

Trends in job demands among older workers, 1992–2002

Employment increases among older adults could relieve some of the demographic pressures created by population aging, but only if older workers are physically able to perform their job responsibilities; the share of workers ages 55 to 60 in jobs that never require much physical effort increased 18 percent between 1992 and 2002

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The aging of the population raises concerns about the Nation's ability to support future retirees, whose numbers will soar once members of the "baby-boom" cohort begin reaching old age in coming years. If current employment patterns persist, there will be fewer workers in the future available to produce goods and services, threatening standards of living for Americans of all ages. As long as job demands do not force many older workers into retirement, increasing employment among older adults could relieve these demographic pressures. This article explores the ability of the labor force to accommodate older adults by examining recent trends in job demands among older workers.

Once the oldest baby-boomers reach age 65 in 2011, the population will begin to age rapidly. The U.S. Census Bureau predicts that between 2000 and 2040, the number of Americans ages 65 and older will more than double, to 77 million, while the number of prime working-age adults, between the ages of 25 and 54, will increase by only 12 percent.¹ As a result, the number of prime working-age adults per elderly American will fall over the next 40 years from 3.5 to 1.8. The number of dependent children will also grow relatively rapidly over the next 40 years, compounding the pressures on working adults. In 2040, the number of Americans under 18 and ages 65 and older, who have been less likely to work, will exceed the number of prime working-age adults by 21 percent. In 2000, by contrast, prime working-age adults outnumbered dependent children and elderly adults by 14 percent.

The growing imbalance between working age adults and elderly persons is reducing the number of workers who can finance retirement benefits for older Americans. Both Social Security and Medicare are funded primarily on a pay-as-you-go basis, with payroll taxes on workers financing benefits received by retirees. According to the latest official projections, outlays will begin to exceed revenues for Medicare in 2011 and for Social Security in 2018.² More fundamentally, the aging of the population reduces the number of workers available to produce the goods and services that the economy needs. Without dramatic increases in productivity or changes in employment patterns, the looming worker shortage will reduce per-capita output and lower living standards.³

Higher employment rates among older adults could relieve these pressures, by increasing the labor force and reducing claims on retirement benefits. The average retirement age has been falling over most of the past century—despite improvements in health and life expectancy that could allow individuals to work until older ages⁴—although the trend seems to have leveled off and even reversed in recent years.⁵ Congress has increased the age at which retirees qualify for full Social Security benefits, which could encourage older workers to remain in the labor force. The legislation slowly raises the normal retirement age from 65 to 67 (for workers born after 1959, who will reach age 67 after 2026). Some experts have proposed that Congress increase the normal retirement age to 67 more quickly,⁶ increase it to age 70,⁷ or tie the retirement age to

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changes in life expectancy.⁸ Others have advocated removing some of the legal impediments to work at older ages.⁹ For example, many older workers prefer to reduce their work hours gradually, but Federal law prohibits employers from paying retirement benefits to active employees, even if they work only part time.

Job demands also encourage early retirement. Studies have found that workers in blue collar jobs tend to retire before workers in white collar jobs,¹⁰ and that workers in physically demanding jobs are less likely to remain in the labor force after the initial receipt of Social Security benefits.¹¹ Other studies have found that physical job demands and stress are important predictors of early retirement.¹²

The decline of the manufacturing sector over the past half century and the growing computerization of the workplace have likely reduced physical job demands, potentially enabling more older adults to remain at work. Between 1950 and 2000, the share of jobs in the goods-producing sector—which includes the construction and mining industries as well as manufacturing—fell from 41 percent to 20 percent; virtually all employment growth between 2000 and 2010 is expected to come from the services-producing sector.¹³ In addition, the share of workers using computers increased from 24 percent in 1984 to 54 percent in 2001.¹⁴

In fact, fewer jobs appear to require physical strength now than they did in the past. Between 1950 and 1996, the share of workers in jobs that required them to lift more than 50 pounds occasionally and 25 pounds frequently fell from 20 percent to less than 8 percent.¹⁵ These estimates, based on job data from the 1977 edition of the *Dictionary of Occupational Titles* matched with worker data from the Current Population Survey, understate the true decline in the number of demanding jobs. They do not account for the possibility that jobs classified as physically demanding based on 1977 job ratings became less strenuous in later years. An important limitation of this research, however, is that it provides no direct evidence on how job demands faced by older workers have changed over time.

