206*	-0.182*	0.000	-0.179***	-0.155	-0.179**	-0.121	-0.184**
	(0.091)	(0.160)	(0.109)	(0.111)	(0.153)	(0.063)	(0.115)	(0.077)	(0.083)	(0.090)
Initial Health	0.220***	0.167***	0.239***	0.165***	0.309***	0.238***	0.180***	0.273***	0.205***	0.284***
	(0.015)	(0.026)	(0.018)	(0.017)	(0.022)	(0.013)	(0.020)	(0.017)	(0.017)	(0.018)
Observations	34721	9952	24769	19579	15142	41178	14909	26269	22128	19050

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Same controls as Tables 4 and 6.

Appendix Table 4
Results Controlling for Occupational Dummies

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Males	Non White	White	Old	Young	Females	Non White	White	Old	Young
Cumulative Physical Demands (std)	-0.014	-0.036	0.002	-0.026	0.007	-0.039***	-0.014	-0.049***	-0.041**	-0.037*
	(0.017)	(0.033)	(0.019)	(0.022)	(0.023)	(0.015)	(0.028)	(0.018)	(0.020)	(0.021)
Cumulative Environmental Conditions (std)	-0.005	0.002	-0.006	-0.000	-0.012	-0.021**	-0.026**	-0.019	-0.029***	-0.012
	(0.010)	(0.018)	(0.011)	(0.015)	(0.012)	(0.009)	(0.013)	(0.012)	(0.011)	(0.015)
Manager	-0.022	0.033	-0.026	-0.042	0.011	0.027	0.043	0.021	0.054*	-0.016
	(0.020)	(0.050)	(0.022)	(0.026)	(0.030)	(0.022)	(0.045)	(0.025)	(0.030)	(0.029)
Sales	-0.066**	-0.009	-0.067**	-0.095**	-0.014	0.056**	0.022	0.063**	0.088**	0.017
	(0.030)	(0.081)	(0.032)	(0.038)	(0.044)	(0.028)	(0.075)	(0.030)	(0.037)	(0.039)
Clerical	-0.037	-0.042	-0.010	-0.039	-0.024	-0.010	-0.015	-0.013	0.005	-0.035
	(0.031)	(0.057)	(0.037)	(0.041)	(0.044)	(0.018)	(0.032)	(0.021)	(0.025)	(0.024)
Craftsman	-0.000	0.018	0.001	-0.005	0.015	0.048	-0.045	0.087*	0.033	0.051
	(0.024)	(0.049)	(0.028)	(0.032)	(0.035)	(0.039)	(0.070)	(0.048)	(0.063)	(0.052)
Operative	-0.037	0.033	-0.066**	-0.050	-0.018	-0.001	-0.023	0.004	0.037	-0.053
	(0.026)	(0.047)	(0.033)	(0.034)	(0.037)	(0.026)	(0.041)	(0.037)	(0.036)	(0.037)
Laborer	-0.031	0.015	-0.040	-0.004	-0.052	0.058	0.087	0.036	0.092	0.014
	(0.035)	(0.062)	(0.041)	(0.049)	(0.046)	(0.045)	(0.073)	(0.059)	(0.069)	(0.061)
Farmer	0.049	0.037	0.047	0.022	0.106	-0.133	-0.291	-0.081	-0.022	-0.296**
	(0.056)	(0.128)	(0.062)	(0.074)	(0.076)	(0.095)	(0.191)	(0.103)	(0.124)	(0.125)
Service	-0.024	0.041	-0.041	-0.040	-0.002	0.041*	0.058	0.013	0.081***	-0.010
	(0.032)	(0.054)	(0.041)	(0.043)	(0.042)	(0.022)	(0.037)	(0.027)	(0.031)	(0.029)
Home maker	0.321	0.084	0.685**	0.086	0.798***	0.032	0.076	-0.049	0.137**	-0.159**
	(0.377)	(0.549)	(0.309)	(0.485)	(0.284)	(0.053)	(0.078)	(0.072)	(0.066)	(0.075)
Constant	2.100***	3.114***	1.720***	3.680***	1.660***	1.717***	2.436***	1.324***	2.357***	1.525***
	(0.149)	(0.292)	(0.173)	(0.455)	(0.595)	(0.129)	(0.232)	(0.155)	(0.408)	(0.451)
Observations	34665	9926	24739	19545	15120	41131	14892	26239	22108	19023
R-squared	0.404	0.365	0.404	0.453	0.290	0.402	0.351	0.368	0.450	0.293

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Same controls as Tables 4 and 6, with additional of occupational dummies.

