

How do older Americans spend their time?

Older Americans' time use changes dramatically with age, but it is the lower employment rates at older ages—rather than age itself—that matter most

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Understanding how older Americans spend their time and how their time use changes at key life events, such as retirement, is important because it affects their well-being. Other aspects of aging, such as the determinants of labor supply and retirement age, the adequacy of retirement savings, and the importance of housing wealth, have been researched extensively. But little attention has been devoted to how older Americans spend their time.

At retirement, the opportunity cost of spending time in leisure and household production activities declines, because individuals no longer forgo wages to engage in these activities. Economic theory predicts that, because of their lower income and lower opportunity cost of time, retirees will spend more time doing household production activities—such as cooking, cleaning, and performing household maintenance—than they did while they were employed.¹ The predicted effect of retirement on time spent in leisure activities is ambiguous, because the effects of a lower opportunity cost of time and lower income work in opposite directions: the lower opportunity cost of time in retirement tends to *increase* time spent in leisure activities, while the decline in income tends to *decrease* time spent in leisure activities.² Thus, when comparing the time use of older Americans who are employed with those who are not employed, one expects to find that the nonemployed spend more

time in household production activities and either more or less time in leisure activities than those who are employed. Along the same lines, one would expect part-time workers to be in some sense “between” full-time workers and nonworkers in how they use their time—especially if people work part time to ease the transition from full-time work to retirement.

Psychological and sociological research has shown the importance of being socially engaged throughout the aging process. For example, staying connected with others and maintaining socially supportive relationships have both been shown to enhance the mental and physical health of the elderly³ and to contribute to longevity.⁴

Until recently, there were few diary-based surveys of time use done in the United States, and all had small samples, resulting in limited information about older persons' time use. Detailed analyses—for example, by full- or part-time employment status for detailed age groups—were not possible. Still, past time-use studies have provided some valuable findings about older Americans' use of time.

In their book *Time for Life*, John Robinson and Geoffrey Godbey included some insights about older Americans' time use. They found that older persons spent less time doing paid work, more time engaging in leisure activities, more time doing housework, and more time sleeping compared with younger individuals.⁵ They also found that employment status was

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a more important factor than age in its impact on older persons' use of time. Research by Liana Sayer, Suzanne Bianchi, and John Robinson shows that Americans aged 65 and older spent more time in leisure activities in 1998 than they had in 1975. There was also an increase in the amount of time older Americans spent both alone and at home⁶ over this same period.⁷

Anne Gauthier and Timothy Smeeding found that, for American women aged 55 to 64, nonemployed individuals' overall time use was similar to that of individuals employed full time on the days they did not work. However, this result did not hold for American men.⁸ In another article, Gauthier and Smeeding made cross-national time-use comparisons and examined trends in time use between the 1960s and the 1990s. They found that older Americans were spending more time both in passive leisure activities (for example, watching television, reading, or listening to the radio) and in active ones (for example, playing sports or engaging in fitness activities) than in years past.⁹

This study combines 2003 and 2004 data from the Bureau of Labor Statistics' (BLS's) new American Time Use Survey (ATUS) to examine how older individuals spent their time on an average day during that 2-year period. The ATUS's large sample size permits detailed analyses by demographic characteristics, day of week, time of day, and presence of others. The first part of the article examines how older Americans' time use varies by age, employment status, and sex. The rest of the article examines social engagement and connectedness by looking at how much time older Americans spent actively socializing and how much time they spent alone and with other people.

Data

The ATUS sample is a stratified random sample, drawn from households that have completed their participation in the Current Population Survey (CPS). The ATUS data are nationally representative of the U.S. civilian noninstitutional population aged 15 years and older and provide age detail for respondents up to age 80.¹⁰ The survey began in 2003 and is ongoing. The data used in this article cover the period from January 2003 through December 2004.¹¹ About 1,725 diaries were collected each month of 2003 and about 1,165 diaries each month of 2004, for a total sample size of 34,693, almost four times the size of the 1992–94 University of Maryland time-use survey, the largest U.S. time-use survey conducted prior to the ATUS.¹²

The ATUS provides a wealth of information about how Americans allocate their time to various activities.¹³ Dur-

ing a telephone interview, respondents sequentially report their activities for the 24-hour period that began at 4 a.m. the previous day and ended at 4 a.m. the day of the interview. Interviews are conducted every day except for a few major holidays; thus, the data cover two entire years, excluding the days before these holidays. For each activity reported, respondents provide the starting and ending times, where they were, and whom they were with. After the interview, each activity is assigned a three-tier activity code.¹⁴ ATUS interviewers do not systematically collect information about secondary activities (for example, listening to the radio while driving or watching TV while eating) in the time diary, except for childcare.

The ATUS also includes information about household composition, demographics, and labor force status, such as whether the respondent was employed, unemployed, or not in the labor force (NILF).¹⁵ The ATUS data do not distinguish between different reasons for being NILF (as is done in the CPS); however, it is possible to identify respondents who report that they did not work because they were disabled or unable to work.

The sample for the analysis that follows includes men and women aged 55 and older, except individuals who indicated that they were NILF because they were disabled. The resulting sample size was 10,091 observations. In generating estimates, the sample weights were adjusted to ensure that each day of the week was equally represented for each demographic group examined.¹⁶

The exclusion of the NILF-disabled was done to facilitate some of the age comparisons, but its overall effect is relatively small. The effect of this exclusion is the largest for 55- to 59-year-old men, because disabled individuals account for more than one-third of all those NILF for this age-sex group, and the disabled and the nondisabled use their time differently. For example, the NILF-disabled spent less time doing household work and more time sleeping and watching TV. This exclusion had a somewhat smaller effect on 55- to 59-year-old women, because there is little difference in time use between the disabled and the nondisabled in this age group. The effect is small for 60- to 64-year-olds and is negligible for the 65- to 69-year-old and 70-and-older age groups.

The ATUS data have four important limitations that are relevant to this analysis. First, because individuals living in residential-care facilities are out of scope for the ATUS, one would expect the ATUS sample to be healthier, on average, than the elderly population as a whole.¹⁷ Perhaps more importantly, the effect of this scope restriction is likely to be larger for older age groups. Second, the ATUS drops interviews from individuals who did not

remember or who declined to provide activity information for more than 3 hours of the 24-hour diary day. This restriction excludes a disproportionate fraction of the oldest of the elderly from the ATUS sample, because they appear to have more difficulty, in general, recalling their previous day's activities accurately. As with the previous restriction, one would expect the ATUS sample to be healthier than the elderly population as a whole, with the difference being larger for older age groups. Third, this article presents a cross-sectional analysis of older Americans, so it is impossible to determine whether differences by age are due to factors associated with aging or due to cohort effects. Finally, because the ATUS data include only one diary per person, it is impossible to make direct observations about changes in time use due to changes in employment status.

Time use of older Americans

Table 1 shows the time spent in selected activities for men and women by age and employment status. Because part-time bridge jobs—jobs held after a career full-time job ends and before full retirement from the labor force—are an important avenue for making the transition into retirement,¹⁸ separate estimates were generated for full-time and part-time workers (based on usual hours worked per week). Although there were too few observations to generate separate estimates of time use for the unemployed, they are included in the “Total” columns.

Comparing the “Total” columns, one can see systematic differences by age for both sexes. Hours worked per day declined with age, while time spent sleeping and doing leisure and sports activities increased. For men, time spent doing household work also increased with age. However, as will be seen subsequently, most of the differences by age disappear after controlling for employment status.

Hours per day spent in market work declined with age for employed men and women, but most of this decline was due to a shift from full-time to part-time employment. Examining full-time and part-time employment separately shows that hours worked varied by about 1 hour per day across age groups.

Time spent doing household work did not vary much with age for either sex, because of two offsetting effects.¹⁹ The first, which was due to the decline in employment rates with age, tended to increase time spent doing household work. The fraction of men and women who were NILF increased with age, and those who were NILF spent more time doing household work than those who were employed. The second effect was that time spent doing household work declined with age for individuals who

were NILF. The decline for nonworking women could be due to a number of factors: increased help with household work by retiring husbands, decreased demand for household work because the percent of the elderly living with children or with a spouse declined with age, reduced demand for household work because of downsizing to smaller homes, or decreased ability to do household work.

Table 2 shows the time nonworking men and women spent doing household work, by the presence of a spouse or unmarried partner in the household. The time nonworking men spent doing household work declined with age, but did not vary much by the presence of a spouse or partner. However, for nonworking women aged 65 and older, those who lived with a spouse or partner spent about 1 hour more per day doing household work than their counterparts who did not live with a spouse or partner, with time spent doing food preparation and cleanup explaining about half of this difference. Table 2 also shows that the time women spent doing household work declined with age, even after adjusting for the presence of a spouse or partner.

Older persons at all age levels who were NILF spent significantly more time in leisure and sports activities than employed individuals, and women spent less time in leisure and sports activities than men, regardless of employment status. (See table 1.) Older men who were NILF spent about 3.5 to 4 hours more per day in leisure and sports activities than those who worked full time. Women aged 55 to 69 who were NILF spent 2.5 more hours per day in leisure and sports activities than those employed full time; this difference increased by about 1 hour for women aged 70 and older. These differences by employment status account for most of the increase in leisure time with age in the “Total” columns, although there was a slight increase with age among those NILF.