Although the physical demands of work appear to be declining, there is some evidence that jobs are now more time-consuming and stressful than they used to be.¹⁶ These non-physical demands may push some older workers into retirement, even when their jobs do not require physical strength or stamina.

Methods

This study measures recent trends in job demands at older ages by comparing self-reported job characteristics among older workers in 1992 and 2002. The data come from the Health and Retirement Study (HRS), a nationally representative survey of older Americans conducted by the University

of Michigan for the National Institute on Aging. The survey began in 1992 with interviews of 9,761 Americans born between 1931 and 1941, and was expanded in 1998 to include 1,967 respondents in the 1942 to 1947 birth cohort. Every other year, the survey collects detailed information on a wide range of subjects, including basic demographic information, detailed health status, and employment characteristics. The survey oversamples African Americans, Hispanics, and Florida residents, but includes sample weights used to adjust the estimates so that they represent the underlying national population.

At each wave, the survey asks employed respondents about their job requirements. Respondents report how often (all or almost all of the time, most of the time, some of the time, or none or almost none of the time) their jobs require “lots” of physical effort; lifting heavy loads; stooping, kneeling, or crouching; good eyesight; intense concentration or attention; skill in dealing with other people; and work with computers. In addition, the survey asks workers whether they agree (strongly agree, agree, disagree, or strongly disagree) that their job requires them “to do more difficult things than it used to” and that it “involves a lot of stress.” The wording of the questions about job requirements was identical in 1992 and 2002.

This study uses the HRS to compute the share of workers ages 55 to 60 in 1992 and 2002 who report particular job demands all or almost all of the time and none or almost none of the time, as well as the share who strongly agree and strongly disagree that their jobs have become more difficult or that they are stressful. It computes the percentage point differences between the 1992 and 2002 shares and uses t-tests to determine whether these differences are statistically significant. The relative percent change in the observed differences is also computed. The analysis compares changes in job demands by gender and educational attainment brought on by economic structural shifts over the past 10 years.

In addition, the study examines the demographics, health, and industry of older workers in jobs that require substantial physical effort all or almost all of the time and those in jobs that never require much physical effort. Workers in physically demanding jobs may face special difficulty delaying retirement if they have health problems. Measures of health include self-rated overall health status (excellent or very good, good, and fair or poor); whether a doctor has diagnosed the respondent with arthritis or rheumatism; whether the respondent reports being troubled often by pain; and the presence of serious medical conditions (defined as a history of heart problems, diabetes, chronic lung disease, cancer, and stroke). Because the aim is to measure serious medical conditions that could force workers to drop out of the labor force, the analysis only includes cases of chronic lung disease that limit everyday activities such as employment or household chores;

cases of cancer for which the respondent receives at least periodic medical checkups (suggesting that the cancer is not completely cured); and cases of stroke that continue to cause health problems for respondents, such as muscle weakness or difficulty speaking. The analysis also identifies respondents whose arthritis limits their activities in 2002. (The survey did not collect information on the severity of arthritis in 1992.)

Table 1 compares the characteristics of HRS respondents ages 55 to 60 in 1992 and 2002. Members of the later cohort completed significantly more schooling than those from the earlier cohort. Between 1992 and 2002, the share of adults in their late 50s who did not graduate from high school fell by 11 percentage points, while the share who completed 4 or more years of college increased by 11 percentage points—to 29 percent of the population. The prevalence of serious medical conditions increased over the past decade among adults in their late 50s, because more adults had diabetes in 2002 than in 1992. Significantly more older adults reported being troubled

often by pain and suffering from arthritis in 2002 than in 1992, although fewer than half of the arthritis cases were serious enough to limit everyday activities. Overall health status did not change significantly during the period.