Appendix Table 5
Results Controlling for Risk Tolerance Measure

Outcome	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS	SRHS
Sample	Males	Non White	White	Old	Young	Females	Non White	White	Old	Young
Cumulative Physical Demands (std)	-0.018	-0.060*	-0.001	-0.031	0.005	-0.038**	-0.023	-0.042**	-0.037*	-0.036*
	(0.016)	(0.032)	(0.018)	(0.020)	(0.021)	(0.015)	(0.027)	(0.018)	(0.019)	(0.021)
Cumulative Environmental Conditions (std)	0.001	0.021	-0.009	0.011	-0.010	-0.023**	-0.024	-0.029**	-0.024*	-0.023
	(0.010)	(0.018)	(0.011)	(0.015)	(0.012)	(0.010)	(0.015)	(0.015)	(0.013)	(0.016)
Lagged Health	0.445***	0.410***	0.458***	0.489***	0.384***	0.406***	0.363***	0.428***	0.447***	0.358***
	(0.011)	(0.019)	(0.013)	(0.014)	(0.014)	(0.010)	(0.015)	(0.012)	(0.013)	(0.012)
Risk Tolerance	-0.003	-0.007	-0.001	-0.003	-0.002	0.005	0.000	0.007	0.008	0.002
	(0.004)	(0.008)	(0.005)	(0.005)	(0.006)	(0.004)	(0.007)	(0.005)	(0.006)	(0.005)
Constant	1.535***	2.190***	1.224***	2.146***	1.208*	1.564***	2.121***	1.319***	2.876***	1.479***
	(0.167)	(0.356)	(0.186)	(0.528)	(0.669)	(0.143)	(0.274)	(0.167)	(0.522)	(0.512)
Observations	25359	6462	18897	13784	11575	28228	8950	19278	14368	13860
R-squared	0.335	0.281	0.340	0.373	0.271	0.325	0.251	0.304	0.358	0.274

Robust standard errors clustered at the individual level in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Same controls as Tables 3 and 5

Appendix Table 6
Occupational Characteristics Descriptive Statistics by Occupational Category

Variable	Obs	Mean	Std Dev
Clerical			
Physical Demands	20946	1.57	0.57
Environmental Conditions	20946	-0.25	0.11
Manager			
Physical Demands	17096	1.77	0.33
Environmental Conditions	17096	-0.19	0.09
Sales			
Physical Demands	6449	1.96	0.18
Environmental Conditions	6449	-0.20	0.09
Service			
Physical Demands	17537	2.76	0.52
Environmental Conditions	17537	0.50	1.21
Operative			
Physical Demands	17353	2.82	0.38
Environmental Conditions	17353	0.29	0.95
Homemaker			
Physical Demands	1212	2.91	0.25
Environmental Conditions	1212	0.28	0.38
Craftsman			
Physical Demands	15027	2.92	0.50
Environmental Conditions	15027	0.19	0.73
Laborer			
Physical Demands	4911	3.55	0.45
Environmental Conditions	4911	0.94	1.43
Farmer			
Physical Demands	1778	3.73	0.30
Environmental Conditions	1778	0.15	0.56

Data Appendix

In order to retain observations, we edit the data in several ways.
For occupational codes, there are several problems that we address. For individuals with missing occupational codes who are working, we fill in codes where that occupational codes in the year t+1 and the year t-1 is the same. We also fill in codes if the t-1 information is available but not t+1. When the occupations in t-1 and t+1 differ, we fill in the occupational characteristics at year t with the average. After these corrections, if there are still missing occupation codes, missing occupational observations are replaced with the average occupational measures over four years and a dummy variable is created to reflect missing data. As mentioned in the text, unemployed waves are given a value of 0 for the occupational characteristics and we control for the number of unemployed waves for each 5-year cumulative measure.

All income is CPI-adjusted to reflection 1999 dollars.

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