Television watching accounted for about half of all leisure and sports time for men and women aged 55 and older, and this fraction did not vary much by age. As with leisure time in general, men spent more time watching TV than did women, regardless of employment status and age group. The amount of time older Americans spent socializing and communicating did not vary much by age, after controlling for employment status. As might be expected, those who worked fewer hours spent more time socializing and communicating. Time spent reading for personal interest increased with age. Americans aged 70 and older spent twice as much time reading for personal interest as those aged 55 to 59. Although it is not possible to determine whether the difference in reading time is due to aging or to between-cohort differences in time spent reading, it is worth noting that a larger fraction of 55- to

Table 1. Hours that men and women spent doing various activities on an average day in 2003 and 2004, by age and employment status

Activities of men	Aged 55–59					Aged 60–64				
	Total	Employed	Employed full time	Employed part time	Not in the labor force	Total	Employed	Employed full time	Employed part time	Not in the labor force
Work ¹	5.0	6.1	6.4	3.1	0.0	3.8	6.1	6.7	3.8	0.0
Household work (including related travel) ²	2.6	2.2	2.1	3.3	4.5	2.5	2.0	1.8	2.6	3.4
Care of household members (including related travel)	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
Food preparation and cleanup	.3	.2	.2	.4	.6	.2	.2	.2	.2	.3
Lawn and garden care	.4	.3	.3	.3	.7	.5	.4	.3	.6	.8
Religious activities	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2
Volunteer activities	.1	.1	.1	.3	.2	.2	.1	.1	.2	.3
Leisure and sports	4.9	4.3	4.2	5.8	7.6	5.6	4.4	4.1	5.7	7.6
Socializing and communicating	.6	.5	.5	1.0	1.1	.7	.5	.5	.6	.9
Watching TV	2.8	2.5	2.4	3.0	3.9	3.1	2.4	2.3	3.0	4.3
Sports, exercise, or recreation	.3	.3	.2	.4	.5	.4	.3	.2	.5	.6
Relaxing and thinking	.3	.3	.3	.4	.5	.4	.4	.3	.4	.5
Reading	.4	.4	.3	.6	.6	.5	.4	.5	.4	.7
Sleep	8.1	7.9	7.9	8.2	8.6	8.3	8.0	7.9	8.0	8.9
Grooming	.6	.6	.6	.4	.5	.5	.6	.6	.5	.4
Eating	1.3	1.3	1.3	1.4	1.3	1.3	1.3	1.3	1.5	1.4
Travel ³	.9	1.0	1.0	.6	.5	.9	1.0	1.0	1.0	.8
Other activities	.4	.4	.3	.8	.7	.8	.4	.4	.5	1.0
Activities of men	Aged 65–69					Aged 70 and older				
	Total	Employed	Employed full time	Employed part time	Not in the labor force	Total	Employed	Employed full time	Employed part time	Not in the labor force
Work ¹	1.8	4.7	6.0	3.0	.0	.6	4.6	6.2	3.4	.0
Household work (including related travel) ²	3.2	2.4	2.2	2.8	3.6	2.9	2.0	1.9	2.1	3.1
Care of household members (including related travel)	.2	.2	.0	.4	.2	.1	.0	.1	.0	.1
Food preparation and cleanup	.4	.2	.2	.2	.4	.4	.3	.2	.3	.4
Lawn and garden care	.6	.5	.6	.5	.7	.5	.3	.5	.2	.5
Religious activities	.2	.2	.2	.2	.2	.2	.1	.1	.1	.2
Volunteer activities	.2	.1	.1	.1	.2	.2	.1	.0	.1	.2
Leisure and sports	6.9	4.8	3.9	6.0	8.1	7.7	5.1	4.1	5.9	8.1
Socializing and communicating	.7	.5	.5	.6	.9	.7	.4	.2	.5	.8

See footnotes at end of table.

Table 1. Continued—Hours that men and women spent doing various activities on an average day in 2003 and 2004, by age and employment status

Activities of men	Aged 65–69					Aged 70 and older				
	Total	Employed	Employed full time	Employed part time	Not in the labor force	Total	Employed	Employed full time	Employed part time	Not in the labor force
Watching TV	3.9	2.7	2.3	3.1	4.6	4.2	3.0	2.4	3.4	4.3
Sports, exercise, or recreation	.3	.2	.2	.3	.4	.3	.2	.1	.2	.4
Relaxing and thinking	.5	.4	.3	.6	.6	.7	.4	.4	.4	.8
Reading	.7	.5	.4	.6	.8	1.1	.6	.4	.8	1.2
Sleep	8.5	8.3	8.3	8.3	8.6	9.0	8.4	8.4	8.5	9.1
Grooming	.5	.5	.5	.5	.5	.5	.6	.6	.6	.5
Eating	1.4	1.4	1.4	1.3	1.5	1.5	1.5	1.3	1.5	1.5
Travel ³	.7	1.0	1.0	.9	.6	.6	.9	.7	1.0	.6
Other activities	.6	.6	.4	.9	.7	.8	.7	.7	.8	.7
Activities of women	Aged 55–59					Aged 60–64				
	Total	Employed	Employed full time	Employed part time	Not in the labor force	Total	Employed	Employed full time	Employed part time	Not in the labor force
Work ¹	3.7	5.0	5.7	2.8	.0	2.2	4.3	5.2	2.9	.0
Household work (including related travel) ²	3.8	3.2	3.0	3.8	5.5	4.2	3.3	3.2	3.6	5.0
Care of household members (including related travel)	.2	.2	.2	.2	.3	.2	.1	.1	.1	.2
Food preparation and cleanup	.9	.7	.7	.9	1.2	.9	.7	.7	.8	1.1
Lawn and garden care	.2	.2	.1	.3	.5	.2	.2	.2	.2	.3
Religious activities	.2	.2	.1	.3	.1	.2	.2	.3	.2	.2
Volunteer activities	.2	.1	.1	.2	.2	.2	.2	.1	.2	.2
Leisure and sports	4.3	3.8	3.6	4.3	6.1	5.0	3.9	3.6	4.4	6.1
Socializing and communicating	.8	.7	.6	1.0	1.0	.7	.6	.6	.6	.8
Watching TV	2.2	1.8	1.8	1.8	3.4	2.6	1.9	1.7	2.2	3.3
Sports, exercise, or recreation	.2	.1	.1	.2	.2	.2	.1	.1	.1	.2
Relaxing and thinking	.2	.2	.2	.2	.3	.3	.3	.3	.4	.4
Reading	.6	.6	.6	.7	.6	.7	.6	.5	.6	.8
Sleep	8.1	8.0	7.8	8.5	8.6	8.4	8.2	8.0	8.5	8.6
Grooming	.8	.9	.9	.8	.6	.8	.9	.9	.8	.7
Eating	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.2
Travel ³	.9	1.0	1.0	.9	.6	.7	.8	.8	.7	.7
Other activities	.8	.6	.7	1.2	1.1	1.1	1.0	.7	1.4	1.3

See footnotes at end of table.

Table 1. Continued—Hours that men and women spent doing various activities on an average day in 2003 and 2004, by age and employment status

Activities of women	Aged 65–69					Aged 70 and older				
	Total	Employed	Employed full time	Employed part time	Not in the labor force	Total	Employed	Employed full time	Employed part time	Not in the labor force
Work ¹	1.0	4.0	5.4	2.6	.0	.2	2.9	6.1	1.7	.0
Household work (including related travel) ²	4.3	3.4	3.0	3.7	4.6	3.9	3.5	2.7	3.8	3.9
Care of household members (including related travel)	.2	.1	.1	.2	.2	.1	.1	.2	.1	.1
Food preparation and cleanup	1.1	.7	.6	.8	1.2	.9	.7	.5	.8	1.0
Lawn and garden care	.2	.3	.3	.2	.2	.3	.2	.3	.2	.3
Religious activities	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
Volunteer activities	.2	.2	.2	.2	.2	.2	.2	.1	.2	.2
Leisure and sports	5.9	4.4	4.0	4.9	6.5	7.0	5.5	3.6	6.1	7.2
Socializing and communicating	.8	.7	.5	.9	.8	.8	.8	.4	.9	.8
Watching TV	3.1	2.2	1.8	2.6	3.4	3.8	3.0	2.2	3.2	3.9
Sports, exercise, or recreation	.2	.2	.2	.1	.2	.1	.1	.1	.2	.1
Relaxing and thinking	.4	.3	.3	.3	.4	.7	.3	.3	.2	.7
Reading	.9	.7	.8	.7	1.0	1.1	.9	.4	1.0	1.1
Sleep	8.6	8.2	7.7	8.5	8.7	9.0	8.2	7.9	8.3	9.0
Grooming	.8	.9	.9	.9	.7	.7	.9	1.0	.8	.7
Eating	1.3	1.2	1.3	1.2	1.3	1.3	1.3	1.1	1.3	1.3
Travel ³	.6	.8	1.0	.6	.6	.5	.6	.6	.6	.4
Other activities	1.1	.7	.3	1.2	1.2	1.0	.7	.7	1.0	1.1

¹ Work times includes breaks from work that were 15 minutes or less and travel episodes that were preceded and followed by like episodes of “Work, main job” (050101) or “Work, other job(s)” (050102).