The sample for the analyses consists of 3,125 workers in 1992 and 1,124 workers in 2002. Consistent with other evidence that many workers are now delaying retirement,¹⁷ the share of employed adults ages 55 to 60 in the HRS increased from 67 percent in 1992 to 70 percent in 2002.

Results

Table 2 describes job characteristics for all workers ages 55 to 60. In 2002, 18 percent of older workers reported that their jobs require lots of physical effort all or almost all of the time, while about twice as many older workers (38 percent) reported that their jobs never or almost never require much physical effort. About 6 out of 10 workers said they never lift heavy loads on

Table 1. Characteristics of adults ages 55 to 60, 1992 and 2002

Characteristic	1992 (percent)	2002 (percent)	Percentage point difference	Percent change
Education:				
Did not complete high school	23.5	12.1	¹ -11.4	-48.5
High school graduate	39.6	34.0	¹ -5.6	-14.1
Some college, but less than 4 years	18.8	24.5	¹ 5.7	30.5
Completed 4 years of college	18.1	29.3	¹ 11.3	62.6
Race:				
Hispanic	6.0	7.0	1.0	17.5
Non-Hispanic black	10.4	10.4	.0	0.4
Non-Hispanic white and other	83.7	82.6	-1.1	-1.3
Self-reported health status:				
Excellent or very good	50.9	51.3	0.4	.8
Good	27.4	28.1	.8	2.8
Fair or poor	21.7	20.6	-1.2	-5.4
Medical conditions:				
Any serious medical conditions ³	27.2	29.8	² 2.6	9.6
Heart problems	14.3	13.8	-.4	-3.1
Diabetes	11.0	14.7	³ 3.6	33.1
Chronic lung disease that limits activities	3.5	3.4	-.1	-2.9
History of cancer, continues to see doctor	4.2	4.1	-.1	-2.4
History of stroke that continues to cause problems	1.4	1.7	.3	21.4
Arthritis	41.2	45.1	³ 3.9	9.4
Arthritis that limits activities	—	19.5	—	—
Often troubled by pain	24.6	30.3	¹ 5.8	23.5
Employed	66.6	70.1	² 3.5	5.2
Number of observations	4,886	1,634	...	...

¹ Significant at the 1-percent level.

² Significant at the 5-percent level.

³ Serious medical conditions include heart problems, chronic lung disease, cancer, stroke, and diabetes.

NOTE: Estimates are weighted to account for the sampling design of the Health and Retirement Study. Dash indicates data not available.

SOURCE: Author's estimates from the Health and Retirement Study (HRS).

Table 2. Self-reported job characteristics of workers ages 55 to 60, 1992 and 2002

Characteristic	1992 (percent)	2002 (percent)	Percentage point difference	Percent change
Job requirements apply all or almost all of the time				
Lots of physical effort	20.3	18.3	-2.0	-9.9
Lifting heavy loads	8.1	9.1	1.0	12.3
Stooping, kneeling, or crouching	13.0	15.7	² 2.7	20.8
Good eyesight	52.3	66.5	¹ 14.2	27.2
Intense concentration	46.8	54.5	¹ 7.7	16.5
Skill in dealing with other people	62.1	71.8	¹ 9.7	15.6
Work with computers	18.6	40.7	¹ 22.1	118.8
Job requirements apply none or almost none of the time				
Lots of physical effort	32.0	37.7	¹ 5.7	17.8
Lifting heavy loads	56.1	60.1	² 4.0	7.1
Stooping, kneeling, or crouching	37.1	40.8	² 3.7	10.0
Good eyesight	3.5	4.5	1.0	28.6
Intense concentration	3.1	3.1	.0	.0
Skill in dealing with other people	3.5	2.1	² -1.4	-40.0
Work with computers	54.2	26.9	¹ 27.3	-50.4
Strongly agree with descriptions of current job				
More difficult now than it was in the past	11.6	15.5	¹ 3.9	33.6
Involves a lot of stress	17.5	20.6	² 3.1	17.7
Strongly disagree with descriptions of current job				
More difficult now than it was in the past	7.4	5.8	³ -1.6	-21.6
Involves a lot of stress	5.3	3.4	¹ -1.9	-35.8
Number of observations	3,125	1,124	...	...
¹ Significant at the 1-percent level. ² Significant at the 5-percent level. ³ Significant at the 10-percent level.				
NOTE: Estimates are weighted to account for the sampling design of the Health and Retirement Study (HRS). SOURCE: Author's estimates from the Health and Retirement Study (HRS).				

the job, and about 4 out of 10 said their jobs never require them to stoop, kneel, or crouch. Only 9 percent reported that their jobs always require them to lift heavy loads, and 16 percent said their jobs always involve stooping, kneeling, or crouching.

Although only a minority of older adults work in physically demanding jobs, most older workers face intense non-physical demands on the job. About 55 percent reported in 2002 that their jobs always require intense concentration; 72 percent reported that their jobs always require skill in dealing with other people; 41 percent reported that they always work with computers; and 67 percent reported that their jobs always require good eyesight. In addition, about 1 out of 5 older workers strongly agreed that their jobs involve a lot of stress, and about 1 out of 6 strongly agreed that their jobs have become more difficult than they were in the past.

In general, the share of older workers reporting that their jobs entail physical demands all or almost all of the time did not change much over the past 10 years, while the share reporting virtually no physical demands on the job increased significantly. For example, the share with jobs that never require substantial amounts of physical effort jumped 6 percentage points between 1992 and 2002, an increase of 18 percent in relative terms. The share with jobs that never require heavy lifting and the share with jobs that never involve stooping, kneeling, or crouching both increased by 4 percentage points. But the share of older workers with jobs that require heavy lifting all or almost all of the time and that involve regular stooping, kneeling, or crouching also increased over the period—although the difference is significant only for jobs with stooping, kneeling, and crouching requirements. The propor-

tion reporting that their jobs always require substantial amounts of physical effort declined by 2 percentage points, but the difference is not significant.

Non-physical job demands appear to have increased between 1992 and 2002. The proportion of older workers claiming that their jobs require intense concentration all or almost all of the time increased 8 percentage points (or 17 percent in relative terms), and the share claiming that their jobs always require skill in dealing with other people increased 10 percentage points (or 16 percent in relative terms). In addition, the share who strongly agree that their jobs have become more difficult than they were in the past rose by 4 percentage points (or about one-third), while those that involve a lot of stress increased by 3 percentage points (or more than one-sixth). Computer use more than doubled over the period, perhaps accounting for the 14-percentage-point jump between 1992 and 2002 in the share of older workers whose jobs always require good eyesight.

Table 3 shows self-reported job demands for older workers by gender. Women are significantly more likely than men to report that their jobs never involve lifting heavy

loads, but there are no significant differences between men and women in the share reporting substantial amounts of physical effort. Non-physical job demands appear to be more intense for women than for men. Larger shares of women than men report that their jobs require good eyesight, intense concentration, and work with computers. Women also report more job stress than men, but the differences are significant only in 1992.

Between 1992 and 2002, the share of older workers reporting that they never exert substantial amounts of physical effort on the job or never lift heavy loads increased significantly for men, but not for women. Older men, however, generally experienced sharper gains in non-physical job demands than women. The share of older men in jobs that require good vision increased by 17 percentage points; the share in jobs that require intense concentration increased by 8 percentage points; the share in jobs that have become more difficult over time increased by 5 percentage points; and the share in stressful jobs increased by 3 percentage points. As a result, the job demands faced by men and women were more similar in 2002 than they were 10 years earlier.