² Household work includes the following activities: Household activities (02) except Household and personal mail and messages (except e-mail) (020903) and Household and personal e-mail and messages (020904); Caring for and helping household members (03); Consumer purchases (07); Professional and personal care services (08); Household services (09); Using government services (1001); Waiting associated with government services/civic obligations (1003); Security procedures related to government services/civic obligations (1004); Government services, not elsewhere classified (1099); Travel related to household activities (1702); Travel related to caring for and helping household members (1703); Travel related to consumer purchases (1707); Travel related to using professional and personal care

services (1708); Travel related to using household services (1709); Travel related to using police/fire services (171001); Travel related to using social services (171002); Travel related to obtaining licenses and fines/fees (171003); and Travel related to government services/civic obligations, not elsewhere classified (171099).

³ Travel includes all travel episodes except those already accounted for in work and in household work.

NOTE: Columns with the heading “Total” are averages for individuals who were employed, not in the labor force, and unemployed. Columns with the heading “Employed” are averages for individuals who were employed full time and employed part time. Averages for the unemployed are not shown separately, because there were too few observations in the sample.

59-year-olds grew up with television in the home, compared with those aged 70 and older. Employment status was also a factor, with nonworking individuals spending more time reading than the employed.

Individuals aged 70 and older slept about 1 hour more

per day than 55- to 59-year-olds. About half of this difference was due to the greater sleep time of those NILF compared with the employed, combined with a decline in the fraction employed with age. The rest was due to an increase in sleep times with age, even after controlling for

Table 2. Hours that nonworking older Americans spent doing household work on an average day in 2003 and 2004, by sex, presence of a spouse or unmarried partner, and age

Activities	Men not in the labor force							
	Spouse or unmarried partner present in household				No spouse or unmarried partner present in household			
	Aged 55–59	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 55–59	Aged 60–64	Aged 65–69	Aged 70 and older
	Household work (including related travel) ¹	4.8	3.5	3.6	3.2	4.3	3.4	3.6	2.8
Care of household members (including related travel)	.1	.2	.2	.2	.1	.0	.1	.0
Food preparation and cleanup	.6	.3	.4	.4	.6	.6	.5	.5
Lawn and garden care	.7	.8	.7	.6	1.4	.6	.5	.3
	Women not in the labor force							
	Spouse or unmarried partner present in household				No spouse or unmarried partner present in household			
	Aged 55–59	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 55–59	Aged 60–64	Aged 65–69	Aged 70 and older
	Household work (including related travel) ¹	5.3	5.1	4.9	4.5	6.1	4.9	4.0	3.5
Care of household members (including related travel)	.2	.2	.2	.2	.5	.2	.1	.0
Food preparation and cleanup	1.2	1.1	1.4	1.3	1.1	.9	.8	.7
Lawn and garden care	.5	.3	.2	.3	.3	.3	.3	.2

¹ Household work includes the following activities: Household activities (02) except Household and personal mail and messages (except e-mail) (020903) and Household and personal e-mail and messages (020904); Caring for and helping household members (03); Consumer purchases (07); Professional and personal care services (08); Household services (09); Using government services (1001); Waiting associated with government services/civic obligations (1003); Security procedures related to government services/civic obligations (1004); Government services, not elsewhere classified (1099); Travel

related to household activities (1702); Travel related to caring for and helping household members (1703); Travel related to consumer purchases (1707); Travel related to using professional and personal care services (1708); Travel related to using household services (1709); Travel related to using police/fire services (171001); Travel related to using social services (171002); Travel related to obtaining licenses and fines/fees (171003); and Travel related to government services/civic obligations, not elsewhere classified (171099).

employment status. Time spent eating and drinking did not vary much by either age or employment status.

These results indicate that employment status plays a large role in explaining changes in time use by age. Another way to compare workers and nonworkers is to account for the time that nonworkers gained by not working. Table 3 shows the percentage of this time that nonworkers spent doing household work, engaging in leisure and sports, sleeping, and doing other activities.²⁰ For both men and women, the largest share of this “freed-up” time was spent in leisure (between 52 percent and 70 percent for men and between 44 percent and 59 percent for women), and less than half was spent doing household work (19 percent to 38 percent for men and 20 percent to 44 percent for women). Consistent with the findings presented here, the percentage of freed-up time spent doing household work declined with age, while the percentage spent in leisure activities increased.

Another factor that likely plays an important role in how older Americans spend their time is their health. The exclusion of people who reported not working because of a disability partially controls for this, but the group of nondisabled nonworkers is not as homogeneous as one might think. Health tends to decline with age, but as previously noted, very few people aged 65 and older report that they are NILF because of a disability. One explanation may be that those who stopped working at age 55 because of a disability may not report their disability as a reason for not working at age 65, because they would have been retired at that age even without the disability. Therefore, even though the NILF-disabled have been excluded from this analysis, differences by age will include the effects of age-related declines in health. Working in the opposite direction are the factors noted earlier which lead one to believe that the ATUS sample of older Americans is healthier than the population as a whole, with the dif-

Table 3. How did nonworkers spend the hours they gained by not working? A comparison of time use of individuals employed full time and those who were not in the labor force on an average day in 2003 and 2004, by age and sex

Activities	Aged 55–59	Aged 60–64	Aged 65–69	Aged 70 and older
Men				
Average hours per day that full-time workers worked	6.4	6.7	6.0	6.2
Differences in the times nonworkers and full-time workers spent doing selected activities, as a percentage of the time the workers worked:				
Household work	37.5	23.9	23.3	19.4
Leisure and sports activities	53.1	52.2	70.0	64.5
Sleeping	10.9	14.9	5.0	11.3
Other activities	–1.5	9.0	1.7	4.8
Women				
Average hours per day that full-time workers worked	5.7	5.2	5.4	6.1
Differences in the times nonworkers and full-time workers spent doing selected activities, as a percentage of the time the workers worked:				
Household work	43.9	34.6	29.6	19.7
Leisure and sports activities	43.9	48.1	46.3	59.0
Sleeping	14.0	11.5	18.5	18.0
Other activities	–1.8	5.8	5.6	3.3

ference in health likely being larger for older age groups. Although it is impossible to know which effect is larger, it is striking how little time use varies by age, after controlling for employment status.

Part-time work and bridge jobs

The preceding analysis suggests that the transition from full-time work to retirement brings about significant changes in how individuals spend their time. Bridge jobs are one way to ease the transition from full-time employment to full retirement. If part-time bridge jobs are in fact transitional jobs, then one would expect part-time workers' time use to fall somewhere "between" that of full-time workers and those who are NILF.

Bridge jobs are often part time; however, they also can be temporary contract jobs that require long hours for short periods, followed by spells of no work. It is not possible to identify the latter with the ATUS data, so we focus on part-time bridge jobs. The implicit assumption is that all part-time jobs are bridge jobs. This assumption is likely to be approximately true for men, but because women tend to work part time for different reasons and are more likely than men to work part time at all ages, such an assumption is not valid for women.

Table 4 shows the differences in time spent in four major activities between the full-time employed, the part-

time employed, and those NILF, for men and women in the four age categories. The first column in each age group shows the difference between part-time and full-time workers, while the second column shows the difference between nonworkers and part-time workers. If bridge jobs are transitional, then one would expect the differences in the two columns to be similar. The third column for each age group shows the difference in these differences. The small differences in differences in the third column for men suggest that the changes in time use are about the same when workers make the transition from full-time to part-time employment, compared with workers making the transition from part-time employment to NILF. The differences in differences are generally larger for women, with the largest differences showing up for women aged 70 and older.²¹

The pattern of differences in differences is consistent with the hypothesis that men take part-time jobs to make a gradual transition into full retirement, whereas the pattern for women is not consistent with this hypothesis. Part of the reason for the finding for women is that, as already noted, they often are more likely to work part time at all ages. It is reasonable to assume that most of the men who were working part time worked full time at some point, but that assumption is not realistic for women. Perhaps a similar pattern would emerge for women if it were possible to identify which part-time workers had once worked full time.

Table 4. Comparison of hours spent in major activities by full-time workers, part-time workers, and those who were not in the labor force (NILF)						
Activities	Men aged 55–59			Men aged 60–64		
	Difference between—		Difference in differences	Difference between—		Difference in differences
	Part-time and full-time workers	Individuals not in the labor force and part-time workers		Part-time and full-time workers	Individuals not in the labor force and part-time workers	
Work	-3.3	-3.1	0.2	-2.9	-3.8	-0.9
Household work (including related travel)	1.2	1.2	.0	.8	.8	.0
Leisure and sports	1.6	1.8	.2	1.6	1.9	.3
Sleep	.3	.4	.1	.1	.9	.8
Activities	Men aged 65–69			Men aged 70 and older		
	Difference between—		Difference in differences	Difference between—		Difference in differences
	Part-time and full-time workers	Individuals not in the labor force and part-time workers		Part-time and full-time workers	Individuals not in the labor force and part-time workers	
Work	-3.0	-3.0	.0	-2.8	-3.4	-.6
Household work (including related travel)	.6	.8	.2	.2	1.0	.8
Leisure and sports	2.1	2.1	.0	1.8	2.2	.4
Sleep	.0	.3	.3	.1	.6	.5
Activities	Women aged 55–59			Women aged 60–64		
	Difference between—		Difference in differences	Difference between—		Difference in differences
	Part-time and full-time workers	Individuals not in the labor force and part-time workers		Part-time and full-time workers	Individuals not in the labor force and part-time workers	
Work	-2.9	-2.8	.1	-2.3	-2.9	-.6
Household work (including related travel)	.8	1.7	.9	.4	1.4	1.0
Leisure and sports	.7	1.8	1.1	.8	1.7	.9
Sleep	.7	.1	-.6	.5	.1	-.4
Activities	Women aged 65–69			Women aged 70 and older		
	Difference between—		Difference in differences	Difference between—		Difference in differences
	Part-time full-time and workers	Individuals not in the labor force and part-time workers		Part-time full-time and workers	Individuals not in the labor force and part-time workers	
Work	-2.8	-2.6	.2	-4.4	-1.7	2.7
Household work (including related travel)	.7	.9	.2	1.1	.1	-1.0
Leisure and sports	.9	1.6	.7	2.5	1.1	-1.4
Sleep	.8	.2	-.6	.4	.7	.3