Table 3. Self-reported job characteristics of workers ages 55 to 60 by gender, 1992 and 2002

Characteristic	1992 (percent)	2002 (percent)	Percentage point difference	Percent change
Men				
Lots of physical effort all or almost all of the time	20.0	19.2	−0.8	−4.0
Lots of physical effort none or almost none of the time	30.7	38.7	¹ 8.0	26.1
Lift heavy loads all or almost all of the time	9.1	9.8	0.7	7.7
Lift heavy loads none or almost none of the time	52.3	56.8	³ 4.5	8.6
Stoop, kneel, or crouch all or almost all of the time	14.6	15.2	.6	4.1
Stoop, kneel, or crouch none or almost none of the time	35.2	42.1	¹ 6.9	19.6
Good eyesight all or almost all of the time	44.8	62.2	¹ 17.4	38.8
Intense concentration all or almost all of the time	44.9	52.9	¹ 8.0	17.8
Work with computers all or almost all of the time	13.6	35.3	¹ 21.7	159.3
Strongly agree that job is more difficult now than in the past	10.7	15.6	¹ 4.9	45.8
Strongly agree that job involves a lot of stress	15.5	18.3	2.8	18.1
Number of observations	1,632	606	...	...
Women				
Lots of physical effort all or almost all of the time	20.6	17.3	−3.3	−16.0
Lots of physical effort none or almost none of the time	33.6	36.5	2.9	8.6
Lift heavy loads all or almost all of the time	⁴ 7.0	8.2	1.2	17.1
Lift heavy loads none or almost none of the time	⁴ 60.4	⁴ 64.0	3.6	6.0
Stoop, kneel, or crouch all or almost all of the time	⁴ 11.3	16.2	² 4.9	43.4
Stoop, kneel, or crouch none or almost none of the time	⁴ 39.2	39.2	.0	.0
Good eyesight all or almost all of the time	⁴ 60.6	⁴ 71.3	¹ 10.7	17.7
Intense concentration all or almost all of the time	⁴ 48.9	56.3	¹ 7.4	15.1
Work with computers all or almost all of the time	⁴ 24.2	⁴ 46.9	¹ 22.7	93.8
Strongly agree that job is more difficult now than in the past	12.6	15.5	2.9	23.0
Strongly agree that job involves a lot of stress	⁴ 19.7	23.2	3.5	17.8
Number of observations	1,493	518	...	...

¹ Significant at the 1-percent level.

² Significant at the 5-percent level.

³ Significant at the 10-percent level.

⁴ Significantly differs (at the 5-percent level) from male workers.

NOTE: Estimates are weighted to account for the sampling design of the Health and Retirement Survey.

SOURCE: Author's estimates from the Health and Retirement Survey (HRS).

Table 4 compares self-reported job demands for older workers by education. Not surprisingly, physical job demands fall significantly with educational attainment. For example, in 2002, 28 percent of older workers who did not attend college reported that their jobs require lots of physical effort all or almost all of the time, compared with only 8 percent of college graduates. Older workers who completed 4 or more years of college are more likely than those who never attended college to report that their jobs are stressful, require intense concentration, involve work with computers, and have become more difficult than they were in the past. However, the differences in terms of job stress and concentration demands are significant only in 1992.

The decline in physical job demands that occurred over the past decade was confined to college graduates. The share of older workers who never need to exert much physical effort on the job increased by 8 percentage points among those who completed 4 or more years of college, while falling (insignificantly) among those who did not graduate from college. Non-

physical job demands increased for all educational groups, however. For example, between 1992 and 2002, the share of older workers with jobs that require intense concentration almost all of the time increased by 7 percentage points for each educational group. Within educational groups, the share of older workers in jobs that involve a lot of stress did not change significantly over the period. The overall increase in the share of older workers in stressful jobs resulted from the rise in educational attainment among older workers (college-educated workers are more likely to face stress on the job than workers with less education).

Table 5 compares the characteristics of older workers in jobs that require substantial amounts of physical effort all or almost all of the time and those in jobs that never require much physical effort, for 1992 and 2002. Workers in physically demanding jobs have significantly less education than workers in non-physically demanding jobs. For example, the share of older workers who did not complete high school is more than four times as high in jobs that always require sub-

Table 4. Self-reported job characteristics of workers ages 55 to 60 by education, 1992 and 2002

Characteristic	1992 (percent)	2002 (percent)	Percentage point difference	Percent change
No college				
Lots of physical effort all or almost all of the time	26.6	28.1	1.5	5.6
Lots of physical effort none or almost none of the time	23.3	21.6	-1.7	-7.3
Good eyesight all or almost all of the time	52.6	68.4	¹ 15.8	30.0
Intense concentration all or almost all of the time	45.7	53.1	¹ 7.4	16.2
Work with computers all or almost all of the time	15.2	28.6	¹ 13.4	88.2
Strongly agree that job is more difficult now than in the past ...	10.1	11.3	1.2	11.9
Strongly agree that job involves a lot of stress	15.1	17.8	2.7	17.9
Number of observations	1,893	459	...	...
Some college, but less than 4 years				
Lots of physical effort all or almost all of the time	⁴ 14.3	⁴ 17.1	2.8	19.6
Lots of physical effort none or almost none of the time	⁴ 39.7	⁴ 38.9	-0.8	-2.0
Good eyesight all or almost all of the time	51.1	66.3	¹ 15.2	29.7
Intense concentration all or almost all of the time	44.5	51.0	³ 6.5	14.6
Work with computers all or almost all of the time	⁴ 25.5	⁴ 43.8	¹ 18.3	71.8
Strongly agree that job is more difficult now than in the past ...	12.9	⁴ 17.9	³ 5.0	38.8
Strongly agree that job involves a lot of stress	⁴ 19.4	22.7	3.3	17.0
Number of observations	622	291	...	...
4 or more years of college				
Lots of physical effort all or almost all of the time	⁴ 9.0	⁴ 7.6	-1.4	-15.6
Lots of physical effort none or almost none of the time	⁴ 48.4	⁴ 56.1	² 7.7	15.9
Good eyesight all or almost all of the time	52.6	64.2	¹ 11.6	22.1
Intense concentration all or almost all of the time	⁴ 52.0	58.9	² 6.9	13.3
Work with computers all or almost all of the time	⁴ 21.4	⁴ 52.6	¹ 31.2	145.8
Strongly agree that job is more difficult now than in the past ...	⁴ 14.5	⁴ 18.8	³ 4.3	29.7
Strongly agree that job involves a lot of stress	⁴ 22.3	22.3	.0	.0
Number of observations	610	374	...	...

¹ Significant at the 1- percent level.

² Significant at the 5-percent level.

³ Significant at the 10-percent level.

⁴ Significantly differs (at the 5-percent level) from workers who did not attend college.

NOTE: Estimates are weighted to account for the sampling design of the Health and Retirement Study (HRS).

SOURCE: Author's estimates from the Health and Retirement Study (HRS).

stantial amounts of physical effort than in jobs that never require much physical effort. Blacks and Hispanics also account for a disproportionate share of older workers in physically demanding jobs.

In 2002, almost two-thirds of older workers in jobs that always require lots of physical effort are in the manufacturing, mining, construction, agriculture, transportation, and trade industries, which account for only one-third of older workers in jobs that never require much physical effort.

Relatively few older workers in jobs with virtually no physical demands reported health problems that could force them to retire early. Only 17 percent of workers in jobs that impose virtually no physical demands are troubled frequently by pain, and only 8 percent describe their overall health as fair or poor. They are also significantly more likely to describe their health as excellent or very good than workers in physically demanding jobs. But differences across job types in the share of older workers in fair or poor health were small and insignificant in

Table 5. Characteristics of workers ages 55 to 60, by physical demands of jobs, 1992 and 2002.