Differences in overall time use

Activity-by-activity comparisons are useful for comparing time spent in specific activities. But it also is useful to have

a measure of how overall time use differs by age and employment status. The measure used here, known as a dissimilarity index, summarizes the differences in time use between two groups. The advantage of the dissimilarity

Table 5. Dissimilarity index comparisons, by age, sex, and employment status

Men	All			Workers on an average day					
				Full time			Part time		
	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 60–64	Aged 65–69	Aged 70 and older
Aged 55–59	0.070	0.155	0.216	0.013	0.038	0.050	0.081	0.059	0.072
Aged 60–64	...	.098	.157	...	.039	.061	...	.048	.084
Aged 65–69	...	...	.068	...	...	.023	...	...	.063
Not in the labor force (NILF)				Workers on a nonwork day					
				Full time			Part time		
	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 60–64	Aged 65–69	Aged 70 and older
Aged 55–59	.052	.051	.088	.084	.175	.063	.152	.179	.153
Aged 60–64	...	.038	.050	...	.179	.111	...	.096	.200
Aged 65–69	...	...	.042	...	...	.190	...	...	.114
Women	All			Workers on an average day					
				Full time			Part time		
	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 60–64	Aged 65–69	Aged 70 and older
Aged 55–59	.074	.134	.192	.029	.047	.058	.045	.046	.102
Aged 60–64	...	.074	.134	...	.035	.058	...	.067	.092
Aged 65–69	...	...	.072	...	...	.044	...	...	.073
Not in the labor force (NILF)				Workers on a nonwork day					
				Full time			Part time		
	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 60–64	Aged 65–69	Aged 70 and older	Aged 60–64	Aged 65–69	Aged 70 and older
Aged 55–59	.030	.043	.101	.085	.101	.228	.064	.061	.092
Aged 60–64	...	.035	.082	...	.110	.170	...	.088	.086
Aged 65–69	...	...	.055	...	...	.146	...	...	.093

index is that it summarizes differences in overall time use with a single number that can be thought of as a measure of the “distance” between the two groups.

The dissimilarity index (DI) is given by the formula²²

$$DI = \sum_{i=1}^k \left\{ \frac{|a_i - b_i|}{a_i + b_i} \left(\frac{a_i + b_i}{\sum_{i=1}^k (a_i + b_i)} \right) \right\},$$

where a_i is the time spent in activity i by group a , b_i is the time spent in activity i by group b , and k is the number of activities. This index ranges between 0 and 1, with 0 indicating that the two groups spend the same amount of time in each activity and 1 indicating that the two groups have no activities in common. The index is best described as a weighted average of the absolute percent difference in time spent in all activities.²³ Alternatively, it is equal to the fraction of time that would have to be reallocated by one group to make the two groups identical in time spent in each activity. Note that in the ATUS the number of ac-

tivities (*k*) can vary because activities are assigned six-digit codes representing three levels of analysis. The first two digits of the code correspond to a first tier of detail, the first four digits correspond to a second tier of detail, and all six digits correspond to a third tier of detail.²⁴

Tables 5, 6, and 7 show pairwise comparisons by age, employment status, and sex. These index values were computed twice, with both first- and second-tier activity codes, but only the estimates computed with the second-tier codes are presented here.²⁵ Because second-tier codes are more detailed than first-tier codes, the DI will be larger for any given difference. For example, differences in the type of household work done (for instance, yard work versus indoor cleaning) will show up when second-tier codes are used, but not when first-tier codes are. With second-tier codes, index values of 0.07 or smaller indicate virtually no difference between groups. Values of 0.07 to 0.12 indicate a small difference, values of 0.12 to 0.17 indicate a moderate difference, and values greater than 0.17 indicate a large difference. Finally, because the index values are sensitive to the number of observations, a bootstrap procedure was used to correct the indexes for small sample bias.²⁶

Table 5 shows dissimilarity index comparisons by age for both men and women. If time use varies by age, then one would expect index values to be smaller for age groups that are “close” to each other. In the panels labeled “All” for both men and women, this is indeed the case: the index values for adjacent age groups indicate only small differ-

ences, with the values increasing as the distance between age groups increases. For both men and women, the index values range from about 0.07 for adjacent age groups to about 0.20 for the comparison between 55- to 59-year-olds and those aged 70 and older.

Given the earlier findings that much of the variation in time use by age was due mainly to differences in the fraction employed at different ages, one would expect the same to be true when looking at overall time use. Turning to the panels for full-time workers on an average day, one sees no differences in time use by age for either men or women. The indexes for men and women who were NILF indicate either a small difference or no difference by age, and comparisons with individuals aged 70 and older indicate a small difference. Thus, the index comparisons reinforce the patterns shown in table 1 that overall time use does not vary much by age after controlling for employment status.

When the sample is restricted to full-time workers on nonwork days, the data show larger differences by age. For men, it is clear that 65- to 69-year-olds’ time use differed from that of the other three age groups, which were fairly similar to each other. Compared with the other age groups, 65- to 69-year-old men spent more time doing yard work and caring for nonhousehold adults, and less time sleeping and engaging in leisure activities. For women, index comparisons of those aged 70 and older with other age groups are striking. Women in this age group spent less

Table 6. Dissimilarity index comparisons of working and nonworking men and women, by age

Men	Comparison of those NILF with workers on workers’—				Comparison of full-time with part-time workers on—	
	Average day		Nonwork day		Average day	Nonwork day
	Full time	Part time	Full time	Part time		
Aged 55–59	0.298	0.140	0.105	0.123	0.159	0.174
Aged 60–64	.306	.173	.087	.155	.135	.169
Aged 65–69	.281	.159	.200	.062	.127	.187
Aged 70 and older	.275	.177	.129	.095	.134	.130
Women	Comparison of those NILF with workers on workers’—				Comparison of full-time with part-time workers on—	
	Average day		Nonwork day		Average day	Nonwork day
	Full time	Part time	Full time	Part time		
Aged 55–59	.268	.157	.119	.096	.131	.092
Aged 60–64	.231	.142	.068	.052	.090	.061
Aged 65–69	.243	.120	.116	.090	.146	.141
Aged 70 and older	.286	.113	.160	.083	.194	.177

Table 7. Dissimilarity index comparisons of men and women, by age and employment status

Age	NILF	Full time		Part time	
		Average day	Nonwork day	Average day	Nonwork day
55–59	0.127	0.094	0.183	0.138	0.237
60–64	.141	.119	.162	.156	.246
65–69	.125	.116	.255	.131	.187
70 and older	.087	.097	.183	.143	.124

time preparing meals and more time engaging in income-generating activities (that is, other than their jobs²⁷). These differences—especially in the comparisons to women aged 70 and older—should be viewed with some caution, because the bootstrap correction may not have removed the bias completely.

Finally, there was much more variation in time use by age among full-time workers on nonwork days than among those who were NILF. This finding suggests that there could be large differences between how full-time workers spent their nonwork days and how nonworkers spent an average day.

To investigate this possibility, table 6 compares nonworkers' time use on an average day with workers' time use on both an average day and an average nonwork day, by age. Not surprisingly, for both men and women, there are large differences in how full-time workers and nonworkers spent their time on an average day, with the dissimilarity indexes in the 0.23-to-0.31 range. The differences between nonworkers and part-time workers are smaller, although they are still in the moderate-to-large range. Comparing nonwork days of full-time and part-time workers with average days of nonworkers reveals small-to-moderate differences, except for 65- to 69-year-old men. Thus, we conclude that the average day of a nonworker is fairly similar to the average nonwork day of a worker.

Table 7 compares men with women. The differences in time use by men and women on an average day, by employment status, are in the small-to-moderate range. The comparison of working men with working women on nonwork days reveals the largest differences. Women spent relatively more time doing housework and preparing meals, while men spent relatively more time doing yard work. As might be expected, the differences between working men and women on their nonwork days are much smaller when more aggregated activity codes are used.²⁸

Sleep times of older Americans

One facet of older individuals' time use that has received

little attention is the timing of activities. Such information could be helpful in gaining a better understanding of when during the day older Americans are more active or less active and in determining when, for example, might be the best time to organize outreach, exercise classes, or other activities for seniors. In this section, variations in sleep time by age and employment status are examined.

The timing of sleep differs predictably by age and employment status. The percentage of older Americans who slept between 5 a.m. and 9 a.m. increased with age, although much of the difference was due to higher employment rates among the 55- to 59-year-olds. (See chart 1.) The biggest difference between Americans aged 70 and older and those aged 55 to 59 in their likelihood to be asleep during any given hour occurred on weekdays between 6 a.m. and 7 a.m. On an average weekday, 47 percent of 55- to 59-year-olds were asleep during this time interval, compared with 71 percent of individuals aged 70 and older. Americans aged 70 and older also were more likely to nap during the afternoon hours of 1 p.m. and 4 p.m. on weekdays, again with labor force status accounting for much of the difference. Older Americans who were NILF were more likely to sleep between 5 a.m. and 9 a.m. and between 1 p.m. and 3 p.m. than those who were employed. (See chart 2.)