Characteristic	1992				2002			
	Amount of time job requires physical effort (percent)		Percentage point difference	Percent difference	Amount of time job requires physical effort (percent)		Percentage point difference	Percent difference
	Never	Always			Never	Always		
Gender:								
Male	50.3	51.8	1.5	3.0	55.1	56.3	1.2	2.2
Female	49.7	48.2	-1.5	-3.0	44.9	43.7	-1.2	-2.7
Education:								
Did not complete high school	8.3	36.1	¹ 27.8	334.9	3.2	14.5	¹ 11.3	353.1
High school graduate	34.0	40.0	³ 6.0*	17.6	19.8	47.0	¹ 27.2	137.4
Some college, but less than 4 years	25.3	14.4	¹ -10.9	-43.1	27.2	24.6	-2.6	-9.6
Completed 4 years of college	32.5	9.6	¹ -22.9	-70.5	49.8	13.9	¹ -35.9	-72.1
Race:								
Hispanic	3.0	7.0	¹ 4.0	133.3	5.8	8.3	¹ 2.5	43.1
Non-Hispanic black	6.7	13.5	¹ 6.8	101.5	5.9	12.3	¹ 6.4	108.5
Non-Hispanic white and other	90.3	79.5	¹ -10.8	-12.0	88.3	79.4	¹ -8.9	-10.1
Self-reported health status:								
Excellent or very good	65.6	49.4	¹ -16.2	-24.7	68.6	53.4	¹ -15.2	-22.2
Good	25.2	33.4	¹ 8.2	32.5	23.4	35.7	¹ 12.3	52.6
Fair or poor	9.2	17.2	¹ 8.0	87.0	8.0	10.9	2.9	36.3
Any serious medical conditions	22.2	21.8	-.4	-1.8	22.8	19.6	-3.2	-14.0
Arthritis	34.6	41.1	² 6.5	18.8	34.6	46.3	¹ 11.7	33.8
Arthritis that limits activities	-	-	-	-	10.8	14.4	3.6	33.3
Often troubled by pain	13.6	21.3	¹ 7.7	56.6	17.4	28.5	¹ 11.1	63.8
Industry:								
Manufacturing	17.0	21.0	² 4.0	23.5	15.8	21.4	³ 5.6	35.4
Mining, construction, agriculture	3.5	16.3	¹ 12.8	365.7	3.3	13.7	¹ 10.4	315.2
Services	37.0	36.7	-.3	-.8	49.0	34.8	¹ -14.2	-29.0
Transportation	7.5	5.2	³ -2.3	-30.7	5.3	10.2	³ 4.9	92.5
Trade	12.1	15.0	2.9	24.0	7.8	16.8	¹ 9.0	115.4
Fire, insurance, and real estate	14.3	3.5	¹ -10.8	-75.5	12.0	1.0	¹ -11.0	-91.7
Public administration	8.6	2.3	¹ -6.3	-73.3	6.9	2.0	¹ -4.9	-70.0
Number of observations	946	686	...	...	417	213	...	...

¹ Significant at the 1-percent level.

² Significant at the 5-percent level.

³ Significant at the 10-percent level.

NOTE: Serious medical conditions include heart problems, chronic lung disease, cancer, stroke, and diabetes. Estimates are weighted to account for the HRS sampling design.

SOURCE: Author's estimates from the Health and Retirement Study (HRS).

2002. These differences have narrowed substantially since 1992, when workers in physically demanding jobs were almost twice as likely to report being in fair or poor health than those in less physically demanding jobs. In 2002, only 11 percent of workers ages 55 to 60 in physically demanding jobs described their health as fair or poor, down from 17 percent in 1992, suggesting that more older workers in physically rigorous jobs may now be able to remain at work and delay retirement. However, more workers in physically demanding jobs are now troubled by pain and suffer from arthritis, which could lead to early retirement. In 2002, 29 percent of workers in physically demanding jobs reported chronic pain, and 46 percent reported arthritis—although only 14 percent reported that their arthritis was serious enough to limit everyday activities.