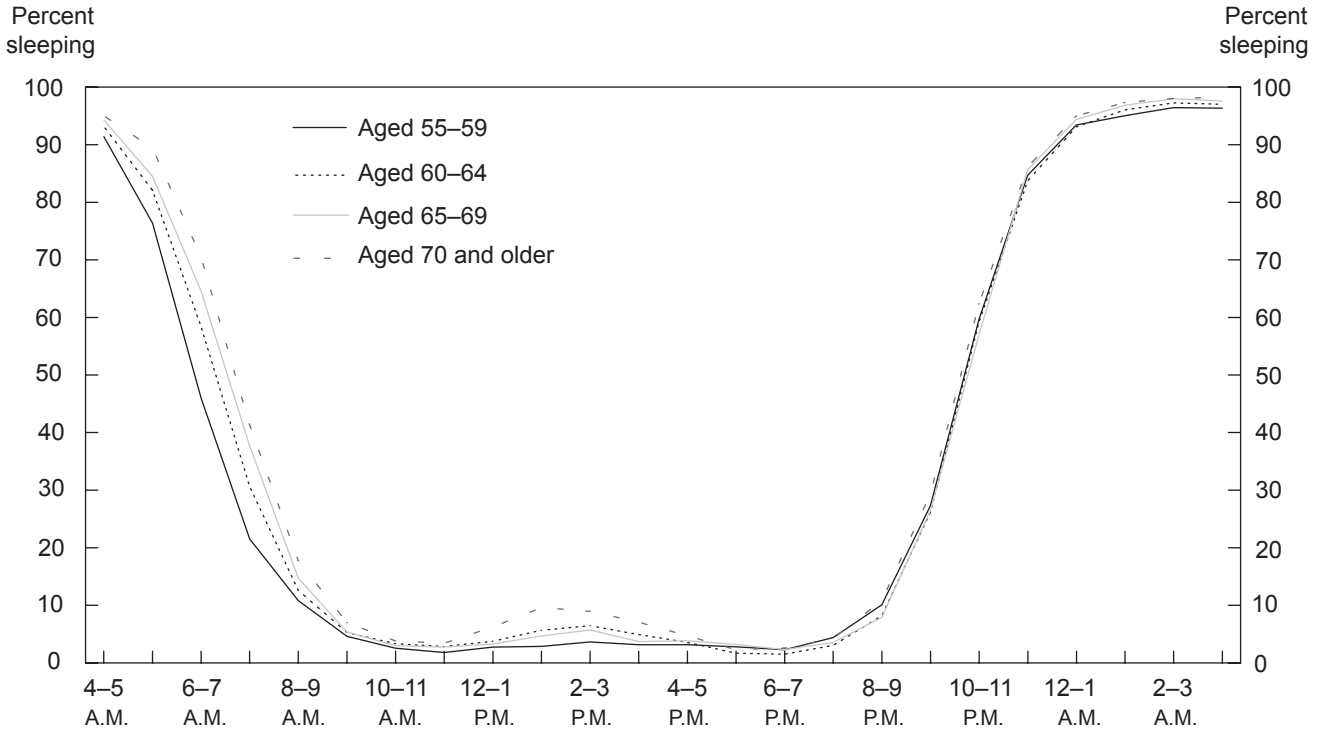
There were surprisingly small differences, both by age and employment status, in the fraction of older Americans who were sleeping at each hour on weekday evenings. Thus, employment status and age were factors in when older Americans awoke in the morning and took naps in the afternoon on weekdays, but not in when they went to sleep in the evening. One explanation for this pattern could be that nonworkers coordinate their leisure activities with those who are still in the workforce. The extra sleep in the morning and afternoon does not interfere with opportunities to socialize with individuals who work during the day.

On weekend days, there was very little variation in sleep patterns—except for naps—by either age or employment status. (See charts 3 and 4.) This finding is not too surprising, because employment status was the main determinant of sleep patterns during the week and most workers do not work on weekends.

Social contact

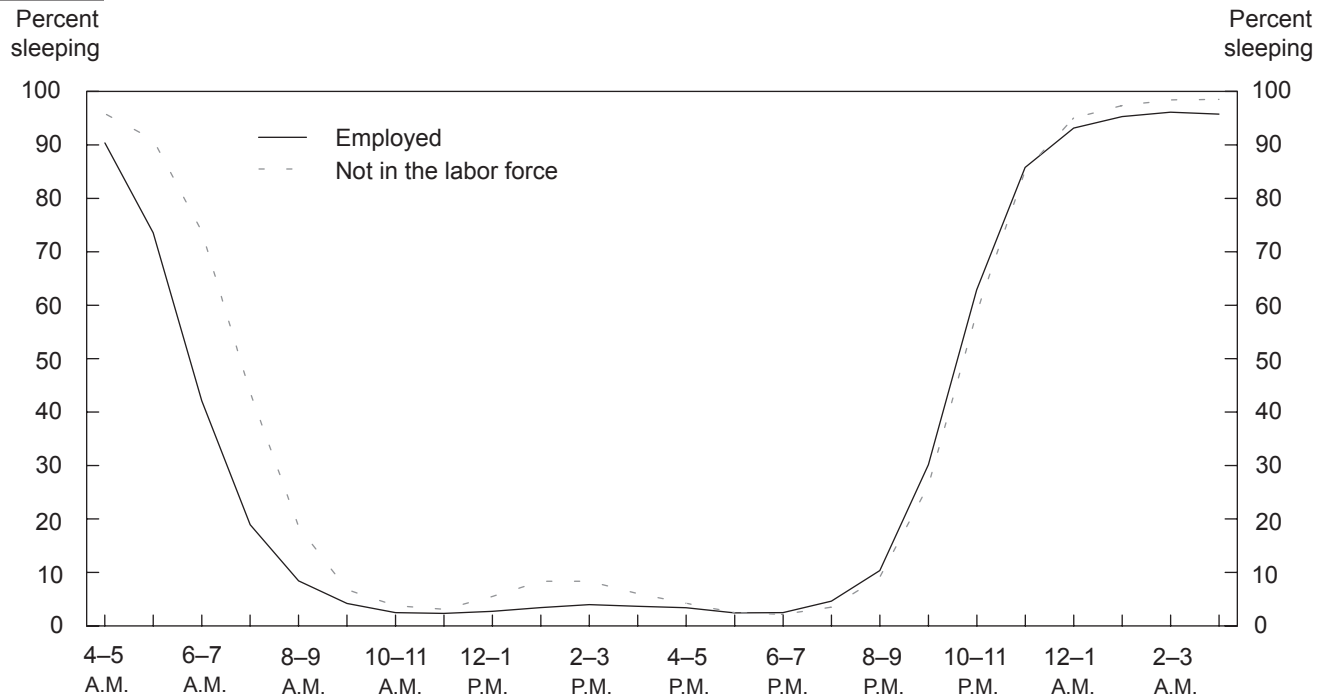
As noted in the introduction, social contact plays a role in older individuals' well-being. The ATUS allows for the computation of two measures of social contact: the

Chart 1. Weekday sleep patterns of older Americans, by age



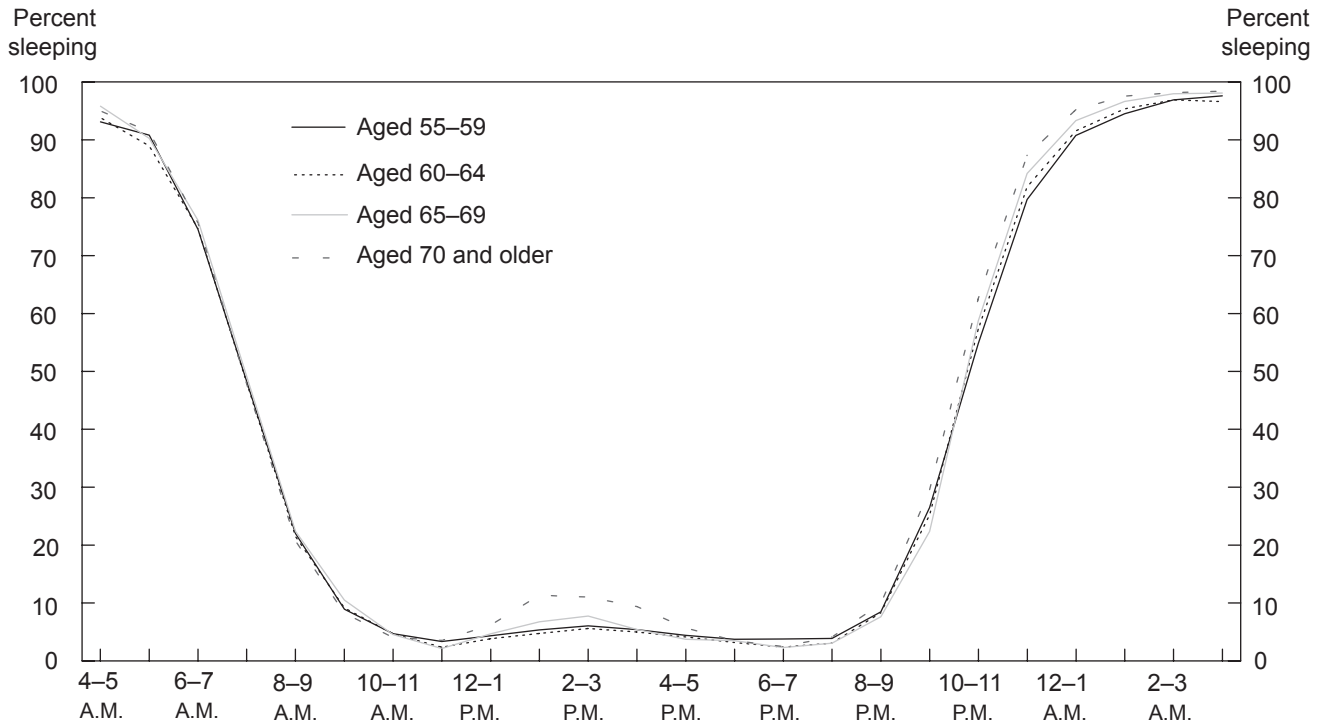
NOTE: Data are averages for the 2-year period from 2003 to 2004 and refer to time use on weekdays of individuals aged 55 and older.

Chart 2. Weekday sleep patterns of older Americans, by labor force status



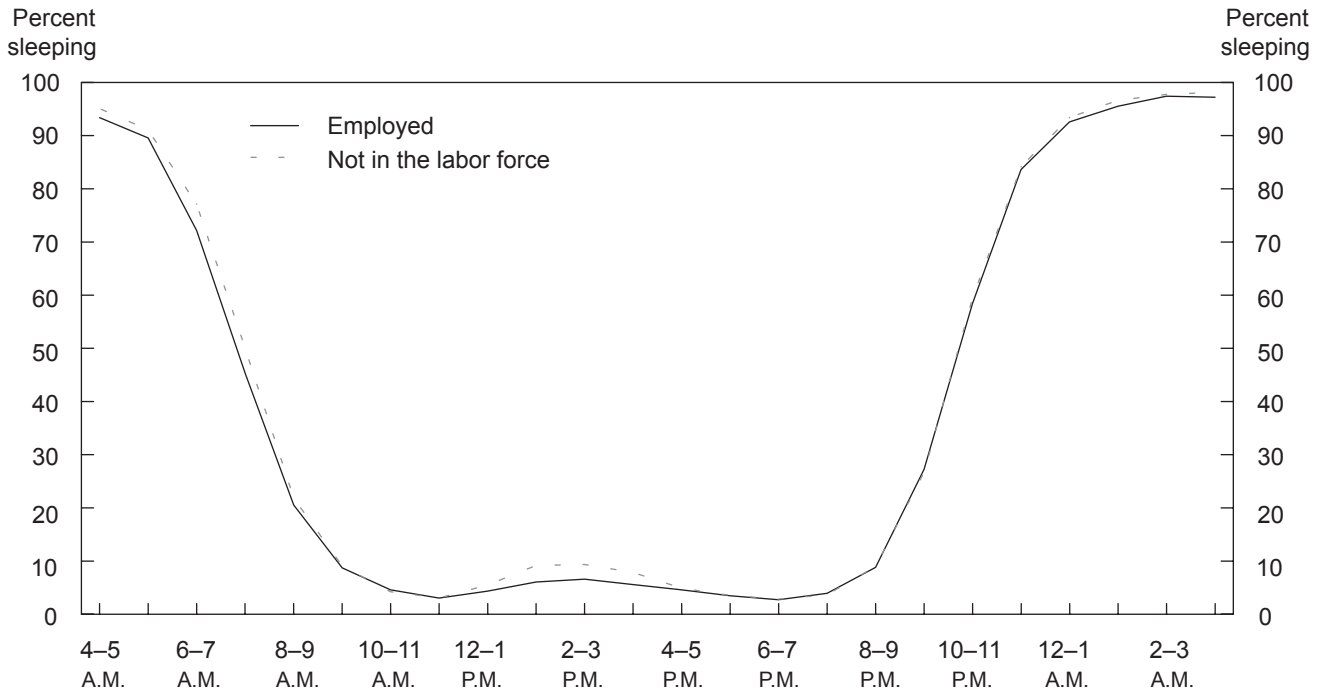
NOTE: Data are averages for the 2-year period from 2003 to 2004 and refer to time use on weekdays of individuals aged 55 and older.

Chart 3. Weekend sleep patterns of older Americans, by age



NOTE: Data are averages for the 2-year period from 2003 to 2004 and refer to time use on weekend days of individuals aged 55 and older.

Chart 4. Weekend sleep patterns of older Americans, by labor force status



NOTE: Data are averages for the 2-year period from 2003 to 2004 and refer to time use on weekend days of individuals aged 55 and older.

amount of time individuals spent actively socializing and communicating with others;²⁹ and the amount of time individuals spent in the presence of others.³⁰

Although older Americans' overall leisure time increased with age as individuals retired from the workforce, time spent socializing remained fairly constant at two-thirds to three-quarters of an hour per day. (See table 1.) Thus, as a fraction of total leisure, time spent socializing declined with age. This was due to the decline with age in the fraction employed (which increased the total amount of leisure time available) and a decline in the amount of time spent socializing within each employment status group.

The second measure of social contact is estimated from information about who else was in the room with, or accompanied, a respondent on the diary day. Such information is collected for all activities except working, sleeping, grooming, personal activities, and activities that could not be coded.³¹ For this reason, time spent with others also was calculated as a proportion of "available time," which is defined here as the time for which the "who" data were collected.

There are large differences between men and women in the amount of time spent alone and with others by age. (See table 8.) For both men and women, time spent alone increased as hours worked decreased, which resulted in time spent alone increasing with age because older individuals are less likely to be working and thus have more available time. After controlling for employment status, the amount of time spent alone increased for women, but not for men. The second measure, the share of available time, tells a similar story: the fraction of available time spent alone increased with age for women, but not for men. Men aged 55 and older spent about one-half of their available time alone, whereas women's time alone increased from 46.2 percent for those aged 55 to 59, to 58.6 percent for those aged 70 and older.

Much of the difference between men and women in the pattern of time spent alone by age was due to differences in time spent with a spouse or partner. For men, the time spent with a spouse or partner did not vary systematically with age. But for women, the time spent—both the amount of time and the fraction of available time—with a spouse or partner decreased with age, reflecting that women are more likely to outlive their spouses than are men. For both men and women, there was a small decline in the amount of time and the fraction of available time they spent with other family members. Finally, time spent with friends did not account for any of the differences between men and women in time spent alone: both men

and women spent relatively little time with friends (about 5 percent of available time), and neither the amount nor the fraction varied much with age.

Time spent with children under 18 declined with age, reflecting that Americans aged 55 to 59 are more likely to live in households with children under 18 than are those aged 70 and older. The percent of available time that men spent with children fell monotonically from 7.2 percent for those aged 55 to 59 to 2.8 percent for men aged 70 and older. Overall, older women spent a larger share of their available time with children than did older men. Women's time with children shrank from 10.4 percent of their available time for those aged 55 to 59 to 3.9 percent for women aged 70 and older.

Living arrangement is an important factor in older individuals' level of social contact. Individuals aged 70 and older who did not live with a spouse or an unmarried partner spent 75 percent (totaling 10.3 hours) of their available time alone on an average day in 2003 and 2004. This figure is about twice as much time spent alone—both as a percent of available time and in hours—as older individuals who lived with a spouse or an unmarried partner. (See chart 5.) Older men and women who did not live with a spouse or an unmarried partner spent a larger share of their available time with other family members and friends than those who did. After controlling for the presence of a spouse or an unmarried partner in the household, there was little variation by sex in the time that older men and women spent with others.

EXAMINING THE ATUS DATA revealed large differences in time use by age among older individuals. Comparing the times older Americans spent in specific activities, their overall time use, and their timing of sleep, this study found that most differences in time use were due to differences in the fraction of each age group that was employed and that there was relatively little difference by age after controlling for employment status. Some of the remaining differences could be accounted for by observable characteristics. For example, the decline in household work by older women appeared to be due in part to the increased fraction of women who are single at older ages.