Conclusions

The findings show that the share of older workers facing virtually no physical demands on the job increased significantly in the 1990s. Nearly 2 out of 5 workers ages 55 to 60 reported in 2002 that their jobs almost never required much physical effort. In combination with health status improvements in middle age and beyond,¹⁸ reductions in physical job demands suggest that more workers are now able to delay retirement and work until older ages than in the past. Higher levels of employment among older adults would help restore balance to the Medicare and Social Security systems and ease the demographic pressures that threaten to slow economic growth and lower standards of living in the coming decades.

The study also found evidence, however, that the level of non-physical job demands faced by older workers has increased significantly over the past decade. Jobs held by older workers increasingly require intense concentration, skill in dealing with other people, and good eyesight, and thus are becoming more difficult and stressful. Although older workers are now better educated than they were only a few years ago, these cognitive job demands may lead some to retire early.

Despite recent overall declines in the physical demands of work and potential improvements in the capacity to work at older ages, the rigors of employment remain daunting for many older adults. Nearly 1 in 5 workers ages 55 to 60 report that their jobs almost always require substantial physical effort. The reduction in physical job demands between 1992 and 2002 was limited to jobs that require physical effort only some of the time. The share of older workers who report that their jobs always impose physical demands did not fall significantly over the past decade. Moreover, many workers in physically demanding jobs—who are disproportionately people of color and low educated adults—suffer from health problems that further complicate their ability to remain in the labor force. More than 1 in 4 reports being troubled by pain often; 1 in 5 has serious medical conditions; and 1 in 7 has arthritis severe enough to limit everyday activities. Consequently, many of these workers will be unable to remain at work through their late 60s. When devising ways to encourage older adults to delay retirement and remain at work, policymakers should provide an adequate safety net for those adults whose demanding jobs and health problems force them to retire early. □

Notes

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¹ See U.S. Census Bureau, *U.S. Summary: 2000*, on the Internet at <http://www.census.gov/prod/2002pubs/c2kprof00-us.pdf> (visited June 15, 2004); and U.S. Census Bureau, *Projections of the Total Resident Population by 5-Year Age Groups and Sex with Special Age Categories: Middle Series, 2025 to 2045*, on the Internet at <http://www.census.gov/population/projections/nation/summary/np-t3-f.pdf> (visited June 15, 2004).

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⁵ Joseph F. Quinn, “Retirement Trends and Patterns among Older American Workers,” in Stuart H. Altman and David Shactman, eds., *Policies for an Aging Society* (Baltimore, Johns Hopkins University Press, 2002), pp. 293–315.

⁶ See Gary Burtless and Joseph F. Quinn, “Retirement Trends and Policies to Encourage Work among Older Americans,” in Peter P. Budetti, Richard V. Burkhauser, Janice M. Gregory and Allan Hunt, eds., *Ensuring Health and Income Security for an Aging Workforce* (Kalamazoo, MI, The W.E. Upjohn Institute for Employment Research, 2001) pp. 375–415.

⁷ See National Commission on Retirement Policy, *Can America Afford to Retire? The Retirement Security Challenge Facing You and the Nation*, on the Internet at <http://www.csis.org/retire/nrcpbroc.pdf> (visited June 15, 2004).

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¹⁰ Alan L. Gustman and Thomas L. Steinmeier, "A Disaggregated, Structural Analysis of Retirement by Race, Difficulty of Work, and Health," *Review of Economics and Statistics*, August 1986, pp. 509–13; and Cori E. Uccello, *Factors Influencing Retirement: Their Implications for Raising the Retirement Age*, AARP Public Policy Institute Paper No. 9810 (Washington, DC, AARP, 1998).

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¹⁸ Eileen M. Crimmins, Sandra L. Reynolds, and Yasuhiko Saito, "Trends in Health and Ability to Work Among the Older Working-Age Population," *Journal of Gerontology: Social Sciences*, January 1999, pp. S31–S40; and Kenneth G. Manton and XiLiang Gu, "Changes in the Prevalence of Chronic Disability in the United States Black and Nonblack Population above age 65 from 1982 to 1999," *Proceedings of the National Academy of Sciences*, November 2001, pp. 6354–59.