The ATUS does not include a health measure, so there is no way to determine how much changes in health could have affected time use. The natural decline in health as people age suggests that older ATUS respondents are less healthy. However, working in the opposite direction is the fact that a higher fraction of the older population is excluded from the ATUS, because they are in assisted-living facilities or because they cannot recall enough of the diary

Table 8. Average hours per day and percent of available time¹ that men and women spent with others in 2003 and 2004, by age and employment status

Hours spent by men	Aged 55–59					Aged 60–64				
	Total	Employed	Employed full time	Employed part time	Not in the labor force	Total	Employed	Employed full time	Employed part time	Not in the labor force
Alone	5.1	4.4	4.2	6.5	8.1	5.4	4.5	4.2	5.6	7.0
With spouse or unmarried partner	3.8	3.7	3.7	4.0	4.2	4.3	3.6	3.4	4.3	5.4
With family	4.4	4.2	4.1	4.5	5.4	5.0	4.1	3.9	4.9	6.2
With family except spouse	1.5	1.4	1.4	1.2	1.9	1.4	1.1	1.0	1.3	1.9
With children	.8	.7	.7	.6	.9	.7	.6	.6	.7	.9
With friends	.4	.3	.3	.9	1.0	.6	.5	.4	.6	.9
Available time	10.4	9.4	9.1	12.2	14.8	11.4	9.5	8.9	11.6	14.6
Percent of available time¹ spent										
Alone	48.8	46.8	46.0	53.0	54.4	47.2	47.4	47.1	48.2	47.8
With spouse or unmarried partner	36.9	39.5	40.2	32.6	28.6	37.9	38.1	38.3	37.3	36.8
With family	42.3	44.2	45.0	36.5	36.4	43.4	43.8	44.3	42.7	42.2
With family except spouse	14.0	14.4	14.9	10.2	12.7	12.1	11.3	11.6	11.2	12.9
With children	7.2	7.6	8.0	4.8	6.3	5.9	6.1	6.3	6.0	6.0
With friends	4.0	3.3	2.8	7.3	6.5	5.5	5.1	5.1	5.1	5.9
Hours spent by men	Aged 65–69					Aged 70 and older				
	Total	Employed	Employed full time	Employed part time	Not in the labor force	Total	Employed	Employed full time	Employed part time	Not in the labor force
Alone	6.3	4.6	4.2	5.3	7.3	6.8	5.1	4.5	5.4	7.1
With spouse or unmarried partner	5.6	4.7	4.0	5.6	6.1	5.4	4.2	3.2	4.9	5.6
With family	6.0	5.0	4.2	6.2	6.6	5.9	4.5	3.6	5.3	6.2
With family except spouse	1.4	1.4	1.1	1.7	1.5	1.1	.8	.7	.8	1.2
With children	.6	.6	.4	.8	.7	.4	.3	.2	.3	.4
With friends	.6	.4	.4	.5	.6	.7	.4	.5	.3	.8
Available time	13.2	10.4	9.2	12.1	14.8	13.8	10.4	8.8	11.4	14.3
Percent of available time¹ spent										
Alone	47.8	44.4	46.1	43.4	49.1	49.7	49.5	51.6	47.5	49.7
With spouse or unmarried partner	42.5	45.3	43.5	46.2	41.4	38.9	40.4	36.7	43.2	38.8
With family	45.5	48.4	45.6	51.2	44.4	43.0	43.6	41.2	46.0	43.0
With family except spouse	10.7	13.2	12.0	14.3	9.8	8.3	7.3	8.4	6.9	8.5
With children	4.8	5.4	4.1	6.6	4.5	2.8	2.5	2.8	2.6	2.9
With friends	4.2	4.0	4.0	3.9	4.2	5.2	3.9	5.6	2.7	5.4

See footnotes at end of table.

day to complete the interview. There is no way to know the magnitude of each effect, but it is notable that time use exhibited relatively little variation by age after accounting for employment status.

Comparing nonworkers with full-time workers, this study found that about one-third of the time that was freed up by not working was spent doing household work. The rest of their freed-up time was spent in leisure activities

Table 8. Continued—Average hours per day and percent of available time¹ that men and women spent with others in 2003 and 2004, by age and employment status

Hours spent by women	Aged 55–59					Aged 60–64				
	Total	Employed	Employed full time	Employed part time	Not in the labor force	Total	Employed	Employed full time	Employed part time	Not in the labor force
Alone	5.3	4.7	4.5	5.4	6.7	5.9	5.3	5.3	5.4	6.5
With spouse or unmarried partner	3.5	3.0	2.8	3.6	4.9	4.0	2.8	2.2	3.7	5.1
With family	5.1	4.4	4.0	5.5	7.1	5.6	4.3	3.6	5.3	6.9
With family except spouse	2.4	2.1	1.9	2.6	3.2	2.3	2.0	1.9	2.2	2.6
With children	1.2	1.0	.9	1.3	1.7	1.3	1.1	1.1	1.1	1.5
With friends	.5	.5	.5	.6	.5	.7	.6	.4	.9	.8
Available time	11.4	10.2	9.6	11.9	14.7	12.6	10.6	10.0	11.7	14.6
Percent of available time¹ spent										
Alone	46.2	46.5	46.8	45.6	45.4	46.9	50.0	53.7	45.9	44.6
With spouse or unmarried partner	30.8	29.7	29.6	30.2	33.6	31.4	26.7	22.4	31.4	35.0
With family	44.6	43.4	42.2	46.1	48.0	44.4	40.5	36.4	45.2	47.4
With family except spouse	21.0	20.6	19.9	22.0	21.9	18.1	18.5	18.6	18.4	18.0
With children	10.4	9.9	9.5	10.6	11.9	10.0	10.0	10.7	9.5	10.2
With friends	4.5	5.0	5.0	5.1	3.3	5.6	6.0	4.4	8.0	5.4
Hours spent by women	Aged 65–69					Aged 70 and older				
	Total	Employed	Employed full time	Employed part time	Not in the labor force	Total	Employed	Employed full time	Employed part time	Not in the labor force
Alone	6.8	5.7	5.2	6.2	7.2	8.2	7.4	5.0	8.2	8.3
With spouse or unmarried partner	4.2	2.7	2.4	3.0	4.7	3.1	2.0	1.0	2.4	3.2
With family	5.6	4.0	3.5	4.4	6.2	4.6	3.3	2.3	3.8	4.7
With family except spouse	2.0	1.7	1.6	1.7	2.0	1.8	1.7	1.4	1.9	1.8
With children	.9	.7	.6	.8	1.0	.6	.7	.8	.7	.5
With friends	.8	.7	.8	.7	.9	.7	.6	.5	.6	.7
Available time	13.5	10.9	10.1	11.8	14.5	14.0	12.0	8.9	13.1	14.1
Percent of available time¹ spent										
Alone	50.4	52.3	52.0	53.0	49.6	58.6	62.1	56.5	62.7	58.5
With spouse or unmarried partner	31.0	24.9	23.7	25.7	32.9	22.3	16.3	11.4	17.9	22.8
With family	41.5	36.4	34.4	37.4	43.0	33.2	27.5	25.2	29.2	33.5
With family except spouse	14.5	15.5	15.8	14.5	14.0	13.0	14.0	16.0	14.5	12.9
With children	7.0	6.7	6.3	7.2	6.8	3.9	5.8	9.4	5.4	3.8
With friends	6.1	6.3	7.5	5.6	6.3	5.2	4.7	6.1	4.2	5.2

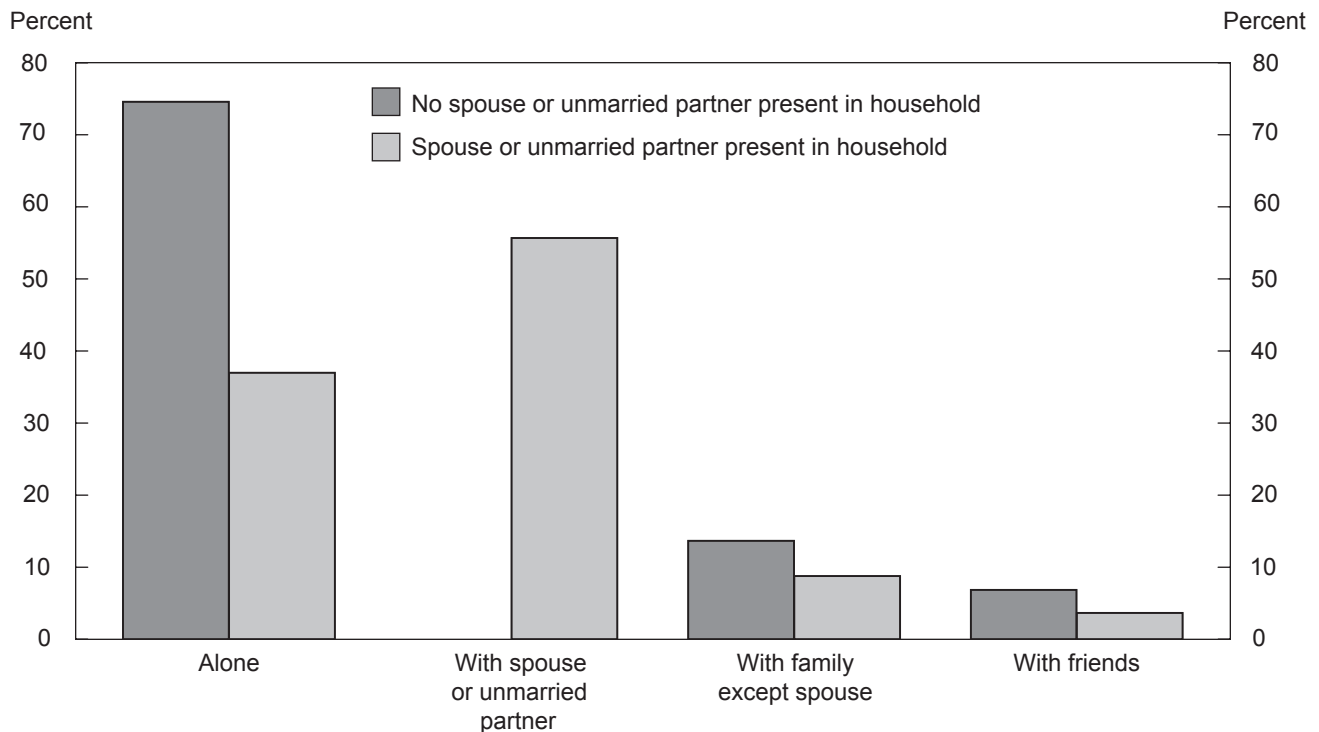
¹ "Available time" refers to the time spent in activities for which the "who" question was asked. The "who" question was asked for all activities except sleeping, grooming, working, personal activities, and activities that could not be coded.

NOTE: The total amount of time accounted for by the six who-with categories (including Alone) does not sum to available time, because the categories are not mutually exclusive. The percentages do not sum to 100 for the same reason.

and sleep. In general, for men and women aged 55 and older, the average day of nonworkers was similar to the average nonwork day of employed individuals.

This study included comparisons of full-time workers with part-time workers and of part-time workers with nonworkers to look for evidence that older Americans take

Chart 5. Percent of available time that individuals aged 70 years and older spent with others, by presence of spouse



NOTE: “Who” data were not collected for sleeping, grooming, working, or personal activities, and in cases where the respondent refused to answer the question or did not know. “Available time” refers to the time during which the “who” data were collected. Categories on the horizontal axis are not mutually exclusive. Data are averages for the 2-year period from 2003 to 2004.

part-time bridge jobs to ease the transition into retirement. The evidence was consistent with part-time jobs being bridge jobs for men, but not for women, a result that was not too surprising, because women are more likely to work part time at all ages, which means that a smaller fraction of part-time women workers are in bridge jobs.

The two measures of social connectedness tell somewhat different stories. Time spent socializing changed

little with age for both men and women. Time spent in the presence of others—primarily time with a spouse or an unmarried partner—declined for women, but not for men. This difference probably reflects the fact that women are more likely to outlive their spouses than are men and that those aged 70 and older who did not live with a spouse or partner spent considerably more time alone than those who did. □

Notes

¹ An employed individual, who has a higher income and opportunity cost of time, is more likely to hire others to prepare meals, clean house, and do other household chores. Thus, one would expect employed individuals to spend less time engaged in household production activities than retired individuals spend.

² Leisure activities are considered to be a “normal” good, meaning that the consumption of leisure increases as income increases.

³ Maria Mireault and Anton de Man, “Suicidal Ideation among Older Adults: Personal Variables, Stress, and Social Support,” *Social Behavior and Personality*, 1996, vol. 24, No. 4, pp. 385–92.

⁴ Lynne C. Giles, Gary F. V. Glonek, Mary A. Luszcz, and Gary R. Andrews, “Effect of Social Networks on 10-year Survival in Very Old

Australians: The Australian Longitudinal Study of Aging,” *Journal of Epidemiology Community Health*, 2005, vol. 59, pp. 574–79.

⁵ John P. Robinson and Geoffrey Godbey, *Time for Life: The Surprising Ways Americans Spend Their Time* (University Park, PA: The Pennsylvania State University Press, 1997).

⁶ “At home” and “alone” are not the same as “home alone,” although they may overlap.

⁷ Liana C. Sayer, Suzanne M. Bianchi, and John P. Robinson, “Time Use Patterns of Older Americans,” Report to NIA, University of Maryland, June 30, 2001.

⁸ Anne H. Gauthier and Timothy M. Smeeding, “Patterns of Time Use of People Age 55 to 64 Years Old: Some Cross-National Comparisons,” Center for Policy Research at Syracuse University, Aging

Studies Paper No. 20, March 2000; on the Internet at www-cpr.maxwell.syr.edu/agpaper/age20abs.htm (visited Mar. 29, 2007).

⁹ Anne H. Gauthier and Timothy Smeeding, "Historical Trends in the Patterns of Time Use of Older Adults," Organization for Economic Cooperation and Development, Aging Working Paper, June 2001; on the Internet at www.oecd.org/dataoecd/21/5/2430978.pdf (visited Mar. 29, 2007).

¹⁰ ATUS estimates can be generated for higher age brackets than was possible in many past U.S. time-use studies. In 2003 and 2004, age data were top coded at age 80 in the ATUS. This means that individuals aged 80 and older who participated in the survey carry an age value of "80" in the data.

¹¹ While this paper was undergoing final review, the 2005 ATUS data were released. Data for the years 2003–05 can be downloaded from the American Time Use Survey home page, www.bls.gov/tus (visited Mar. 29, 2007).

¹² The survey referred to is the National Human Activity Pattern Survey (NHAPS), a 2-year probability-based telephone survey ($n = 9,386$) of exposure-related human activities in the United States, sponsored by the U.S. Environmental Protection Agency (EPA). The survey's primary purpose was to provide comprehensive and current exposure information for use in probabilistic population exposure models. For more information, visit www.nature.com/jea/journal/v11/n3/abs/7500165a.html and www.timeuse.org/information/studies/data/usa-1992-1994.php.

¹³ For more details about the American Time Use Survey, visit the ATUS home page, www.bls.gov/tus/home.htm (visited Mar. 29, 2007); see also Daniel S. Hamermesh, Harley Frazis, and Jay Stewart, "Data Watch: The American Time Use Survey," *Journal of Economic Perspectives*, winter 2005, pp. 221–32; and Diane Herz and Michael Horrigan, "Planning, Designing, and Executing the BLS American Time-Use Survey," *Monthly Labor Review*, October 2004, on the Internet at www.bls.gov/opub/mlr/2004/10/contents.htm (visited Mar. 29, 2007).

¹⁴ For information about the design of the ATUS activity coding lexicon, see Kristina Shelley, "Developing the American Time Use Survey Activity Classification System," *Monthly Labor Review*, June 2005; on the Internet at www.bls.gov/opub/mlr/2005/06/contents.htm (visited Mar. 29, 2007).

¹⁵ In the ATUS, labor force data are collected with a slightly modified version of the questions used to collect labor force information in the monthly Current Population Survey. The ATUS distinguishes between "at work" and "with job but absent from work" for the employed and between "looking" and "on layoff" for the unemployed. It does not distinguish between different reasons for not being in the labor force.

¹⁶ The ATUS weighting procedures ensure that each day of the week is equally represented at the aggregate level, but this representation may not hold for more detailed demographic groups.

¹⁷ In 2002, the civilian noninstitutional population included 95 percent of the U.S. population aged 65 and older. (See Federal Interagency Forum on Aging-Related Statistics, *Older Americans 2004: Key Indicators of Well-Being* (Washington, DC, U.S. Government Printing Office, Nov. 2004).)

¹⁸ Christopher C. Ruhm, "Bridge Jobs and Partial Retirement," *Journal of Labor Economics*, October 1990, pp. 482–501.

¹⁹ Household work is defined as time spent doing household activities, purchasing goods and services, and caring for household members, plus related travel time.

²⁰ This percentage is equal to the difference between nonworkers and full-time workers in time spent in the activity, divided by the difference in time spent working (which is equal to the time spent work-

ing by full-time workers). Negative values indicate that nonworkers spent less time on the activity than full-time workers did.

²¹ For women, eight of the differences in differences are statistically significant at the 10-percent level or better, with half of those being significant at the 5-percent level or better. For men, only two of the differences in differences are statistically significant at the 10-percent level or better.

²² See Jay Stewart, "Assessing Alternative Dissimilarity Indexes for Comparing Activity Profiles," *The electronic Journal of Time Use Research*, August 2006; on the Internet at www.eijtur.org/ (visited Mar. 29, 2007).

²³ We used this index because it has an intuitive interpretation and is the least sensitive to the level of aggregation. (See Stewart, "Assessing Alternative Dissimilarity Indexes," for a discussion of other dissimilarity indexes used in the time-use literature.) The dissimilarity index is equivalent to the Duncan segregation index when

$$\sum_{i=1}^k a_i = \sum_{i=1}^k b_i.$$

²⁴ See the 2004 ATUS Activity Lexicon for a list of codes and corresponding activities, on the Internet at www.bls.gov/tus/lexiconoex2004.pdf (visited Mar. 29, 2007).

²⁵ To compute the dissimilarity index values in tables 5, 6, and 7, it was necessary to further restrict the sample by excluding respondents who reported spending more than two hours in activities that could not be coded. This restriction was necessary because time spent in activities that could not be coded represented a much greater fraction of time for full-time workers on nonwork days. Other comparisons were not affected by this restriction. For additional information about the index calculations, please contact the authors.

²⁶ The bootstrap procedure is generally used to generate standard errors in situations where computation is difficult or would require overly restrictive assumptions. But the procedure also provides a way to estimate the bias in the original estimate and, hence, to generate a bias-corrected estimate. The bias-corrected estimate, however, can have a larger mean squared error than the original estimate, so it is not necessarily an improvement. The effect of small samples on the value of the DI, apart from any real differences between the groups, was investigated, and it was clear that smaller samples resulted in larger values of the DI. Given the magnitude of this effect, it seems clear that the benefit of reducing the bias outweighs the higher mean squared error. (For additional information about the index calculations, contact the authors.)

²⁷ A job is an income-generating activity; here, we refer to other income-generating activities (for example, selling arts and crafts, babysitting, lawn mowing, and so forth).

²⁸ These estimates are available from the authors on request.

²⁹ The time that individuals spent talking on the phone was not included, because it amounted to very little time, on average. This exclusion does not affect the results.

³⁰ Individuals are considered to be "with" the respondent if they are in the same room as, or are accompanied by, the respondent.

³¹ These activities correspond to activity codes 0101xx, 0102xx, 0104xx, 0501xx, 500105, and 500106. (See the 2004 ATUS Activity Lexicon for a list of codes and corresponding activities, on the Internet at www.bls.gov/tus/lexiconoex2004.pdf (visited Mar. 29, 2007).)